Journal of Affective Disorders 179 (2015) 14–22

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research report

Collaborative care for patients with bipolar disorder: Effects on functioning and quality of life

Trijntje Y.G. van der Voort [a,b,*], Berno van Meijel [a,b,c], Adriaan W. Hoogendoorn [a], Peter J.J. Goossens [d,e,f], Aartjan T.F. Beekman [a], Ralph W. Kupka [a,g]

[a] VU University Medical Center, Department of Psychiatry, Amsterdam, The Netherlands
[b] Inholland University of Applied Sciences, Department of Health, Sports & Welfare/Cluster Nursing, Research Group Mental Health Nursing, Amsterdam, The Netherlands
[c] Parnassia Psychiatric Institute, Parnassia Academy, The Hague, The Netherlands
[d] Dimence Mental Health, Deventer, The Netherlands
[e] Radboud University Medical Center, Nijmegen, The Netherlands
[f] GGZVS, Institute for the Education of Clinical Nurse Specialists in Mental Health, Utrecht, The Netherlands
[g] Altrecht Mental Health, Utrecht, The Netherlands

ARTICLE INFO

Article history:
Received 16 December 2014
Received in revised form
1 March 2015
Accepted 2 March 2015
Available online 11 March 2015

Keywords:
Bipolar disorder
Collaborative Care
Depression
Functioning
Quality of life

ABSTRACT

Background: Functioning and quality of life are impaired in bipolar patients.
Methods: Collaborative Care (CC) is a multi-component intervention, provided by a multidisciplinary team, in which a nurse-care manager plays a central role. Effects on functioning and quality of life were tested in a clinical trial. We also investigated the mediating role of depression severity on these outcome variables.
Results: Patients randomized to CC showed more improvement in overall functioning compared to patients in the control group who obtained care as usual (CAU), with a small effect size (ES=0.3, $z=-2.5$, $p=0.01$). In the domains of autonomy and leisure time, a medium effect was found in favor of CC (autonomy: ES=0.5, $z=-2.9$, $p=0.004$; leisure-time: ES=0.4, $z=-2.4$, $p=0.02$). No differences between conditions were found in the other domains of functioning. Concerning quality of life, patients in CC improved more in the domain physical health (ES=0.4, $z=2.5$, $p=0.01$), if compared to CAU. No differences were found in overall quality of life. Half of the effects on functioning are mediated through the effects of CC on depression severity.
Limitations: At baseline, differences on the main outcomes existed between conditions. Two teams stopped participation in the experimental condition after randomization. Sample size was limited.
Conclusion: Besides effects on depressive symptoms, CC seems to have direct beneficial effects on both level of functioning and aspects of quality of life.

1. Background

Bipolar disorder (BD) is a serious mental illness associated with functional impairment and decreased quality of life. On average, patients suffer from manic or depressive symptoms for 50% of the time despite treatment (Judd et al., 2002; Kupka et al., 2007). In particular sub threshold depressive symptoms, which are present in many patients even during euthymic periods, have been associated with impaired functioning and quality of life (Altshuler et al., 2006; Bonnin et al., 2012; Ishak et al., 2012; Michalak et al., 2005; Strejilevich et al., 2013; Vieta et al., 2008). Treatment of patients with bipolar disorder aims at three dimensions of the disorder: mood and related symptoms, psychosocial and cognitive functioning, and overall quality of life. In the current study we broadly define functioning as 'what a person does or can do', and quality of life as 'satisfaction with several life domains' (World Health Organization, 2001; World Health Organization, 1997). Quality of life may be viewed as the overall concept, encompassing both symptoms and functioning, as well as the patients' perception of this. The question if treatment succeeds in improving these dimensions, and if so, along which pathways, has still to be answered. Expectedly, as symptoms remit, functioning improves as a consequence. We hypothesize several possible relationships between treatment and these three dimensions of bipolar disorder (Fig. 1).

* Corresponding author at: Inholland University of Applied Sciences, Faculty of Health, Sports and Social Work, de Boelelaan 1109, 1081HV Amsterdam, The Netherlands. Tel.: +31 6 81152652.
E-mail addresses: nienke.vandervoort2@inholland.nl, n.vandervoort@ggzingeest.nl (T.Y.G. van der Voort).

http://dx.doi.org/10.1016/j.jad.2015.03.005
0165-0327/

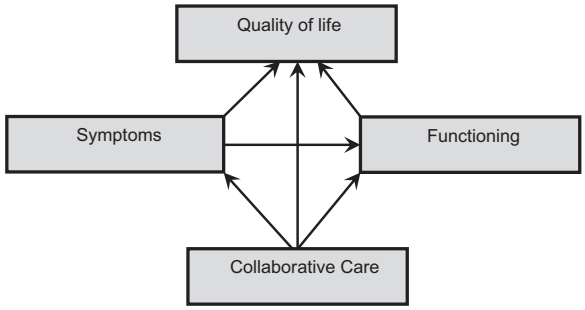

Fig. 1. Possible pathways of treatment effects.

Patients with mental illness and their relatives increasingly ask for treatment that improves not only their symptoms but beyond that improves their functioning and quality of life (Bellack et al., 2007). However, guidelines for bipolar disorder have a considerable focus on pharmacotherapy for symptomatic recovery (National institute for health and clinical excellence, 2014; Yatham et al., 2013). To address a broader range of outcomes, several Collaborative Care (CC) programs with integrated multidisciplinary health care have been developed (Wagner et al., 1996) in which in general nurses play a central role. In a recent review (Beekman et al., 2013) several of these CC-programs were found to be effective in a recent review. To date, three studies have tested the effectiveness of CC in patients with BD with promising results on manic but not depressive symptoms (Bauer et al., 2006). More recently, CC-programs were extended to also address medical problems (Kilbourne et al., 2008) with positive effects on functioning (Bauer et al., 2006) and quality of life (Bauer et al., 2006). We performed a cluster-randomized clinical trial investigating the effectiveness of a CC program for patients with BD (van der Voort et al., 2011). Elsewhere (van der Voort et al., 2015), we reported that patients who received CC experienced less time with depressive symptoms, and less severity of depression, when compared to Care as Usual (CAU).

Aims of the current study are (1) to study the effects of CC on functional impairment and quality of life, and (2) to examine to which extend the severity of depressive symptoms mediates functional recovery and quality of life.

2. Design

We carried out a controlled cluster-randomized trial with a follow-up period of one year in which Collaborative Care (CC) was compared with Care as Usual (CAU). We included 16 mental health outpatient clinics in the Netherlands. Measurements were obtained at baseline, six and twelve months. The primary outcome measures were time spent with depressive or manic symptoms, and severity of symptoms, and these results are reported elsewhere (van der Voort et al., 2015). In the current report, effects on functioning and quality of life will be reported.

2.1. Randomization and inclusion

Clustered randomization was performed on the level of outpatient teams that treated at least 20 patients with bipolar disorder and were willing to participate. To reach comparable numbers of respondents in both conditions, teams were matched pairwise on the number of participating nurses. We used an Internet Random Generator, to assign the two teams within every pair randomly to either the experimental or the control condition. The random assignment was performed blindly by the second author (BM). Next, a nurse or a psychiatrist in each team made a list of patients who fulfilled the inclusion criteria and therefore could be invited to participate in our study (see below). If the patient agreed, the researcher contacted the patient to provide detailed oral information about the study. If patients were willing to participate, they received additional written information, and were asked to sign an informed consent form. The study protocol was approved by the Medical Ethical Committee of the VU University Medical Center.

2.2. Patients

Patients aged 18–65 years with a diagnosis of bipolar disorder (BD-I; BD-II, BD-NOS) according to DSM- IV-TR (American Psychiatric Association, 2000) were included. Diagnoses were derived from the medical records, and confirmed by the treating psychiatrist, via the Questionnaire of Bipolar Illness (Leverich et al., 2001). Patients in a severe manic or depressive episode at time of inclusion were excluded. We also excluded patients who were sufficiently stable to function well with only low-intensity treatment, given the fact that the program would be too intensive for them. Based on these considerations we applied the following exclusion criteria: (i) severe or very severe depression or mania, with a score of six or seven on the Clinical Global Impression-Bipolar Disorder (CGI-BP (Spearing et al., 1997); (ii) a stable course of illness over the past year, allowing low intensity of treatment with a maximum of four consultations with the psychiatrist or nurse per year; (iii) insufficient command of the Dutch language; (iv) not able or willing to give informed consent.

2.3. Blinding

At the time their informed consent was asked, patients were aware of the condition which their treatment team was assigned to. Given the nature of the intervention, nurses and psychiatrist could not be blinded for the condition.

2.4. Collaborative care

Our CC-program (van der Voort et al., 2011) consisted of the following elements. All decisions concerning treatment were made in a Collaborative Care team, including the patient, a relative of the patient, the nurse and the psychiatrist. The CC-team would be extended with other professionals if required for optimum treatment. The team met at least three times a year. Coordination of care was provided by the nurse in his/her role as care manager. Care needs were systematically assessed, using the Camberwell Assessment of Needs (Phelan et al., 1995), that formed the basis for an individualized treatment plan. This plan was formulated as a contract, in which goals and treatment activities were recorded, and signed by all team members. All activities and results of treatment were monitored and evaluated in the CC-team. Patients were encouraged to chart their mood by means of the Life Chart Method (Denicoff et al., 2000). A relapse prevention plan was constructed, containing a description of early warning signs of relapse, and early interventions (Goossens et al., 2010). Psycho education was provided in groups to patients and their relatives (Honig et al., 1997). Nurses performed Problem Solving Treatment (PST). PST is a comprehensive therapy, in which patients learn that effectively solving problems in daily life may result in enhanced mood (Mynors Wallis et al., 2000). Pharmacotherapy and somatic care were provided as usual.

2.5. Care as usual

In the Netherlands, quality of CAU in mental health care is relatively high. However, the extent to which available