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## Blended internet care for patients with severe mental illnesses: An open label prospective controlled cohort pilot study



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#### ABSTRACT

*Introduction:* This paper reports first experiences while providing blended (combined face-to-face and internetbased) flexible assertive community treatment (FACT) to outpatients with severe mental illnesses (SMI). The aim was to compare treatment satisfaction, clinical outcome and quality of life in the short term (3 months) of patients receiving blended FACT with those receiving conventional FACT.

*Method:* This pilot study was designed as an open label prospective controlled cohort study. 47 SMI patients were found eligible and non-randomly allocated to Blended FACT (n = 25) or to conventional FACT (n = 22). Data were collected at baseline and at a 3-month follow-up. Measures included were the Dutch Mental Health Care Thermometer, Health of the Nation Outcome Scales (HONOS), Manchester Short Assessment of Quality of Life (MANSA), EuroQoL 5 dimensional (EQ5D) and the Mental Health Confidence Scale (MHCS).

*Results:* At a three months follow-up, patients reported slightly improved quality of life (EuroQoL 5 dimensional, Wald  $\chi^2(1) = 6.80$ , p = 0.01; MANSA, Wald  $\chi^2(1) = 4.02$ , p = 0.05) and self-efficacy beliefs regarding their mental health problems (MHCS, Wald  $\chi^2(1) = 3.71$ , p = 0.05). HONOS scores did not change over time, Wald  $\chi^2(1) = 2.34$ , p = 0.13. Satisfaction scores were on average between satisfactory – good (BI: M = 7.50, SD = 1.54; CAU: M = 7.53 SD = 0.96; on a 1–10 scale). These results did not differ between the two study groups. *Conclusion:* It appears acceptable to patients to provide blended FACT with SMI, with outcomes comparable to face-to-face FACT. A future high quality trial is warranted to establish (cost-)effectiveness of blended FACT.

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#### 1. Introduction

Therapist-led internet-based interventions have been found efficacious for a variety of mental disorders, including depression (van 't Hof et al., 2009), anxiety disorders (Cuijpers et al., 2009), alcohol misuse (Riper et al., 2014) and tobacco smoking (Civljak et al., 2013). In addition, patients are generally positive about internet-based interventions (after use, not before, Musiat et al., 2014), as these interventions empower them to manage their own health problems (Barlow et al., 2005; Chou et al., 2012). The number of studies on internet-based interventions for patients with severe or complex mental illnesses is relatively small, but the number is increasing in recent years. Four recent reviews found support for the use of e-mental health in patients with psychotic disorders (Alvarez-Jimenez et al., 2014; Kasckow et al., 2013; van der Krieke et al., 2014; Naslund et al., 2015). Alvarez-Jimenez et al. (2014) included 12 studies examining the usability, acceptability, feasibility, safety or efficacy of internet interventions for patients with schizophrenia spectrum disorders and conclude that these interventions seem to be acceptable and feasible and have the potential to improve clinical and social outcomes. Kasckow et al. (2013) included 18 studies focussing on telepsychiatry interventions for patients with schizophrenia; they concluded that initial results suggest that these intervention modalities may improve patient outcomes but that more high quality research is needed. van der Krieke et al. (2014) draw the same conclusion after reviewing 28 studies on e-mental health selfmanagement interventions for persons with psychotic disorders. Naslund et al. (2015) review contains 46 studies from 12 countries on ehealth or mhealth interventions for patients with severe mental illnesses (SMI); their results support the feasibility and acceptability of

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Abbreviations: BI, Blended intervention; CAU, Care as usual; EQ5D, 5-dimensional EuroQol; FACT, Flexible assertive community treatment; GEE, Generalized Estimating Equations; HONOS, Health of the Nation Outcome Scales; MANSA, Manchester Short Assessment of Quality of Life; MHCS, Mental Health Confidence Scale; SMI, Severe mental illnesses.

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these interventions but they cannot draw conclusions regarding effectiveness due to insufficient high quality studies.

SMI patients tend to report combined psychiatric, somatic and social problems and therefore require complex multidisciplinary care. The majority of them (75%) has a diagnosis of schizophrenia or psychotic disorder. Many SMI patients also report residual symptoms, comorbid alcohol- or drug use and somatic health problems, as well as a need for support in self-care, accommodation, daytime activities and social contacts. For this reason, patients require tailored rehabilitation strategies to have a lasting effect on clinical outcomes (Drukker et al., 2010).

Assertive Community Treatment (ACT) was introduced with this aim by Stein, Test and Marx (Stein and Test, 1978) in the United States, to focus on outreach and persistent and intensive care and treatment for the most severely ill 20% SMI patients. More recently, a Dutch version of ACT (Flexible ACT, or FACT) has been developed and its use has become widespread. In FACT beneficial innovations at the team level, in the daily operation of FACT teams, and in the organisation of community mental health care services for SMI patients have been integrated. A multidisciplinary FACT team of 11–12 employees monitors 200 clients: all individuals with SMI in a catchment area (the 20% for whom ACT is indicated and the other 80%, who require less intensive care). To combine care for these two groups, the FACT team uses a flexible switching system. Patients who require intensive care are is discussed daily by the team; they use a shared caseload approach to be able to provide care at any time or day. For clients who require less intensive care, the team provides individual case management with multidisciplinary treatment and support (van Veldhuizen and Bähler, 2013). In current practise, the management of the 80% who require less intensive care involves frequent home visits by the team to monitor the patient and to help him/her with daily tasks and activities.

For this type of support, a pilot has been started to evaluate whether these activities could be performed using tele-psychiatry. Telepsychiatry was implemented using an internet platform to support patients with everyday activities using educative videos, information, and an activities board, and by using (video-)chat contacts to amend the home visits of the FACT team. This paper reports on this evaluation of the acceptability of offering (flexible) assertive community treatment (FACT) in a blended (combined internet-based and face-to-face) intervention format (BI) to outpatients with severe mental illnesses (SMI) in Amsterdam, the Netherlands. The web-based care in BI is essentially a tele-psychiatry modality involving live video or chat interactions with psychiatric nurses. In addition, patients were offered access to psychoeducative videos and a leisure activities bulletin board. The comparison group received care as usual (CAU) in the form of face-to-face FACT.

In this pilot phase, the aim was to offer the BI intervention to a selection of patients, and to compare their treatment satisfaction, clinical outcome and quality of life in the short term with patients receiving conventional FACT care. As the amount of care was according to the treatment protocols not different for BI and CAU patients, it was expected that (1) BI and CAU would not lead to significant differences in improvements of psychiatric symptoms or quality of life. It was also expected that (2) the blended form of FACT was acceptable for the patients, as evidenced by comparable scores on treatment satisfaction for the two care modalities. It was however expected that (3) selfefficacy beliefs regarding mental health problems would improve more in BI than in CAU, due to the emphasis on self-management in BI.

#### 2. Material and methods

#### 2.1. Inclusion of participants

A convenience sample of fifty-six patients receiving FACT at Mentrum, an SMI treatment centre in Amsterdam, the Netherlands were screened for eligibility. Patients received FACT for (combinations of) psychotic, mood, anxiety, and personality disorders. Inclusion criteria were age  $\geq$  18 years, permanent housing, and fluency in Dutch.

Exclusion criterion was an unstable psychiatric condition which required hospitalisation. Of the 56 screened patients, 47 were found eligible and non-randomly allocated to BI (n = 25) or to CAU (n = 22). Recruitment, treatment, and data collection took place between November 2012 and April 2013.

#### 2.2. Interventions

Both BI and CAU were FACT interventions, which is a low intensity, flexible adaptation of ACT (van Veldhuizen and Bähler, 2013). In FACT, teams coordinate treatment following assertive outreach principles to reduce in-patient care admissions and to prevent episodes without care (Drukker et al., 2013; van Veldhuizen and Bähler, 2013). The CAU group received conventional FACT through home visits and other contacts (for example in the community support centre) with a psychiatric nurse. In the BI group, a computer, internet connection and webcam were installed at no costs in participants' homes. They were granted access to the "myMentrum" internet portal, which offered (psycho-)educative videos, a leisure activities bulletin board, an agenda for scheduling appointments with the psychiatric nurse, and a web forum to establish contact with other patients. This internet portal was developed using a platform for the development of guided internet interventions (called mijnTherapie). The content of the platform was selected by employees of the FACT team working for the mental health care organisation that initiated this trial project (Arkin mental health care). In addition to the "myMentrum" internet portal, Skype was installed and made available as well, enabling patients to communicate with the psychiatric nurses using three different channels: face-to-face, as patients were used to, video-chat, and by using text-chat. Video chat contacts and face-to-face contacts were scheduled according to the patients' needs, on average 2-3 times a week. In addition, patients could instantly contact psychiatric nurses during office hours (between 9 am and 5 pm) using text chat functionalities in Skype. Although Skype uses encryption, for security reasons Skype communication was kept separate from the secured patient health record which adheres to the Netherlands norms for health information security (NEN 7510). Patients were trained how to use the platform and Skype, and informed on security aspects of its use.

#### 2.3. Procedure

This pilot study was designed as an open label prospective controlled cohort study. BI patients were self-referred from ongoing FACT care - BI care and participation in the study was open to all patients in the participating FACT team. In an introduction and recruitment meeting, BI participants were informed about the study procedures and the myMentrum patient portal. CAU participants were recruited from the remaining FACT patients of the same team (those who were not interested in participating in BI) through information leaflets. Data collection took place at baseline and three months after. It consisted of a face-to-face administered questionnaire (which took 20-30 min to complete and which was similar for the BI and CAU condition) and a clinician-administered clinical outcome measure, i.e., the Health of the Nation Outcome Scales (HONOS) (Wing et al., 1998). After filling out the follow-up questionnaire, BI participants were asked to report their experiences (positive and negative) with the BI platform. All participants provided written informed consent and the study procedures were approved by the ethics committee of the University of Amsterdam, registration number 2012-EXT-2441.

#### 2.4. Measures

Clinical outcome was measured using the clinician-administered HONOS, a 12-item instrument that covers clinical problems and social functioning with reasonable adequacy (Wing et al., 1998; Mulder et al., 2004). Higher scores on the HONOS are indicative of worse Download English Version:

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