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The Functionality of Bipolar Disorder and the Collaborative Model – A Case Study

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Abstract

Bipolar Disorder (BD) can be said to offer a lifelong reduced quality of life for individuals and their families while affecting in equal terms both of the sexes (Faedda et al., 1995), it is a highly pricey condition (Peele et al., 2003) and globally affects a large part (Benazzi, 2003) of the population. The present study is a case study where the Collaborative Model (CC) was used to improve the functionality of "Ω". The CM for bipolar disorder focuses on making patients co-supervise their disease in a supportive community (Bauer, 2001). Important principles of the model include the joint lack of decisions of the patient-mental health specialist, concerning the care program, the definition of the responsibilities of the mental health specialist and the client, the joint setting and design of goals, the consolidation of a continuous self-management, as well as easy access to and ongoing patient care and follow-up at regular intervals.

The purpose of this study is to help establish an alternative course of action in the care of BD in Greece with multidimensional benefits. Even more specifically, our research seeks to examine the existence of statistically significant changes in the score of the FAST functionality tests of the participant before and after the monitoring of the SM, which aims to enhance its functionality.

Functional status was assessed by gathering data in six different areas of life using the FAST (Functioning Assessment Short Test). The t-test for pairs of observations was conducted to assess the impact of the intervention on whether there is any statistically significant change in the score of the participant's FAST function tests before and after monitoring the collaborative model which aims to enhance functionality.

The results showed a significant improvement in global operation, as evidenced by a decrease in the overall FAST score (M =, 66, SD = 4.81, t (23) = 16.02, p <, 0005).

The present study shows that, although many individuals experience remission, only a minority, possibly represented by "Ω", reach normal levels of function in many areas, even after specialized mental health care.

Introduction

Regardless of the accessibility of impressive care for bipolar disorder, the outcome of this chronic disorder endures troublesomely. In regards of clinical symptoms, tepid to treatment and recurrence of episodes is a major difficulty, and it is estimated that 35-60% of cases have a poor outcome (Keller, Lavori, Klerman et al., 1986; O 'Connell, Mayo, Flattow, Cuthbertson, O'Brien, (1991) Lack of compliance with treatment may play a significant role, with 20-55% of patients making major compliance errors (Gitlin, Cochran, & Jamison, 1989; Keck, McElroy, Strakowski et al., 1996) In addition, societal, familial, and work-related dysfunctions are quite usual rather than unusual (Harrow, Goldberg, Grossman, & Meltzer, 1990; Winokur, Clayton, Reich, 1969; Strakowski, Keck, McElroy, et al., 1998) Functional deficits may still be present in the absence of major emotional episodes (Carloson, Kotin, Davenport, & Adland, 1974; Gitlin, Cochran, & Jamison, 1989; Keck, McElroy, Strakowski et al. ., 1996), even sub-syndromic levels against Depression seems to be a strong predictor of ongoing functional deficits (Bauer, Kirk, Gavin, & Williford, 2001). Without proper care, a person with bipolar disorder from the age of 25 can lose 14 years of significant functional activity in multiple areas like work, school, family and generally role function to a total of 9 years of life (Bauer, Kirk, Gavin, & Williford, 2001). An estimated 15% of individuals with bipolar disorder diagnoses are jobless for 5 successive years. Also, individuals under the age of 65 receive disability benefits in an overall 25% of the cases (Klerman, Olfson, Leon, & Weisman, 1992). Many people with bipolar disorder live in costly institutionalised environments. In the Epidemiologic Catchment Area Study length report, Robins and Regier (1990, p. 349) found that 42% of institutionalized people with mania lived in prison, while 58% were in prolonged hospital care. Improving the treatment can allow these individuals to reintegrate into society.

The total cost to society of mental illness is significant, exceeding $ 148 billion a year, considering $ 67 billion in direct treatment costs (Robins, & Regier, 1990). Greenberg and colleagues (Greenberg, Stiglin, Finkelstein, & Berndt, 1990) used the approach of Stoudemire and colleagues (Stoudemire, Frank, Hedemark, Kamlet, & Blazer, 1986) to estimate the cost of mental disorders in society including bipolar disorder. They found that the cost exceeded $ 43 billion, including more than $ 12 billion in immediate treatment costs, and more than $ 7,000,000,000 due to the loss of productivity from the premature death of people with mental disorders and $ 23,000,000,000 from mortality. Given the above studies on mental disorders, the latter computation is certainly higher, as "only the limited duration of the episode is taken into account in calculating the cost of morbidity" (p. 414). Wyatt and Hentner (1995) estimate that the biennial cost of bipolar disorder exclusively exceeds $ 45 billion, more than the $ 64 billion spent on schizophrenia alone. Expenditure on bipolar disorder includes more than $ 7,000,000,000 in indirect treatment costs and more than $ 38 billion in indirect costs. Of the immediate cost of treatment, $ 2,400,000,000 is spent on inpatient care, $ 300,000,000 on outpatient treatment, and $ 3.0 billion on nursing and other extended-care and $ 2,300,000,000 on the penitentiary system. It has been suggested quite early from the data of Riefman and Wyatt (1980) that treatment reorganisation can lead to savings for society. In particular, they estimated that the import of lithium reduces social spending to 53%.

Thus, there is still a gap in the "effectiveness of efficacy" in the care of bipolar disorder. That is, if we create therapies with an evidenced effect in randomized controlled trials on highly selected clinical specimens (efficacy), the performance of these therapies in general clinical practice (efficacy) is inadequate. This research describes an intervention, which aims to ameliorate the delivery of the treatment model and at the same time standardize and improve the cooperation between carers and patients.

Bipolar Disorder

Bipolar Disorder (BD) is one of the most usual, serious and annihilating psychiatric disorders. It is a clinically and societally, highly expensive condition (Peele et al., 2003) and is related to reduced quality of life for individuals and their families. The condition impacts roughly 1.3 to 1.5% of the US population (Narrow et al, 2002; Muller-Oerlinghausen et al, 2002) and globally affects 3 to 5% (Benazzi, 2003) of the population. It was predicted that by 2020, depression would be the second-largest concern of the condition intercontinentally (Murray & Lopez, 1996). It is a lifelong condition and impacts both sexes almost equally (Faedda et al., 1995). The condition has a high recurrence rate (90%) (Gitlin et al., 1995).

The course of the condition is possible to range from mild depression and brief hypomania to a severe form of mania or depression. In modern psychiatry, there are many open disputes about identifying, classifying and managing the condition. This is principally due to the nonuniformity of the condition

(Benazzi, 2004). However, two main types of this condition have been identified: monopolar (major depression) and bipolar (manic depression). Bipolar is bifurcated into Bipolar I, which is defined by one or more episodes of mania, or mixed episodes, and Bipolar II, which includes repeated episodes of major depression and hypomania. More subdivisions have been identified due to the nonuniformity of the condition (Benazzi, 2004; Benazzi, 2003; Angst et al, 2004). The disorder usually occurs in both sexes between the ages of 18 and 24 but can impact all age groups. However, the early onset of BD is probable and is a leading eudaemonia difficulty (Pavuluri et al., 2004). Diagnostic criteria for major depression and manic episodes have been described elsewhere (Hantouche et al, 1998; Griswold & Pessar, 2000). In regards to depression, there are numerous other symptoms, such as suicidal ideation, difficulty maintaining concentration, sleeping difficulties, alcohol and drug abuse, involvement in high-risk behaviours and loss of critical thinking (Hantouche et al, 1998; Griswold & Pessar, 2000). Many patients with early-onset BD have characteristics of psychotic experiences, like hallucinations or delusions that can become life-threatening and might lead to suicide (Angst et al., 2002). It has been shown that BD is the third leading cause of death in young people. In children, hyperactivity is the usual behavioural evidence and the condition seems to be more severe. Some individuals, experience BD with attention-deficit / hyperactivity disorder (Lewinsohn et al, 1995; Shastry, 2004; Stahlberg et al, 2004). Also, increased heart morbidity appears to be connected with depression (Frasure-Smith et al., 1993).

Neuro-pathophysiology

Due to the multiple aspects of the functionality and the organisation of the brain, the aetiology and pathophysiology of the condition can not be amply comprehended. However, several studies using neuroimaging, biochemical methods, and neuropathological tests (Soares and Mann, 1997; Drevets, 2000; Strakowski et al, 2002; Vawter et al, 2000; Strakowski et al, 2004) have suggested structural abnormalities in the amygdala, the hippocampus, the basal ganglia, and several areas of the prefrontal cortex (Strakowski et al, 2000; Bearden et al, 2001; Drevets et al, 1997; Fava & Kendler, 2000) that can attribute the appearance of depression. The observation of patients successfully treated with pharmacotherapy suggested modifications in the prefrontal cortex. Two main neural circuits have been suggested for the occurrence of depression. The first one is the basal ganglia- and anterior chamber system, and the second is the hypothalamic-pituitary-adrenal cortex (HPA) circuit. It has been observed that individuals with severe depression have shown increased HPA axis activity that could be normalized with antidepressant medication that supports the engagement of the above circuits. These individuals have a high level of corticotropin-releasing factor (CRF) in the cerebrospinal fluid. This association is further enhanced by the recreation of many animal models with analogous functional features to individuals with depression. For example, mice were shown to overproduce CRF endocrine abnormalities of the HPA axis. These animal models help promote our perception of the interaction between the HPA

axis and depression. Nevertheless, currently, none of the animal models can not re-create mood cyclicity which is an attribute of BD (Machado-Vieira et al, 2002).

What is more, magnetic resonance imaging (MRI) studies in children with BD have shown well-defined areas of the brain in the frontal cortex and other areas of the brain that were altered (Vastag, 2003). In late adolescents and adults, a decrease in N-acetylaspar-tate has been suggested in comparison with healthy subjects (Cecil et al., 2002), which as well suggests the presence of neuronal dysfunction in BD. Even so, there are no conclusive grounds linking the anatomical pathology of the brain to BD.

Irregularities in the biochemical system incorporate those within the serotonergic and dopaminergic systems, deficiency of the Na, K-ATP membrane, and disturbance of thyroid hormone metabolism (Drevets et al, 1999; Looney & el-Mallakh, 1997; Bauer & Whyrow. The obiter dictum that the selective serotonin reuptake (SSRI) can be utilized to efficaciously treat the condition, in combination with evidence that dietary depletion of tryptophan leads to depression in individuals treated with SSRI, proposes that severe changes in serotonin bestow to the increase or development of depressive symptoms (Spillmann et al, 2001; Delgado et al, 1999; Martini et al, 2004). Likewise, individuals can successfully treat symptoms with norepinephrine reuptake inhibitors (NRIs). In one study, individuals with BD were treated with amethylparathyrosine (a-methylparatyrosine / AMPT), which is a competitive inhibitor of tyrosine hydroxylase, which resulted in the recurrence of depressive symptoms (Mil et al., 1996). These studies propose that the noradrenergic system may play a role in the regulation of depressive disorder. In addition, a lesser-known study reported that individuals with type I disorder have more monoamine cells released into their brain in comparison with controls (Zubieta et al, 2000). These studies convey that various neurochemical systems probably mediate depression and these systems impact a common circuit in the brain (Bremner et al, 2003). Likewise, major it has been found that depressive disorder is associated with an attenuated volume of the left subclavian prefrontal cortex and hippocampus (Gaddman, 2002; Vythilingam et al, 2002) proposing that delicate changes in the central nervous system may be responsible. Unfortunately, these morphological variations could not be utilised as markers for the diagnosis of BD.

Genetic factors

Bipolar Disorder has a convoluted aetiology. It is a condition of the nervous system and nervous communication. Studies with families, twins, and adopted individuals indicate that it can be a trans-generational condition (Craddock & Jones, 1999; Mitchell et al, 1993; Taylor et al, 2002). Family studies have suggested that (a) there is a familial nature of BD (increased risk in first-degree relatives), (b) a convoluted fashion of hereditary acquisition, and (c) several diseases related to "defective" genes. In some cases, the sex of the parent (McMahon et al, 1995; Stine et al, 1995) may affect the inheritance of BD. The outcomes of reports in twins are unfluctuating and show that among monozygotic twins (MZ),

there is a higher incidence (79%) of the disorder compared to dizygotic (DZ) twins (19%). This strongly supports a causal function for genetic factors, although environmental factors in the common matrix should not be excluded. It is provoking, that in the case of monopolar disorder, the degree of coincidence is much lower (54% for MZ and 24% for DZ twins) which may point that monopolar and BD may not be the same condition. In addition, the fact that there is no 100% agreement betwixt monozygotic twins may suggest that non-genetic factors, such as abnormal growth and environmental factors (eg, stressful life events) contribute to the evolution of the condition (Duffy et al., 2000). To realize the genetic contribution of BDs pathophysiology, a variety of studies, in families (looking for a gene-phenotype correlation within families) and in the general population (looking for a gene-phenotype correlation in a population), and genealogical studies, have been carried out during the two recent decades (Gershon et al, 1982; Ewald et al, 2002; Dick et al, 2003; Segurado et al, 2003; Pato et al, 2004; Fallin et al, 2004). These studies have pinned down various sites that suggest the mixing of genes. For example, an entire genome scan has identified multiple sites (1p14, 3p23, 4p16, region 6q14, 6q24, 10p12, 10q26, 11p15, 12q24, 16p13, 17q, 18p11, 18q22, 20p12, 21q21), including 6q22, 12q24 and 17q. 3 that demonstrated a significant association (Middleton et al, 2004; McInnis et al, 2003; Willour et al, 2003) with the BD. Also, the interaction between genes and chromosomes 6q and 6p has been shown to increase the probability to experience BD (Schulze et al., 2004). Nonetheless, these studies have shown that different genes contribute to BD, no specific gene has been isolated that is associated with the condition. The major obstacle in determining the "sensitivity" gene of BD is the heterogeneous population of patients with a range of bipolar conditions. In addition, heterogeneity in individual populations can pose another difficult problem.

In addition, family-based studies and case studies show variations in genes, such as the serotonin receptor HTR3A (Niesler et al., 2001), the serotonin transporter (Kirov et al., 1999), the neurocyte adhesion molecule 1 (Arai et al.) ., 2004), serotonin receptor 4 (Ohtsuki et al, 2002), corticotrophic hormone (CRH) release, and mitochondrial DNA (Kato et al., 2001), which may sensitize mood swings. Even so, we should consider that some of these studies are either debatable or not replicated by others (Mendes de Oliveira et al., 1998), which may be due to the small sample size used in the studies. Also, various studies rule out the direct participation of genes such as the 1D-beta serotonin receptor (Mundo et al, 2001), the 2A receptor (Arranz et al, 1997), and the ADARB1 receptor (Amore et al., 2004) and the receptor. of dopamine (Li et al, 1999). To date, none of the "susceptibility" nominee genes can be responsible, at least exclusively, for the total number of patients with BD.

It is hypothesised that approximately 2% to 4% of the U.S. population suffers from some sort of bipolar disorder (Hirschfeld et al. 2003), a chronic mental illness associated with significant mood imbalance that can lead to impaired individual function. or in long-term disability (Calabrese et al, 2003; Chepangappa et al. 2003). The disease is mainly defined by depressive, manic or obsessive-compulsive disorder and/or mixed episodes (Citrome & Goldberg, 2005). Unfortunately, bipolar disorder is related

to increased suicide rates. Ten to fifteen per cent of people with bipolar disorder commit suicide (Sachs, 2003; Shastry, 2005). Also, treatments for bipolar disorder are maintenance treatments rather than improvements, a common problem with estimates showing that 20% to 55% of patients show no improvement (Reilly-Harrington & Sachs, 2006. Thus, maintenance treatments are linked with increased chances of suicide, recurrence of symptoms, and admission to hospital and clinical units (Altman et al, 2006; Gonzalez-Pinto et al, 2006; Reilly-Harrington & Sachs, 2006).

The indicated effective treatments for bipolar disorder suggest a transnational relationship between patients and the scientific team, as well as management of pharmacotherapy. Thus, the purpose of this research is to investigate the effectiveness of the collaborative model (CM) between a person with bipolar disorder, a psychologist, a psychiatrist, a carer, and a school teacher.

The Collaborative Model

When Shea and her colleagues (1997) first presented the design and implementation of the Collaborative Model for the treatment of the bipolar disorder, they argued that the theoretical structures of the model were influenced by three events: 1) the introduction of medication and psychotherapeutic approaches in the mid-1970s, in clinics that used lithium 2) the Orlando Nursing model and 3) patient education for disease management. Treatments for bipolar disorder have been dramatically influenced by approval for the use of lithium in clinics. Thus was developed the medical model of therapeutic approach, focused on the use of medication. However, in the multi-directional approach of lithium clinics, staff combined medication with psycho-education, which focused on improving patient understanding and managing bipolar disorder. At the same time, many health professionals were trained and practised the principles and ideas of Orlando. Orlando's model focused on: 1) understanding, by health professionals, the feelings concerning the environment and the given time and how health professionals can perform their professional duties concerning the patient, as well as 2) and in the empathy of health professionals in the way in which they can influence a patient (Orlando, 1961). These principles have also been applied by mental health professionals with an emphasis on psycho-education, collaboration and goal setting in a dynamic relationship between the mental health professional and the patient. Several decades later, Von Korf and colleagues (1997) incorporated various behavioural principles from social learning theories and self-regulation theories into their collaborative model for chronic mental illness. Their model had four main axes, which enclosed the collaborative definition of problems, the co-establishment and design of objectives, and the provision of support services and ongoing patient monitoring (Bauer, 2001). Hence, the CM for bipolar disorder focuses on making patients co-supervise their condition in a supportive community (Bauer, 2001). Important principles of the model include the joint decision making by the patient and the mental health specialist, concerning the care program, the definition of the responsibilities of the mental health specialist and the client, the joint setting and design of goals, the

consolidation of a continuous self-management, as well as an easy access to and ongoing patient care and follow-up at regular intervals (Wagner et al, 1996; Von Korff et al, 1997; Vergouwen et al, 2003).

In the Collaborative Care for Bipolar Disorders Program, Bauer and colleagues assigned patients to a team of mental health professionals, consisting of clinical psychiatric nurses and a psychiatrist (Bauer, 2001; Bauer et al, 2006a). Individuals with bipolar disorder attended individual sessions to manage their medications, psycho-education, and psychotherapy, as well as participating in a structured psychotherapy team (Bauer & McBride, 2003; Reilly-Harrington & Sachs, 2006). The structured psychotherapy team was created to help people with bipolar disorder participate more efficaciously in managing their condition and to improve the nature of the social and occupational problems that frequently occur in people with bipolar disorder. Two key dimensions of the structured psychotherapy team were its basis, ie the training of personal symptoms experienced by people with bipolar disorder and the experiences that contributed to the outset of depressive and manic episodes, as well as group psychotherapeutic therapies focusing on management skills. of bipolar disorder.

Theoretical background: the collaborative model

Synchronously with the development of lithium for bipolar disorder in the 1970s, the approach to care for this condition was moved from a principally psychotherapeutic to a medical approach - this behavioural condition had, at least in part, biological origin and was receptive to medication. The use of antidepressants and neuroleptics in the condition, as well as the resulting prosperous usage of anticonvulsants, promoted the medical model and conceptualisation of its treatment (Bauer, 2001).

The model is perhaps most noticeable in the initial descriptions of lithium clinics. These clinics were configured around the delivery of medicines, usually with a group approach such as a psychiatrist, nurse or medical associate, and sometimes a social worker or counsellor (Bauer, 2001). The standardization of the patient and the evaluation of his family were part of the admission process. To ensure the quality of care, there was a standard battery as a baseline and formed the basis of this collaborative practical approach (Bauer, 2001).

Despite the emphasis on the efficiency of the medical model, numerous lithium clinics also incorporated psychotherapy. These psychotherapeutic interventions were mainly educational, intending to improve patient apprehension and disease management. Also, the de-stigmatization efforts and the use of teams to address issues of discouragement and isolation were included (Bauer, 2001). Some of the present-day burst of involvement in complementary psychotherapy for bipolar disorder (Bauer, 2001) can be derived from those efforts of lithium clinics in psycho-education. Thus, the origins of augmented therapy go back more than five decades, even if we do not have quantitative data on the effects of these clinics (Bauer, 2001).

At the same time, there was a long custom in nursing practice with an emphasis on educating and working with patients to achieve a common goal-setting. For example, Orlando (Bauer, 2001) emphasized the nurse-patient relationship to clarify the patient's detected needs and employ interventions together. Wilkinson (1991) utilised the nursing collaboration model in the medical model for psychiatric care, centring on three ways of working with nurses, psychiatrists, and the patient to maximize patient care.

Furthermore, augmented attention to the patient's development as a finer administrator of their condition. Von Korff et al. (1997; Bauer, 2001) suggested various basic principles of behaviour from social learning theories (e.g., feedback and reminders to providers) and self-management that fuel the collaborative model:

- Self-efficacy (motivation and self-confidence) is important for success in self-management,
- The social environment can support or hinder the process,
- Monitoring and responding to status changes improve adjustment (Bauer, 2001).

Also, the extensive literature on the collaborative model and the application of the model to chronic diseases was evaluated and described four key elements of the collaborative model as a practice, more specifically suggesting:

- Collaborative definition of problems,
- Joint definition and design of objectives,
- Provide continuity in self-management and support,
- Active and continuous monitoring.

It was also suggested that for prospering management of chronic diseases, the patient should engage in four types of self-management tasks (Bauer, 2001):

- Health promotion activities,
- Appropriate interaction with healthcare providers and systems,
- Monitoring their condition, and
- Management of the effects of their disease on the functional state.

They also stressed that medical care is not properly organized and to reinforce these roles, there must be progress in training, culture, and structure. After reviewing many successful programs, they suggested reorganizing care that regards to four elements that can support patient self-management tasks and improve outcomes:

• Redesign of the Practice of CM,

• patient education

• Support from experienced systems (e.g., training providers, and mental health professionals) (Bauer, 2001),

Thus, many waves of thought suggested and helped to the realization that the medical treatment model for the outcome of patients with chronic diseases can be landscaped by increasing attention to the patient's growing benefits as a caregiver, and that this may be the case in psychiatry, as well as in other medical conditions. The collaborative model can be characterised as a care organization that shows a) patient development and disease management skills, and b) supports the provider's ability and availability to c) make timely, joint decisions about the condition of individuals with BD. These three elements seem extremely important for a collaborative best model for bipolar disorder (Bauer, 2001).

Structure of the Program for Bipolar Disorder (PBP)

In order to improve the functionality of the Collaborative Model for Bipolar Disorder we included two key elements: 1) educating patients to improve their condition management skills, and 2) easy access to treatment with a specific mental health provider. Each of these components is backed by an explicit manual to maximize compliance by providers (available from the author) according to Bauer's research at the Veterans Medical Center in 2001.

It is crucial to note that this intervention is completely out of the clinical setting and does not involve formal rehabilitation but is intended to act as a crutch for the person with Bipolar Disorder so that they can assist in the process of integration into the community.

Patient education: the target program

The part of the subject's education from the PBD consists of a subject program for the subject, a textbook guided by a structured psychotherapy program for bipolar disorder (Bauer & McBride, 1996). The program consists of two phases. The purpose of phase 1 is to improve the individual's illness management skills so that the individual becomes a more effective partner with mental health professionals in managing their illness (Bauer, 2001). The second goal, in Phase 2, is to improve social and professional functionality in ways that individuals give meaning to self-determination (Bauer, 2001).

In phase 1, the therapist works on a specific program and has specific goals to facilitate the training process in each session. The approach in each of these sessions is to have a discourse on specific themes and terms "non-personalized" concerning the BD, to the application of the knowledge and personal

experiences of the individual with the BD. The discussions are supported and supplemented by individual work in the subject's workbook. According to Bauer (2001) Phase 1 covers an overview of the definition of bipolar disorder, its possible causes, and its treatments (Session 1) · an overview of the symptoms, and stimuli that trigger depression, and ways to treat depression (Session 2) building a personal profile of depression for that person and developing an action plan to start a depressive episode (Session 3) · an overview of the symptoms, and stimuli that trigger the onset of (hypo) mania in that person, and addressing reactions to (sub) mania (Session 4). building a personal profile of the mania for that person and developing an action plan for the onset of a manic episode (Session 5) (Bauer, 2001).

This approach targets the core of BD - developing an elementary understanding of the condition followed by recognizing the symptoms and stimuli that trigger the episode and formulating a plan to treat them - which appears to be ordinary for most of the psychotherapies formulated for BD (Bauer, 2001).

Phase 1 of the goal plan is done by the mental health professional (in this case the author) in five weekly 60 minute sessions as soon as possible from the start of the model. Of course, some flexibility of time can be required. It should also be noted that manic symptoms should be under reasonable control and that patients should not be intoxicated or under the influence of substances other than the prescribed pharmacotherapy they are receiving(Bauer, 2001).

Phase 2 focuses on achieving functional goals that may not have been achieved due to the subject's bipolar symptoms. It is aimed at achieving specific goals and continues weekly. The subject works with the therapist to identify functional goals that are specific and achievable. Goals can range but it is important to have a start, a middle and an end, such as the subject getting a driver's license, which would improve the individual's social life, according to specific parameters. Also, several cognitive, and behavioural, tools are used to assist the process. The subject continues to work on his / her agenda until one goal has been achieved and then either choose another goal or ceases to participate in the program. To do this the therapist utilises an assemblage of tasks offering feedback on individual plans(Bauer, 2001).

Access and continuity

Care access/follow-up procedures include three types of contacts: scheduled basic contact, service demand-response, and follow-up care. Scheduled basic care indicates the expected visits for the subject regardless of his or her clinical condition. For the CM are those that include the first contact, the target program the Phase 1 sessions (followed by phase 2, if desired by the subject). It is characteristic that the vast majority of patients have many more appointments than these basic appointments, due to the different needs that develop during the management of bipolar disorder (Bauer, 2001).

Empirical evidence reinforces the idea of the effectiveness of the collaborative model in individuals with bipolar disorder. In a three-year study of 330 patients who met DSM-IV's criteria for the diagnosis of bipolar disorder, Bauer and colleagues (Bauer, 2001; Bauer et al, 2006a, b) randomly assigned individuals with bipolar disorder to a standard care group. (n = 164) and in a group with the collaborative model (n = 166). The results showed a reduction in episodes of mania and depression and an improvement in social functioning, quality of life and satisfaction with treatment. Another study of 143 people with bipolar disorder showed that there was an improvement in medication acceptance, onset of symptoms, and overall functionality in people with bipolar disorder (Sajatovic et al, 2005).

Purpose of the Research

Summarizing the above, we can say that BD offers a lifelong reduced quality of life for individuals and their families while affecting men and women almost equally (Faedda et al., 1995)., Is an extremely pricey condition (Peele et al., 2003) and globally affects a large part (Benazzi, 2003) of the population. Symptoms also make it difficult to manage BD due to high recurrence rates (90%) (Gitlin et al., 1995).

The purpose of this research is to help establish a new model in the care of the BD in Greece whose benefits are multidimensional. Even more specifically, the present study seeks to examine the existence of some statistically significant changes in the score of the FAST functionality tests of the participant before and after the monitoring of the CM, which aims to enhance its functionality.

Method

Participants

The details of the participant of this research are altered to protect his anonymity and the reference to his face will be made with the letter "Ω". Furthermore, the participant of the present research was aware of the possibility of leaving during the research as well as of the aims and objectives of the research. Also, signed permission was obtained for the advancement of the present research by the asylum that hosts the participant as well as by the participant himself.

"Ω" was 19 years old and has been living in an institution in Thessaloniki for the last 17 years with a prosecutor's order and the consent of his parents. The father has been a drug user and a prison inmate because he has committed murder, theft and use of firearms. His mother, suffers from schizo-affective psychosis and personality disorder and has also been a prison inmate and has been charged with theft. "Ω" mother smoked 30 cigarettes a day during her pregnancy. From there and beyond after the birth and due to various problems, "Ω" was often hosted in institutions, with the result that after two years he settled permanently in the institution where he now resides.

During his childhood, he presented basic difficulties (he used his hands to eat, sleep disorders, escape tendency) which followed him to his school where he was often intangible, lost in his thoughts and hindered the conduct of the lesson. He also exhibited aggression (verbal and non-verbal), obsessions with gymnastics, movies, hyper-sexuality, as well as ideas of greatness.

An earlier diagnosis of Ω states that he has complex cognitive, emotional and social difficulties as well as borderline intelligence. The most recent diagnosis of Ω reports bipolar disorder.

Tools

Functional status was assessed by gathering information on six different areas of life (autonomy, professional functioning, cognitive function, financial issues, interpersonal relationships, and leisure) using the FAST (Functioning Assessment Short Test) (Rosa, Sanchez-Moreno, Martinez Aran et al., 2007). The FAST scale consists of 24 elements and has been developed for the clinical evaluation of the main difficulties presented in the daily functioning of psychiatric patients, especially patients with bipolar disorder. It is easy to implement, only takes a short time to distribute and is available in many languages. The data have a score of 0 (no disorder), 1 (mild disorder), 2 (moderate disorder) or 3 (severe disorder). Overall FAST scores range from 0 to 72, with higher scores indicating a greater lack of functionality, while scores above 11 indicate the presence of a significant lack of functionality. Recently, FAST has also been validated for schizophrenic patients and subjects with their first psychotic episode (Gonzalez-Ortega, Rosa, Alberich et al., 2010; Cachilas, Magalhaes, Cereser et al., 2009).

Procedure

The start of the collaborative model took place on 20/03/2013 and ended on 19/07/2013 with the main objectives of the joint decisions of the patient-mental health specialist, concerning the care program, the definition of the obligations of the mental health specialist and the client, the joint establishment and design of goals, the consolidation of a continuous self-management, as well as the easy access and the continuation of the care and the monitoring of the patient at regular intervals.

Thus, before the start of the collaborative model (05/03/2013) and after the end (22/07/2013) the participant of the research was asked to complete the FAST test in a familiar place for him so that there is a comparison between scores before and after the implementation of the collaborative model.

Issues

The inclusion criteria were: 18 years of age and meeting the DSM-IV criteria for Bipolar Disorder II, according to the Hamilton Depression Scale (HAM-D) and the Young Mania Scale Scale (YMRS) (Tohen, Frank, & Bowden et al., 2009). The subject had a score greater than or equal to 15 on the HAM-D or YMRS scales. The subject was receiving medication for bipolar disorder from trained psychiatrists, according to the Bipolar Disorder Protocol Program (Vieta, 2011; Vieta, 2011).

Estimates

Both the Structured Clinical Interview for DSM-IV (SCID) of Axis I and Axis II were administered to confirm the diagnosis (First, Spitzer, Gibbon, Williams, 1997; First, Spitzer Williams, 1997). Socio-demographic, clinical and pharmacological data were collected through a structured interview with the patient and by examining the clinical records. HAM-D and YMRS have recently been administered by trained assessors to assess depressive and manic symptoms, respectively (Bobes, Bulbena, Luque, Dal-Re, Balesteros, & Iara, 2003; Colo, Pieta, Martinez-Ara, et al., 2002) and thus it was considered that there is no need to repeat them.

Statistical Analysis

Using the statistical package for social sciences (SPSS version 20 for Windows; SPSS Inc, Chicago, IL, USA), the basic characteristics of the subject, including his socio-demographic and clinical variables, were analysed by descriptive statistics. The mean total FAST score and the individual scores were tested in two different time periods (start and end of the collaborative treatment) with Paired Samples T-Test to find any statistically significant differences in the scores of the two tests. Thus there was a categorical independent variable that was time and a continuous dependent variable that was measured twice namely the FAST test score.

Results

The t-test for pairs of observations was performed to assess the impact of the intervention on whether there is any significant or statistical change in the score of the participant's FAST function tests before and after the monitoring of the collaborative model which aims to enhance the functionality. There was a statistically significant decrease in FAST scores the first time (m = 2.7, sd =, 46) compared to the second time (m =, 66, sd = 4.81, t (23) = 16.02 , p <, 0005). Also, the statistical analysis η2(.917) showed a large magnitude of influence of the collaborative model.

In order to examine whether there are statistically significant changes in the individual subscales of the FAST test, t-tests were performed for pairs of observations.

There was a statistically significant decrease in the scores of the autonomy sub-scale of the FAST test the first time (m = 2.75, sd =, 5) compared to the second time (m =, 5, sd =, 57, t (3) = 9, p <, 0005). Also, the statistical analysis η2 (.96) showed a large magnitude of influence of the collaborative model in the category of autonomy.

There was a statistically significant decrease in the scores of the professional operating sub-scale of the FAST test the first time (m = 2.5, sd =, 57) compared to the second time (m =, 75, sd =, 5, t (3) = 3.6, p <, 0005). Also, the statistical analysis η2 (, 81) showed a large magnitude of the effect of the collaborative model in the category of professional operation.

There was a statistically significant decrease in the scores of the sub-scale of the cognitive function of the FAST test the first time (m = 2.7, sd =, 5) compared to the second time (m =, 75, sd =, 5, t (3) = 4.89, p <, 0005). Also, the statistical analysis η2 (, 88) showed a large magnitude of the effect of the cooperative model in the category of cognitive function.

There was a statistically significant decrease in the scores of the financial issues sub-scale of the FAST test the first time (m = 2.5, sd =, 57) compared to the second time (m =, 75, sd =, 5, t (3) = 7, p <, 0005). Also, the statistical analysis η2 (, 94) showed a large magnitude of the effect of the collaborative model in the category of economic issues.

There was a statistically significant decrease in the scores of the interpersonal relations sub-scale of the FAST test the first time (m = 2.75, sd =, 5) compared to the second time (m =, 5, sd =, 57, t (3) = 9, p <, 0005). Also, the statistical analysis η2 (.96) showed a large magnitude of the effect of the collaborative model in the category of interpersonal relationships.

There was a statistically significant decrease in the scores of the leisure sub-scale of the FAST test the first time (m = 3, sd =, 00) compared to the second time (m =, 75, sd =, 5, t (3) = 9, p <, 0005). Also, the statistical analysis η2 (.96) showed a large magnitude of influence of the collaborative model in the leisure category.

Discussion

To our knowledge, this is the first case study to be conducted to assess functionality, using a specific measure of global functionality and areas of functionality based on FAST ratings in Greece. The scores were obtained twice (baseline, six months), which allowed the evaluation of the individual's functionality on the FAST scale as well as the effectiveness of the collaborative model in Bipolar Disorder II. This is also the first study, especially in Greece, with these features. The present study investigated the

existence of some statistically significant changes in the score of the FAST functionality tests of the participant before and after the monitoring of the SM, which was aimed at enhancing its functionality.

The results showed a significant improvement in global operation, as evidenced by a decrease in the overall FAST score (M =, 66, SD = 4.81, t (23) = 16.02, p <, 0005). This was also evident in all six subcategories of the FAST test functionality: autonomy (M =, 5, SD =, 57, t (3) = 9, p <, 0005), cognitive function (M =, 75, SD = , 5, t (3) = 4.89, p <, 0005). , professional operation (M =, 75, SD =, 5, t (3) = 3,6, p <, 0005), financial issues (M =, 75, SD =, 5, t (3) = 7, p <, 0005), leisure (M =, 75, SD =, 5, t (3) = 9, p <, 0005) and interpersonal relationships (M =, 5, SD =, 57, t (3) = 9, p <, 0005). Ω managed to better deal with his work and his interpersonal relationships in the 6-month evaluation. However, it should be noted that cognitive function (η2 =, 88), and occupational function (η2 =, 81), although they appeared to be significantly affected by CM , were less affected compared to the other subcategories of the FAST test. (eg: autonomy (η2 =, 96), interpersonal relationships (η2 =, 96).

On the one hand, these results show that multiple areas of the psychosocial function appear to be associated with a different course in time for recovery. According to Rosa, Reinares, Amann, Popovic, Franco, Comes, Torrent, Bonnın, Sole, Valentı, Salamero, Kapczinski, & Vieta (2011) only a quarter (26.2%) of patients have a successful remission of symptoms within six months continuous treatment has a positive outcome. This highlights the serious morbidity and disfunction related to bipolar disorder. The results are agreeable with the findings of the European Study of Longitudinal Evaluation of Bipolar Mania (EMBLEM), which showed that 20% of patients restored normal functioning within 12 months after an acute episode (Montoya, Gilaberte, Costi, et al., 2007). Evidence that such a malfunction can be partly explained by the frequency of the condition is supported by investigations on bipolar disorder in individuals after their first episode (Kauer-Sant ' Anna, Bond, Lam, & Yatham, 2009; Tohen, Zarate, Hennen, et al., 2003). In a six-month follow-up study of functional rehabilitation, functional rehabilitation was achieved by 51.5% in the first episode of patients with a manic episode (Kauer-Sant'Anna, Bond, Lam, & Yatham, 2009). Similarly, in 39% of a 12-month study in adolescents with bipolar disorder after their first hospitalization for a manic/mixed episode, the functional recovery rates were reported(DelBello, Hansenman, Adler, Fleck, & Strakowski, 2007; Rosa et al., 2011).

Some clinical features of bipolar disorder, such as age, number of episodes, hospitalization, rapid cycling, and psychiatric co-morbidity may contribute to dysfunction (Rosa, Reinares, Franco, et al., 2009; Sanchez-Moreno, Martinez-Aran, Tabares-Seisdedos, Torrent, Vieta, Ayuso-Mateos, 2009). Neuropsychological deficits, mainly dysfunctions in verbal memory as well as dysfunctions in the executive branch, have also been identified as possible harbingers of functional impairment (Lopez-Jaramillo, Lopera-Vasquez, Gallo et al., 2010). Although the bulk of patients accomplished remission of acute symptoms, 36.1% of them experienced persistent sub-syndromic symptoms, which may also contribute to poor functioning (Rosa et al., 2011). Data show a strong association betwixt sub-syndromic symptoms and dysfunction in bipolar disorder. A study on monopolar depression showed that 32% (n =

19) of patients studied after apparent analysis of an episode with a depression index showed residual symptoms (HAM-D score: 8-18) (Altshuler, Post, Black, et al., 2006; Rosa et al., 2011). In addition, patients with residual symptoms were more likely to experience poor family status, leisure, social relationships, and work functioning. In addition, poor monitoring was observed during the monitoring in terms of the overall assessment of function as well as the scale of social adjustment (Kennedy & Paykl, 2004). Similarly, sub-syndromic symptoms, and especially depressive symptoms, have been related to poor overall function in other studies of bipolar disorder (Simon, Bauer, Ludmam, Operskalski, & Unutzer, 2007; Marangell, Dennehy, & Miyahara, et al. al., 2009; Simon, Ludman, Unutzer, Operskalski, & Bauer 2008; Montoya, Tohen, Vieta, et al., 2010). Also, patients with sub-syndromic symptoms demonstrated worse performance in each area of the Range of Impaired Function Tool (LIFE-RIFT) than individuals in the improvement group (Marangell et al., 2009). Finally, patients with sub-syndromic symptoms are more probable to experience remissions (Tohen, Hennen, Zarate et al., 2000).

Limitations

Alongside the previous work, our findings underscore the importance of treating all forms of mood in bipolar disorder in order to improve function and prevent a recurrence. Some limitations that need to be addressed when interpreting the findings of this study are that: the fact that the present study is a case study has the consequence that its results may not be generalizable to the general population affected by bipolar disorder. However, it shows a clear path that has been followed and suggests a new way to improve the functionality of people with Bipolar disorder.

Thus, research on a larger sample is necessary for there to be a generalization. Second, since Ω was completely on medication at the time of the present study, we cannot rule out that the effects on its functionality are not due in part to the drugs. Third, the role of clinical factors in functional recovery has not been investigated and is beyond the scope of the present study.

In short, the present study shows that, although many patients experience remission, only a minority, possibly represented by "Ω", reach normal levels of functionality in multiple areas, even after specialized mental health care. New strategies including medication and psychosocial interventions should be considered to treat syndromic and sub-syndromic symptoms and to improve the level of functioning. Equally important, it should be considered the healthy integration of people with BD in society, in order to become productive and independent members. Finally, sensitive tools such as FAST should be used in short- or long-term studies, and especially in clinical trials, to capture changes related to the functionality of people with Bipolar disorder.

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