Collaborative Care for patients with severe personality disorders

Challenges for the nursing profession

door
Barbara Stringer

Colofon
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GENERAL INTRODUCTION

INTRODUCTION

The Collaborative Care Program in this thesis was developed for patients with severe borderline personality disorder (BPD) or personality disorder not otherwise specified (PD NOS). Several reasons motivated the development of this Collaborative Care Program. Psychotherapy is considered as the preferred treatment according to clinical guidelines. However, research indicates that less than 25% receive psychotherapy as a first-step treatment due to strict indication criteria on the one hand and insufficient capacity of trained psychotherapists on the other hand (Hermens et al, 2011). In addition, non-completion rates of personality disorder treatments vary between 25 and 37% (McMurran et al, 2010;Barnicot et al, 2011). Apart from access and drop out problems, many patients do not benefit sufficiently from psychotherapy. Occasionally it even causes iatrogenic harm, because severe borderline patients are sometimes offered treatment that pushes their limits. The emphasis in psychotherapy on self-reflection, autonomy and motivation underestimates the enormous deficits of many borderline patients (van Luyn, 2007;van Manen et al, 2012). It is for all these patients, who currently do not receive adequate care meeting their specific needs and taking into account their capacities, that we have developed the Collaborative Care Program.

There are three main factors that contribute to the risk of receiving inadequate care, which are mutually dependent. The first factor is related to specific patient characteristics, which explain why they do not easily fit within the current mental health care provisions. For example, in addition to their personality disorder, these patients commonly suffer from chronic suicidal behaviours, frequent comorbidity with predominantly anxiety and depression, and multiple social and interpersonal problems. Moreover, most of them exhibit ambivalence towards their need for care. The second factor is associated with the organization of (community) mental health care. There appears to be a gap between the current supply and organization of mental health care and the specific needs, problems and capacities of a subgroup of patients. Regularly, this subgroup of patients is treated within community mental health care (CMHC) settings, where mental health nurses are responsible for the main part of treatment. However, care delivered by CMHC teams is usually not standardized and generally unstructured (Koekkoek et al, 2009a;Koekkoek et al, 2010a). Accordingly, the third factor is related to characteristics of the professionals working within these CMHC settings, and in particular to characteristics of nurses. Nurses are not always sufficiently equipped to fulfil their professional responsibility regarding the treatment of patients with severe personality disorders. Moreover, the aforementioned patient characteristics, especially the chronic suicidal behaviour and ambivalent help seeking behaviour, are considered as highly stressful for all care providers, but, as research suggests, in particular for nurses (Newton-Howes et al, 2008;Gunderson, 2008;Bodner et

al, 2011;Black et al, 2011;McGrath and Dowling, 2012). Hence, the CCP was developed to meet the needs of a subpopulation of patients with severe BPD or PD NOS, to improve organizational aspects of care, and to support nurses with their difficult and stressful task in caring for patients with severe personality disorders.

In this general introduction we will elucidate the three factors in more detail and substantiate the choice for the developed Collaborative Care Program as a possible answer to the identified shortcomings in the treatment for patients with severe personality disorders. Afterwards we will formulate the research objectives of this thesis and provide an outline of the different chapters included in this thesis.

Patient characteristics

The prevalence of both BPD and PD NOS is approximately 1 to 1.5% in general population studies. In psychiatric patients, however, the estimated prevalence rates for BPD and PD NOS are much higher, i.e. 10-20% and 8-13% respectively (Verheul and Widiger, 2004;Lenzenweger et al, 2007;Paris, 2010;Leichsenring et al, 2011).

A BPD severely affects all aspects of life. The essential feature of BPD is a pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity that begins by early adulthood. The diagnosis of PD NOS will be established when the mental disorder appears to fall within the larger category of personality disorders, but does not meet the criteria of any specific disorder within that category. To get a picture of how patients with BPD could be characterized, a description of the official DSM-IV-TR criteria is given in Table 1 (American Psychiatric Association, 2005). Part of the patients with PD NOS has comparable symptoms and problems as patients with BPD; therefore they were also included in the study.

Over the past decades, the optimism regarding the potential to recover from personality disorders has evolved (Zanarini et al, 2010;Gunderson et al, 2011). This optimism increased due to the availability and efficacy of diverse models of structured psychotherapy, currently the recommended treatment for patients with personality disorders (Verheul and Herbrink, 2007;McMain et al, 2012;Bateman, 2012;Stoffers et al, 2012).

As we have mentioned previously, a substantial group of people does not receive adequate care. In their systematic review, McMurran et al (2010) found a median of 37% for non-completion of personality disorder treatments. Barnicott et al (2011) found a mean percentage of 25% non-completion in treatments under twelve months duration and 29% in treatments over twelve months.

Table 1: DSM-IV-TR criteria of BPD

The essential feature of BPD is a pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity that begins by early adulthood and is present in a variety of contexts, as indicated by five (or more) of the following criteria:

1. *Frantic efforts to avoid real or imagined abandonment. Note: Do not include suicidal or self-mutilating behaviour covered in Criterion 5;*
2. *A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation;*
3. *Identity disturbance: markedly and persistently unstable self-image or sense of self;*
4. *Impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). Note: Do not include suicidal or self-mutilating behaviour covered in Criterion 5;*
5. *Recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour;*
6. *Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days);*
7. *Chronic feelings of emptiness;*
8. *Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights);*
9. *Transient, stress-related paranoid ideation or severe dissociative symptoms.*

The frequency, content and intensity of psychotherapeutic (group) sessions is not feasible or suitable for all patients due to e.g. limited reflective capacities, insufficient ego-strength to be intensively exposed to own problems and problems of others, motivation problems or a highly instable social context. These patients may not start with psychotherapy, drop out or do not benefit sufficiently (McMurran et al, 2010;Barnicott et al, 2011;van Manen et al, 2012).

Hence, the patients of our target population do not receive adequate treatment despite several endeavours. Accordingly, they have had multiple therapists and make frequent use of emergency and mental health care services (van Luyn, 2007;Soeteman et al, 2008a). As a result of several (unfinished) treatments with insufficient success, demoralization lurks among patients. Moreover, within CMHC settings the treatment perspective shifts from cure towards care. For some of these patients this reinforces the message that all hope for recovery has been lost, contributing to further demoralization.

Further, among the patients of our target population frequent comorbidity is present, predominantly with depressive and anxiety disorders, but also with alcohol or substance use disorders, and/or somatic disorders (Zanarini et al, 1998). Other problems related to mental health, such as suicidal behaviour and self harm are frequently present (Brown et al, 2002;Paris, 2007). Among patients with borderline personality disorders approximately ten percent die from suicide, most suicides occurring later in the course of illness, generally in patients who have undergone a series of unsuccessful treatments (Paris, 2007). It is suggested that the suicide rate among patients with PD NOS is comparable (Johnson et al, 2005). Patients often present chronic suicidal feelings and conduct multiple suicide attempts (Brown et al, 2002;Paris, 2004). The other way around, in patients with anxiety and depressive disorders those with a comorbid borderline personality disorder are especially at risk for recurrent suicide attempts (Soloff et al, 2000;Hawton et al, 2003;Brodsky et al, 2006). A conclusion could be that there exists borderline related recurrent suicidal behaviour which is a key feature of the subgroup of patients.

In addition, most of these patients are unemployed, and have no stable support system or are dependent on (exhausted) parents or partners. Multiple social problems are common, e.g. difficult relationships or divorces with or without children involved, financial problems and housing problems. As a result quality of life is poor and the risk for suicide increases (Perseius et al, 2005;Cramer et al, 2006;Bateman, 2012).

Despite their severe suffering, commonly, these patients show ambivalence towards their needs for treatment and some are left without any treatment at all (van Luyn, 2007). Ambivalent care seeking of these patients, shifting between dependency and autonomy and between idealisation and condemnation of professionals, can be explained out of their disorder and the irregular course of the therapeutic process. Moreover, studies reveal that patients and care providers set different priorities during treatment, based on a different perspective of problems and needs of patients that require attention. These at times conflicting priorities can cause miscommunication between patients and care providers and hence adversely affect outcomes of care (Hansen et al, 2004;Lasalvia et al, 2005;Hayward et al, 2006;Junghan et al, 2007;Lasalvia et al, 2008). It is known that the 'treatment gap' between the need for, and delivery of, appropriate mental health care services is still wide, especially among patients with suicidal behaviours (Bijl et al, 2003;Kohn et al, 2004;Wang et al, 2007;Bruffaerts et al, 2011). Part of this suggested gap between need for and delivery of appropriate mental health care services for suicidal persons may be explained by the entrapped mindset and feelings of hopelessness of suicidal persons which may result in fixed ideas that nothing will help (Williams et al, 2005). In this respect the suicidal person demonstrates his

core beliefs that make him suicidal by engaging in prototypical cognitions of being untreatable, being too worthless to be treated, being incapable of profiting from any help, fear of stigma, etc. (Bruffaerts et al, 2011). As (recurrent) suicidal behaviour is a key feature of patients with severe personality disorders, these prototypical cognitions also apply to them.

Overall, it can be concluded that it is a very vulnerable population with chronic complex conditions resulting in a high burden of disease and high economic burden (Soeteman et al, 2008a;Soeteman et al, 2008b).

Organization of (Community) Mental Health Care

The second risk factor for receiving inadequate care concerns organizational aspects. Mental health care is becoming increasingly specialized. Consequently, it has been organized towards illness-oriented treatment programs. For patients with multiple comorbidities, like the patients of our target population, this increased specialization contributes to the risk of receiving inadequate care, because they do not easily fit within illness-oriented treatment programs. Moreover, due to these multiple comorbidities many different care providers are involved: family practitioners and/or somatic specialists for the present somatic problems, and/or addiction health care providers for the treatment of alcohol or substance disorders. Due to functional impairments and social problems, care providers of home care, supervised independent living facilities, social work, or youth care are regularly involved. The involvement of so many different care providers often leads to fragmented communication and discontinuity of care and thus to poor treatment outcomes.

Another organizational aspect concerns the engagement of the various mental health professionals in the treatment of patients with personality disorders. The psychotherapeutic treatment belongs for the main part to the domain of psychiatrists, psychotherapists and clinical psychologists. Within the group sessions of Dialectical Behavioural Therapy (DBT), Mentalization Based Treatment (MBT) or Systems Training for Emotional Predictability and Problem Solving (STEPPS) nurses participate as co-therapists, next to psychiatrists, psychotherapists or clinical psychologists (Woods and Richards, 2003;Black et al, 2004;Osborne and McComish, 2006;Bos et al, 2010;Bales et al, 2012).

As we have stated before, however, the patients of our target population generally are treated within CMHC settings. Within these settings, treatment is provided by (community) mental health care nurses, social workers, psychologists and psychiatrists providing long-term support to patients who have mostly received unfinished and unsuccessful specialized treatments before. In line with the organization structure of these settings, the involvement of the more specialized

professionals (psychiatrists, clinical psychologists, psychotherapists) decreases, thus reducing the possibilities for supporting nurses in their difficult task of treating patients with personality disorders. Moreover, care for patients with severe personality disorders delivered by CMHC teams is usually not standardized and generally unstructured (Koekkoek et al, 2009a;Koekkoek et al, 2010a). Although intensive outpatient models, such as Assertive Community Treatment (ACT) and Function Assertive Community Treatment (F-ACT) have improved the quality of care and treatment outcomes within these settings (Dieterich et al, 2010), the focus of CMHC is predominantly on patients with axis I disorders, such as schizophrenia, other psychotic disorders, bipolar and depressive disorders. The treatment of patients with axis I disorders requires a different therapeutic approach than patients with severe personality disorders. In particular the management of recurrent suicidal behaviour poses problems for the organization and the nurses involved. Mental health care institutes and the professionals involved balancing between resisting the urge to send someone in for admission in case of suicidal threat and the fear of not sending someone in for admission erroneously. Enduring constant suicidal threats, the subsequent risk assessment and associated decisions about (involuntary) admissions weigh heavily upon the responsibility of professionals and nurses in particular (Gunderson, 2008). A fortiori because nurses have little to go by: multidisciplinary treatment guidelines for both personality disorders and suicidal behaviour offer few specific recommendations how to treat these patients. As a result, mental health nurses commonly rely on knowledge from adjacent disciplines, tacit knowledge, common sense and intuition (van Meijel et al, 2004). To entrust vulnerable patients to a setting where care is unstructured and where professionals are insufficiently equipped for their task may also cause iatrogenic harm, because they become unintentionally depending of inadequate care.

Characteristics of nurses

General features of nurses within mental health care

According to several studies, the treatment of patients with personality disorders is highly stressful for nurses in particular. To support nurses in this difficult and stressful task, they should be well equipped to fulfil their professional responsibility. There are, however, several system flaws why they are not always well equipped.

The aforementioned increased specialization of mental health care leads to a need for professionals equipped with specific expertise. However, education programs for (mental health care) nurses are generic in the Netherlands. This means that nurses are trained for the whole range of health care, including somatic, mental health and geriatric care. Mental health care differentiations within these educa-

tion programs exist, but the provision of specific expertise and the training of specific skills regarding psychiatric disorders is limited. Next to the regular education programs and in collaboration with mental health care institutes, dual education programs are offered in which more attention can be paid to specific expertise and skills needed within mental health care.

Currently, there are two levels of nurses trained in the Netherlands: nurses with an intermediate vocational education level and nurses with a bachelor degree. In clinical practice, however, both perform mostly the same tasks and have the same responsibilities. Due to cost reductions and a lack of distinction between the two levels of nursing a shift towards lower educated nurses can be detected. Post-graduate education programs for community mental health nursing exist but are no longer subsidized by the Dutch government. With a mean age of over 45 years this profession is at risk to become marginalized, as a result of which a lot of specific expertise and experience is lost (Koekkoek et al, 2009b).

Recently, new professional profiles of nurses were presented (Lambregts and Grotendorst, 2012). Within the nursing domain two levels are to be distinguished: nurses with a bachelor degree and clinical nurse specialists with a professional master degree, established in the Dutch Individual Health Care Professions act (https://www.bigregister.nl). A restructuring of nursing professions and the division of tasks and responsibilities between these professions was necessary in response to changes in the organization of health care, upcoming ageing, the associated complexity of care, and the expected shortage of nursing staff (Lambregts and Grotendorst, 2012).

Mental health care expenses are increasing rapidly in the Netherlands and without intervention mental health care will be overpriced. Therefore, the national government initiates cost reductions by cutting down insurance packages, relocating financial resources and re-arranging tasks of the nursing discipline in particular. The division of tasks and responsibilities between professions and the introduction of the clinical nurse specialist in mental health care fits into this trend of re-arranging tasks. As we will see, these developments have their consequences for the possibilities to apply complex composite interventions, such as our Collaborative Care Program.

Nurses and the treatment of patients with severe personality disorders

The subgroup of patients which is treated within CMHC settings poses many challenges for the nursing profession. Nurses have little to go by in relation to this patient population, because evidence based interventions for the treatment of this specific patient population are scarce and support of other (more specialized) professionals is limited. Moreover, research indicates that with respect to self harm, being strongly associated with personality disorders, only 5% of the

participating Dutch nurses had had training in necessary skills for the treatment of self harm (Kool et al, 2011); based on yet unpublished data from the PITSTOP study, 12.5% of the nurses had had training in the treatment of suicidal behaviour (de Beurs et al, 2013). Moreover, negative attitudes towards patients with BPD among nurses are still frequently present (Bodner et al, 2011;Black et al, 2011), while research indicates that these negative attitudes can be altered positively after supervision or adequate training, e.g. in the skills used in DBT, MBT or STEPPS, and treatment outcomes can be improved (Bland and Rossen, 2005; Hazelton et al, 2006;Bland et al, 2007;Bhebhe and Fuller, 2009;Shanks et al, 2011).

The relatively solitary exercise of nurses within CMHC settings, combined with occasionally insufficient understanding of the complexity of BPD, contributes to the risk of demoralization and thus to reduced effectiveness of delivered care.

Moreover, the aforementioned ambivalent care seeking of patients with severe personality disorders is difficult for nurses to accept and to cope with, and it often leads to ineffective professional behaviour (Koekkoek et al, 2010b). Strong emotional responses towards the patient arise frequently, particularly when the disruptive and destructive behaviour of the patient is unpredictable and difficult to understand (Koekkoek et al, 2011). While balancing between autonomy and safety of the patient, nurses easily feel forced and responsible to protect the patient (Hendin et al, 2006;Jobes, 2006;Goldblatt and Waltsberger, 2009). They place a strong emphasis on preventing suicide and other forms of destructive behaviour, at the expense of trying to understand the underlying distress and dynamics of these behaviours, and to refocus the patient on resolving their life problems. At the same time, nurses may underestimate the needs and disabilities of their patients and perceive them as able but unwilling to change (Koekkoek et al, 2010b). To keep the balance between playing a waiting game on the one hand, and being overly supportive and protective on the other hand is considered to be difficult with regard to these patients (van Luyn, 2007).

In summary, the current treatment for patients with severe personality disorders within CMHC settings is not standardized and generally unstructured with negative consequences for treatment outcomes (Koekkoek et al, 2009a;Koekkoek et al, 2009b). As a result, nurses fail to acknowledge this vulnerable patient population or occasionally even cause iatrogenic harm. Nurses, who have responsibility for these patients, are occasionally insufficiently equipped due to the absence of adequate treatment models and necessary knowledge and skills. There is an urgent need to professionalize the nursing profession and improve the quality of care for these patients.

Collaborative Care as a possible answer

As a result the quality of care for patients with severe personality disorders is below optimal standards and is demanding upon nurses and professionals of other disciplines. This limited quality of care is also applicable to other patient populations with chronic complex conditions in both mental health and somatic care (McGlynn et al, 2003;Torpey and Klein, 2008). However, providing adequate care for patients with severe personality disorders is especially urgent due to the high burden of disease, high health care risks, including suicide, high health care consumption and consequently, high costs (Soeteman et al, 2008a;Soeteman et al, 2008b).

Patients with chronic complex conditions are regularly confronted with fragmented communication between health care providers involved, discontinuity of delivered care, the absence of planned and structured interventions, and insufficient patient involvement in the treatment process (von Korff, 1997;Wagner et al, 2001;Bodenheimer et al, 2002). As a possible response to these shortcomings, for patients with severe mental illnesses, mainly psychotic disorders, several intensive outpatient approaches have been introduced with positive results, such as the aforementioned (Function) Assertive Community Treatment ((F)ACT) (Coldwell and Bender, 2007;Drukker et al, 2011). Recently, regarding the treatment of patients with chronic complex personality disorders, initiatives to integrate ACT with dialectical behavioural therapy or mentalization based treatment are undertaken, but evidence for effectiveness is scarce (Horvitz-Lennon et al, 2009;Knapen, 2013). Moreover, questions were raised about the appropriateness of this integration (Horvitz-Lennon et al, 2009). For non-psychotic chronic patients with multiple and complex problems, thereby being perceived as 'difficult' by professionals, few interventions are available yet (Koekkoek et al, 2010a). Koekkoek et al (2012) developed and tested their Interpersonal Community Psychiatric Treatment (ICPT) in a small-scale pilot study, with positive results.

Another promising response to the shortcomings in the treatment of patients with chronic complex conditions is the development of Collaborative Care models to improve and integrate care (von Korff, 1997;Wagner et al, 2001;Bodenheimer et al, 2002). Collaborative Care models aim to fortify primary care in order to treat these patients as long as possible in the least intensive and least expensive health care services. The underlying aims of these models are to increase collaboration between patient, family members/other informal caregivers and professionals; the promotion of shared decision making; and enhancement of self management skills of patients with chronic conditions. Collaborative Care models consist of six core elements: self-management support, decision support, practice redesign, clinical information systems, health care organization and community

linkages (see Table 2) (von Korff, 1997;Bodenheimer et al, 2002;Woltmann et al, 2012). The strength of these models is that they include organizational aspects to optimize coordination and continuity of care, in combination with effective interventions to optimize treatment. Another appealing aspect of Collaborative Care models from a nursing perspective is that nurses have a prominent position in these models as they often function as collaborative care managers, being responsible for both an optimal organization of treatment and a proper implementation. This provides opportunities for nurses to contribute to a higher quality of care (Katon et al, 2001).

These opportunities to contribute to a higher quality of care are supported by the description of core tasks in the new professional profiles of nurses in the Netherlands, for both registered nurses (at bachelor level) and clinical nurse specialists (Lambregts and Grotendorst, 2012). The underlying principles of Collaborative Care, namely shared decision making and self management, coincide with the leading themes in these new professional profiles (Lambregts and Grotendorst, 2012, p.9): "Nurses are all round care professionals focussing at the promotion of self management of persons, their informal carers and social network partners with the aim of maintaining or improving daily functioning in relation to health, illness and quality of life. (…..) Nurses provide care based on an ongoing cyclical process of clinical reasoning, including risk assessment, early recognition, problem recognition, evidence based interventions, monitoring and evaluation." The tasks mentioned in these nursing profiles bear close resemblance with the core elements of CC, indicating that nurses should be competent to effectively carry out Collaborative Care interventions.

Over the past two decades, Collaborative Care was extended to primary and specialized Mental Health Care and to date, Collaborative Care programs have proven to be (cost-) effective for a variety of mental disorders in various settings, e.g. depressive, anxiety and bipolar disorders (Thota et al, 2012;Woltmann et al, 2012). In the Netherlands several studies concerning Collaborative Care in primary care showed positive results (IJff et al, 2007; van Orden et al, 2009;van der Feltz-Cornelis, 2009;Huijbregts et al, 2012;Vlasveld et al, 2012).

Table 1: Core elements of Collaborative Care models.

Element	
Self-management support	• *Use of effective self-management support strategies that include assessment, goal setting, action planning, problem solving, evaluation of collaboration and follow-up* • *Organise resources to provide support*
Decision support	• *Embed evidence-based guidelines into daily clinical practice* • *Integrate specialist expertise and primary care* • *Use proven provider education methods* • *Share guidelines and information with patients*
Practice redesign	• *Define roles and distribute tasks among team members* • *Involve informal carers* • *Use planned interactions to support evidence-based care* • *Provide clinical case management services for high risk patients* • *Ensure regular follow-up*
Clinical information systems	• *Provide reminders for providers and patients* • *Facilitate individual patient care planning* • *Track patient outcomes* • *Share information with providers and patients* • *Monitor performance of team and system*
Health care organization	• *Visibly support improvement at all levels, starting with senior leaders* • *Promote effective improvement strategies aimed at comprehensive system change* • *Provide incentives based on quality of care* • *Develop agreements for care coordination*
Community linkages	• *Encourage patients to participate in effective programs* • *Form partnerships with community organizations to support or develop programs* • *Advocate for policies to improve care*

Aims of this thesis

We have noted a lack of evidence based treatment models available for patients with severe personality disorders, in particular for patients who are currently treated in community mental health centres. We hypothesize that a Collaborative Care Program with its principles of shared decision making, establishing collaborative relationships with all partners involved, and enhancing self management and problem solving skills, would be beneficial to this subgroup of patients. This hypothesis is supported by the following arguments: 1) the combination of organizational aspects to optimize coordination and continuity of care on the one hand, and the execution of evidence based interventions on the other hand does justice to the chronic complex conditions of our target population; 2) potential miscommunication and stagnating treatment processes due to conflicting priorities may be resolved by structured needs assessment and shared decision making followed by patient-centred treatment; 3) ambivalent care seeking may be resolved by establishing clear collaboration agreements and adequate coordination of care with all partners involved; 4) coping with multiple social and interpersonal problems requires the promotion of self management and problem solving skills as well as an adequate organization and coordination of care with stake holders; 5) demoralization and adverse outcomes of treatment may be resolved by a realistic perspective on hope and recovery, increased goal orientation and close monitoring of treatment outcomes. Moreover, we expect that the Collaborative Care Program might provide a necessary structure to nurses in the treatment of these patients.

Accordingly, in order to optimize treatment for this vulnerable patient group and to support nurses in the difficult task to take care of these patients, we developed a Collaborative Care Program (CCP), managed by (community) mental health nurses. Next, this program was to be tested on feasibility and preliminary outcomes by means of a comparative multiple case study. The following research objectives were formulated:

1. To develop a Collaborative Care Program for patients with a severe borderline or NOS personality disorder, adjusted to the specific features, problems and needs of the target population;
2. To describe the processes of application of the CCP for patients with severe borderline or NOS personality disorder in comparison with Care as Usual (CAU);
3. To examine the preliminary results of the CCP in comparison with CAU;
4. To explain which characteristics of the CCP are indicative for the occurrence of positive or negative outcomes compared to CAU;
5. To describe factors which hamper or foster the execution of the CCP;
6. To elucidate possible consequences for the nursing profession regarding the application of a CCP in patients with severe personality disorders.

In addition to this main research project, we performed two epidemiological studies regarding suicidal behaviour, as one of the most urgent and challenging subjects in clinical practice and especially in patients with severe personality disorders. For example, worldwide the lifetime prevalence of suicide attempts is estimated at 4.6% (Kessler et al, 2005;Nock et al, 2008). Each year 94.000 people conduct a suicide attempt in the Netherlands, of which 14.000 need medical treatment from emergency centres (Ten Have et al, 2009). In persons who need medical treatment after a suicide attempt, those with personality disorders are highly represented (Cailhol et al, 2008;Soeteman et al, 2008a).

For these epidemiological studies we used data of the Netherlands Study of Depression and Anxiety (NESDA). The NESDA study was designed as an ongoing longitudinal cohort study, to investigate the long-term course of depression and anxiety disorders (Penninx et al, 2008). Anxiety and depression are generally found to be the most prevalent mental disorders worldwide, with a life time prevalence of approximately 20% (Kessler et al, 2009;de Graaf et al, 2012). Moreover, several studies reveal that the presence of anxiety and depressive disorder increases the risk of suicide attempts and completed suicide (Angst et al, 1999;Sareen et al, 2005;Ten Have et al, 2009). With these two epidemiological studies we aim to contribute to the understanding of borderline characteristics of suicidal behaviour. The clinical relevance of improving our understanding of suicidal behaviour and borderline characteristics by studying patients with depressive and anxiety disorders seems evident, as this represents the best known and most accessible risk group for suicide.

Outline of this thesis

In the following we will briefly introduce each chapter in this thesis:

Chapter 1 and 2

In line with our first research objective, Chapter 1 describes the study protocol of the comparative multiple case study investigating the feasibility and outcomes of the Collaborative Care program for patients with severe personality disorders. Chapter 2 elucidates the content of the CCP in more detail. It clarifies and substantiates the adjustments made to previous CC models in order to make it feasible for our target population.

Chapter 3
Concerning the research objectives 2 to 4, the feasibility and preliminary results of this CCP are presented in chapter 3. The processes of application of the CCP in comparison with Care as Usual (CAU) are described. Subsequently, the preliminary outcomes of the CCP in comparison with CAU are presented. Finally, characteristics of the CCP determining positive or negative outcomes are identified.

Chapter 4
Chapter 4 concerns the research objectives 5 and 6. It elaborates on aspects regarding the application of the CCP. Implications for clinical practice and the nursing profession are discussed. Lastly, it offers recommendations for adapting the CCP to increase effectiveness.

Chapter 5 and 6
These chapters present results of the two epidemiological studies based on the NESDA data regarding patients with depression or anxiety.

Chapter 5
As we have seen, conflicting priorities in perceived needs and, subsequently, in treatment goals are common in our target population. While it is known that health care is more likely to be effective if it meets the perceived needs of patients. To investigate possible gaps between perceived needs for care and delivery of mental health care we formulated two research objectives. First, we described the perceived needs of care and health-care utilization of persons with and without suicidal ideation. Second, we examined whether differences in perceived needs and health-care utilization between persons with and without suicidal ideation were associated with the severity of the depression or anxiety.

Chapter 6
While the focus of chapter 5 was on suicidal ideation, in chapter 6 our attention narrows to the population of recurrent suicide attempters. In patients with depressive and anxiety disorders the presence of a comorbid borderline personality disorder is associated with an increase of suicidal behaviours. The aim of this study was to examine the role of borderline personality traits on recurrent suicide attempts.

The last chapter summarizes and discusses the main findings of all studies included in this thesis.

REFERENCE LIST

American Psychiatric Association (2005) Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR Fourth Edition (Text Revision). Washington D.C.: American Psychiatric Association.

Angst, J., Angst, F., and Stassen, H. H. (1999) Suicide risk in patients with major depressive disorder. J Clin Psychiatry, **60 Suppl 2**, 57-62.

Bales, D., van Beek, N., Smits, M., et al (2012) Treatment outcome of 18-month, day hospital mentalization-based treatment (MBT) in patients with severe borderline personality disorder in the Netherlands. J.Pers.Disord., **26**, 568-582.

Barnicot, K., Katsakou, C., Marougka, S., et al (2011) Treatment completion in psychotherapy for borderline personality disorder: a systematic review and meta-analysis. Acta Psychiatr.Scand., **123**, 327-338.

Bateman, A. W. (2012) Treating borderline personality disorder in clinical practice. Am.J.Psychiatry, **169**, 560-563.

Bhebhe, S. and Fuller, M. (2009) Improving the management of women with borderline personality disorder. Nurs.Times, **105**, 18-19.

Bijl, R. V., de Graaf, R., Hiripi, E., et al (2003) The prevalence of treated and untreated mental disorders in five countries. Health Aff.(Millwood.), **22**, 122-133.

Black, D. W., Blum, M., Pfohl, B., et al (2004) The STEPPS Group Treatment Program for Outpatients with Borderline Personality Disorder. J. Contemp. Psychother., **34**, 193-210.

Black, D. W., Pfohl, B., Blum, N., et al (2011) Attitudes Toward Borderline Personality Disorder: A Survey of 706 Mental Health Clinicians. CNS.Spectr..

Bland, A. R. and Rossen, E. K. (2005) Clinical supervision of nurses working with patients with borderline personality disorder. Issues Ment.Health Nurs., **26**, 507-517.

Bland, A. R., Tudor, G., and McNeil, W. D. (2007) Nursing care of inpatients with borderline personality disorder. Perspect.Psychiatr.Care, **43**, 204-212.

Bodenheimer, T., Wagner, E. H., and Grumbach, K. (2002) Improving primary care for patients with chronic illness. JAMA, **288**, 1775-1779.

Bodner, E., Cohen-Fridel, S., and Iancu, I. (2011) Staff attitudes toward patients with borderline personality disorder. Compr.Psychiatry, **52**, 548-555.

Bos, E. H., van Wel, E. B., Appelo, M. T., et al (2010) A randomized controlled trial of a Dutch version of systems training for emotional predictability and problem solving for borderline personality disorder. J.Nerv.Ment.Dis., **198**, 299-304.

Brodsky, B. S., Groves, S. A., Oquendo, M. A., et al (2006) Interpersonal precipitants and suicide attempts in borderline personality disorder. Suicide Life Threat.Behav., **36**, 313-322.

Brown, M. Z., Comtois, K. A., and Linehan, M. M. (2002) Reasons for suicide attempts and nonsuicidal self-injury in women with borderline personality disorder. J Abnorm.Psychol., **111**, 198-202.

Bruffaerts, R., Demyttenaere, K., Hwang, I., et al (2011) Treatment of suicidal people around the world. Br.J.Psychiatry, **199**, 64-70.

Cailhol, L., Damsa, C., Bui, E., et al (2008) [Is assessing for borderline personality disorder useful in the referral after a suicide attempt?]. Encephale, **34**, 23-30.

Coldwell, C. M. and Bender, W. S. (2007) The effectiveness of assertive community treatment for homeless populations with severe mental illness: a meta-analysis. Am.J.Psychiatry, **164,** 393-399.

Cramer, V., Torgersen, S., and Kringlen, E. (2006) Personality disorders and quality of life. A population study. Compr. Psychiatry, **47**, 178-184.

de Beurs, D. P., de Groot, M. H., de Keijser, J., et al (2013) Improving the application of a practice guideline for the assessment and treatment of suicidal behavior by training the full staff of psychiatric departments via an e-learning supported Train-the-Trainer program: study protocol for a randomized controlled trial. Trials, **14**, 9.

de Graaf, R., Ten Have, M., van Gool, C., et al (2012) Prevalence of mental disorders and trends from 1996 to 2009. Results from the Netherlands Mental Health Survey and Incidence Study-2. Soc.Psychiatry Psychiatr.Epidemiol., **47**, 203-213.

Dieterich, M., Irving, C. B., Park, B., et al (2010) Intensive case management for severe mental illness. Cochrane.Database. Syst.Rev., CD007906.

Drukker, M., van Os, J., Sytema, S., et al (2011) Function assertive community treatment (FACT) and psychiatric service use in patients diagnosed with severe mental illness. Epidemiol.Psychiatr.Sci., **20**, 273-278.

Goldblatt, M. J., Waltsberger, J. T. (2009) Countertransference in the treatment of suicidal patients. In Oxford textbook of suicidology and suicide prevention. A global perspective. (eds D. Wasserman & C. Wasserman), Oxford: University Press.

Gunderson, J. G. (2008) Borderline Personality Disorder. A Clinical Guide. Second Edition. Arlington: American Psychiatric Publishing, Inc.

Gunderson, J. G., Stout, R. L., McGlashan, T. H., et al (2011) Ten-year course of borderline personality disorder: psychopathology and function from the Collaborative Longitudinal Personality Disorders study. Arch.Gen.Psychiatry, **68**, 827-837.

Hansen, T., Hatling, T., Lidal, E., et al (2004) The user perspective: respected or rejected in mental health care? J Psychiatr.Ment.Health Nurs, **11**, 292-297.

Hawton, K., Houston, K., Haw, C., et al (2003) Comorbidity of axis I and axis II disorders in patients who attempted suicide. Am.J.Psychiatry, **160**, 1494-1500.

Hayward, M., Slade, M., and Moran, P. A. (2006) Personality disorders and unmet needs among psychiatric inpatients. Psychiatr.Serv., **57**, 538-543.

Hazelton, M., Rossiter, R., and Milner, J. (2006) Managing the 'unmanageable': training staff in the use of dialectical behaviour therapy for borderline personality disorder. Contemp.Nurse, **21**, 120-130.

Hendin, H., Haas, A. P., Maltsberger, J. T., et al (2006) Problems in psychotherapy with suicidal patients. Am J Psychiatry, **163**, 67-72.

Hermens, M. L., van Splunteren, P. T., van den Bosch, A., et al (2011) Barriers to implementing the clinical guideline on borderline personality disorder in the Netherlands. Psychiatr.Serv., **62**, 1381-1383.

Horvitz-Lennon, M., Reynolds, S., Wolbert, R., et al (2009) The Role of Assertive Community Treatment in the Treatment of People with Borderline Personality Disorder. Am.J.Psychiatr.Rehabil., **12**, 261-277.

Huijbregts, K. M., de Jong, F. J., van Marwijk, H. W., et al (2012) A target-driven collaborative care model for Major Depressive Disorder is effective in primary care in the Netherlands. A randomized clinical trial from the depression initiative. J.Affect.Disord. 146, 328-337.

IJff, M. A., Huijbregts, K. M., van Marwijk, H. W., et al (2007) Cost-effectiveness of collaborative care including PST and an antidepressant treatment algorithm for the treatment of major depressive disorder in primary care; a randomised clinical trial. BMC.Health Serv.Res., **7**, 34.

Jobes, D. A. (2006) Managing Suicidal Risk. A Collaborative Approach. New York: The Guilford Press.

Johnson, J. G., First, M. B., Cohen, P., et al (2005) Adverse outcomes associated with personality disorder not otherwise specified in a community sample. Am.J.Psychiatry, **162**, 1926-1932.

Junghan, U. M., Leese, M., Priebe, S., et al (2007) Staff and patient perspectives on unmet need and therapeutic alliance in community mental health services. Br.J Psychiatry, **191**, 543-547.

Katon, W., von Korff, M., Lin, E., et al (2001) Rethinking practitioner roles in chronic illness: the specialist, primary care physician, and the practice nurse. Gen.Hosp.Psychiatry, **23**, 138-144.

Kessler, R. C., Berglund, P., Borges, G., et al (2005) Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990-1992 to 2001-2003. JAMA, **293**, 2487-2495.

Kessler, R. C., Guilar-Gaxiola, S., Alonso, J., et al (2009) The global burden of mental disorders: an update from the WHO World Mental Health (WMH) surveys. Epidemiol.Psichiatr.Soc., **18**, 23-33.

Knapen, S. (2013) FACT voor ernstige persoonlijkheidsstoornissen - Ervaringen met de combinatie met Mentalization Based Treatment [FACT for patients with severe personality disorders - experiences with the combination with Mentalization Based Treatment]. MGv, **68**, 20-28.

Koekkoek, B., van Meijel, B., and Hutschemaekers, G. (2010a) Community mental health care for people with severe personality disorder: a narrative review. The Psychiatrist, **34**, 24-30.

Koekkoek, B., van Meijel, B., Schene, A., et al (2010b) Development of an intervention program to increase effective behaviours by patients and clinicians in psychiatric services: Intervention Mapping study. BMC.Health Serv.Res., **10**, 293.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009a) Clinical problems in community mental health care for patients with severe borderline personality disorder. Community Ment.Health J, **45**, 508-516.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009b) Community psychiatric nursing in the Netherlands: a survey of a thriving but threatened profession. J Psychiatr.Ment.Health Nurs, **16**, 822-828.

Koekkoek, B., van Meijel, B., Schene, A., et al (2012) Interpersonal community psychiatric treatment for non-psychotic chronic patients and nurses in outpatient mental health care: a controlled pilot study on feasibility and effects. Int.J.Nurs.Stud., **49**, 549-559.

Koekkoek, B., van Meijel, B., Tiemens, B., et al (2011) What makes community psychiatric nurses label non-psychotic chronic patients as 'difficult': patient, professional, treatment and social variables. Soc.Psychiatry Psychiatr.Epidemiol. **46**,1045-1053.

Kohn, R., Saxena, S., Levav, I., et al (2004) The treatment gap in mental health care. Bull. World Health Organ, **82**, 858-866.

Kool, N., van Meijel, B., van der Bijl, J., et al (2011) Met Mij Alles Goed: voorlopige resultaten [I'm doing just fine: preliminary results]. In MMAG AZINE. *Van litteken naar taal [MMAG AZINE. From scar to language].* Utrecht: Landelijke Stichting Zelfbeschadiging.

Lambregts, J., Grotendorst, A. (2012) V&VN 2020. Deel 1 Leren van de toekomst. [V&VN 2020. Part 1 Learning from the future]. Utrecht: V&VN.

Lasalvia, A., Bonetto, C., Malchiodi, F., et al (2005) Listening to patients' needs to improve their subjective quality of life. Psychol.Med, **35**, 1655-1665.

Lasalvia, A., Bonetto, C., Tansella, M., et al (2008) Does staff-patient agreement on needs for care predict a better mental health outcome? A 4-year follow-up in a community service. Psychol.Med, **38**, 123-133.

Leichsenring, F., Leibing, E., Kruse, J., et al (2011) Borderline personality disorder. Lancet, **377**, 74-84.

Lenzenweger, M. F., Lane, M. C., Loranger, A. W., et al (2007) DSM-IV personality disorders in the National Comorbidity Survey Replication. Biol.Psychiatry, **62**, 553-564.

McGlynn, E. A., Asch, S. M., Adams, J., et al (2003) The quality of health care delivered to adults in the United States. N.Engl.J.Med., **348**, 2635-2645.

McGrath, B. and Dowling, M. (2012) Exploring Registered Psychiatric Nurses' Responses towards Service Users with a Diagnosis of Borderline Personality Disorder. Nurs.Res.Pract., **2012**, 601918.

McMain, S. F., Guimond, T., Streiner, D. L., et al (2012) Dialectical behavior therapy compared with general psychiatric management for borderline personality disorder: clinical outcomes and functioning over a 2-year follow-up. Am.J.Psychiatry, **169**, 650-661.

McMurran, M., Huband, N., and Overton, E. (2010) Non-completion of personality disorder treatments: a systematic review of correlates, consequences, and interventions. Clin.Psychol.Rev., **30**, 277-287.

Newton-Howes, G., Weaver, T., and Tyrer, P. (2008) Attitudes of staff towards patients with personality disorder in community mental health teams. Aust.N.Z.J.Psychiatry, **42**, 572-577.

Nock, M. K., Borges, G., Bromet, E. J., et al (2008) Suicide and suicidal behavior. Epidemiol.Rev., **30**, 133-154.

Osborne, U. L. and McComish, J. F. (2006) Borderline personality disorder: nursing interventions using dialectical behavioral therapy. J.Psychosoc.Nurs.Ment.Health Serv., **44**, 40-47.

Paris, J. (2007) Managing suicidal crises in patients with severe personality disorders. In *Severe Personality Disorders. Everyday Issues in Clinical Practice.* (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

Paris, J. (2010) Estimating the prevalence of personality disorders in the community. J.Pers.Disord., **24**, 405-411.

Paris, J. (2004) Half in love with easeful death: the meaning of chronic suicidality in borderline personality disorder. Harv.Rev.Psychiatry, **12**, 42-48.

Penninx, B. W., Beekman, A. T., Smit, J. H., et al (2008) The Netherlands Study of Depression and Anxiety (NESDA): rationale, objectives and methods. Int J Methods Psychiatr.Res, **17**, 121-140.

Perseius, K. I., Ekdahl, S., Asberg, M., et al (2005) To tame a volcano: patients with borderline personality disorder and their perceptions of suffering. Arch.Psychiatr.Nurs., **19**, 160-168.

Sareen, J., Cox, B. J., Afifi, T. O., et al (2005) Anxiety disorders and risk for suicidal ideation and suicide attempts: a population-based longitudinal study of adults. Arch.Gen.Psychiatry, **62**, 1249-1257.

Shanks, C., Pfohl, B., Blum, N., et al (2011) Can negative attitudes toward patients with borderline personality disorder be changed? The effect of attending a STEPPS workshop. J.Pers.Disord., **25**, 806-812.

Soeteman, D. I., Hakkaart-Roijen van, L., Verheul, R., et al (2008a) The economic burden of personality disorders in mental health care. J Clin Psychiatry, **69**, 259-265.

Soeteman, D. I., Verheul, R., and Busschbach, J. J. (2008b) The burden of disease in personality disorders: diagnosis-specific quality of life. J Pers.Disord, **22**, 259-268.

Soloff, P. H., Lynch, K. G., Kelly, T. M., et al (2000) Characteristics of suicide attempts of patients with major depressive episode and borderline personality disorder: a comparative study. Am J Psychiatry, **157**, 601-608.

Stoffers, J. M., Vollm, B. A., Rucker, G., et al (2012) Psychological therapies for people with borderline personality disorder. Cochrane.Database.Syst.Rev., **8**, CD005652.

Ten Have, M., de Graaf, R., van Dorsselaer, S., et al (2009) Incidence and course of suicidal ideation and suicide attempts in the general population. Can.J.Psychiatry, **54**, 824-833.

Thota, A. B., Sipe, T. A., Byard, G. J., et al (2012) Collaborative care to improve the management of depressive disorders: a community guide systematic review and meta-analysis. Am.J.Prev.Med., **42**, 525-538.

Torpey, D. C. and Klein, D. N. (2008) Chronic depression: update on classification and treatment. Curr.Psychiatry Rep., **10**, 458-464.

van der Feltz-Cornelis, C. M. (2009) Towards integrated primary health care for depressive disorder in the Netherlands. The depression initiative. Int.J.Integr.Care, **9**, e83.

van Luyn, B. (2007) Severe cases: management of the refractory borderline patient. In *Severe Personality Disorders. Everyday Issues in Clinical Practice*. (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

van Manen, J. G., Kamphuis, J. H., Goossensen, A., et al (2012) In search of patient characteristics that may guide empirically based treatment selection for personality disorder patients-a concept map approach. J.Pers.Disord., **26**, 481-497.

van Meijel, B., Gamel, C., van Swieten-Duijfjes, B., et al (2004) The development of evidence-based nursing interventions: methodological considerations. J Adv.Nurs, **48**, 84-92.

van Orden, M., Hoffman, T., Haffmans, J., et al (2009) Collaborative mental health care versus care as usual in a primary care setting: a randomized controlled trial. Psychiatr.Serv., **60**, 74-79.

Verheul, R. and Herbrink, M. (2007) The efficacy of various modalities of psychotherapy for personality disorders: a systematic review of the evidence and clinical recommendations. Int.Rev.Psychiatry, **19**, 25-38.

Verheul, R. and Widiger, T. A. (2004) A meta-analysis of the prevalence and usage of the personality disorder not otherwise specified (PDNOS) diagnosis. J Pers.Disord, **18**, 309-319.

Vlasveld, M. C., van der Feltz-Cornelis C. M., Ader, H. J., et al (2012) Collaborative care for major depressive disorder in an occupational healthcare setting. Br.J.Psychiatry, **200**, 510-511.

von Korff, M. (1997) Collaborative Management of Chronic Illness. Annals of Internal Medicine, **127**, 1097-1102.

Wagner, E. H., Glasgow, R. E., Davis, C., et al (2001) Quality improvement in chronic illness care: a collaborative approach. Jt.Comm J.Qual.Improv., **27**, 63-80.

Wang, P. S., Guilar-Gaxiola, S., Alonso, J., et al (2007) Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. Lancet, **370**, 841-850.

Williams, J. M. G., Crane, C., Barnhofer, T., et al (2005) Psychology and suicidal behavior: Elaborating the entrapment model. In *Prevention and treatment of suicidal behaviour: From science to practice*. (ed K. Hawton), pp. 71-88. Oxford: Oxford University Press.

Woltmann, E., Grogan-Kaylor, A., Perron, B., et al (2012) Comparative effectiveness of collaborative chronic care models for mental health conditions across primary, specialty, and behavioral health care settings: systematic review and meta-analysis. Am.J.Psychiatry, **169**, 790-804.

Woods, P. and Richards, D. (2003) Effectiveness of nursing interventions in people with personality disorders. J.Adv.Nurs., 44, 154-172.

Zanarini, M. C., Frankenburg, F. R., Dubo, E. D., et al (1998) Axis I comorbidity of borderline personality disorder. Am.J.Psychiatry, **155**, 1733-1739.

Zanarini, M. C., Frankenburg, F. R., Reich, D. B., et al (2010) Time to attainment of recovery from borderline personality disorder and stability of recovery: A 10-year prospective follow-up study. Am.J.Psychiatry, **167**, 663-667.

Chapter 1

STUDY PROTOCOL

Collaborative Care for patients with severe borderline and NOS personality disorders: A comparative multiple case study on processes and outcomes.

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ABSTRACT

Background

Structured psychotherapy is recommended as the preferred treatment of personality disorders. A substantial group of patients, however, has no access to these therapies or does not benefit. For those patients who have no (longer) access to psychotherapy a Collaborative Care Program (CCP) is developed. Collaborative Care originated in somatic health care to increase shared decision making and to enhance self management skills of chronic patients. Nurses have a prominent position in CCP's as they are responsible for optimal continuity and coordination of care. The aim of the CCP is to improve quality of life and self management skills, and reduce destructive behaviour and other manifestations of the personality disorder.

Methods/design

Quantitative and qualitative data are combined in a comparative multiple case study. This makes it possible to test the feasibility of the CCP, and also provides insight into the preliminary outcomes of CCP. Two treatment conditions will be compared, one in which the CCP is provided, the other in which Care as Usual is offered. In both conditions 16 patients will be included. The perspectives of patients, their informal carers and nurses are integrated in this study. Data (questionnaires, documents, and interviews) will be collected among these three groups of participants. The process of treatment and care within both research conditions is described with qualitative research methods. Additional quantitative data provide insight in the preliminary results of the CCP compared to CAU. With a stepped analysis plan the 'black box' of the application of the program will be revealed in order to understand which characteristics and influencing factors are indicative for positive or negative outcomes.

Discussion

The present study is, as to the best of our knowledge, the first to examine Collaborative Care for patients with severe personality disorders receiving outpatient mental health care. With the chosen design we want to examine how and which elements of the CCP could contribute to a better quality of life for the patients.

Trial registration: Dutch Trial Register NTR2763

Background

A personality disorder is a severe and complex psychiatric illness. The borderline personality disorder (BPD) and the personality disorder not otherwise specified (NOS) both belong to the two most prevalent personality disorders. The lifetime prevalence of borderline personality disorders is estimated at 1-2% in the general population, whereas in patient samples the prevalence is approximately 10-20%. The personality disorder NOS has an estimated prevalence of 8-13% in patient samples (Weissman, 1993;Verheul and Widiger, 2004). Structured psychotherapy is recommended as the preferred treatment of personality disorders. Several studies report modest positive treatment results (Leichsenring and Leibing, 2003;Verheul et al, 2003; van den Bosch et al, 2005;Linehan et al, 2006;Binks et al, 2006;Giesen-Bloo et al, 2006;Bateman and Fonagy, 2008). Psychotherapy contributes to higher quality of life, reduced psychopathology and destructive behaviour, and sustainable changes in personality.

A substantial group of patients, however, does not benefit from these psychotherapies (Skodol et al, 2002;Koekkoek et al, 2006;van Luyn, 2007;Zanarini et al, 2010). Besides limitations in availability of these therapies, some patients do not meet the inclusion criteria or they drop out during treatment. Others need more psychosocial support for their many complex social problems. Most patients who do not benefit have a chronic and unstable course of illness with disruptive and destructive behaviour (Koekkoek et al, 2006;Paris, 2007;van Luyn, 2007). They put a high demand on the health care services provided for rather long, but often discontinuous periods of time (Soeteman et al, 2008). These patients often receive community mental health care (often referred to as a team: CMHC team), mostly provided by (community) mental health nurses (Koekkoek et al, 2006;Paris, 2007). The treatment delivered by CMCH teams is, however, not standardized and highly unstructured (Koekkoek et al, 2009a;Koekkoek et al, 2010a).

Research indicates that especially nurses in particular experience caring for people with severe (borderline) personality disorders as highly stressful (Fraser and Gallop, 1993;Markham and Trower, 2003;Deans and Meocevic, 2006;Newton-Howes et al, 2008). Strong emotional responses towards the patient arise frequently, particularly when the disruptive behaviour of the patient is unpredictable and difficult to understand. This contributes to condemnation of the patient by the nurse and a less empathic attitude. Ambivalent care seeking of these patients, shifting between dependency from and condemnation of professionals, can be explained out of their disorder and the irregular course of the therapeutic process. This same ambivalent care seeking, however, is difficult for care providers to accept and to cope with and it often leads to ineffective professional behaviour (Koekkoek et al, 2010b;Koekkoek et al, 2011). On the one hand, while balancing between autonomy and safety of the patient, nurses easily feel forced and respon-

sible to protect the patient. Nurses may apply restrictive interventions to control the patient's destructive behaviour (Hendin et al, 2006;Jobes, 2006;Goldblatt and Waltsberger, 2009). On the other hand, nurses may underestimate the needs and disabilities of their patients and perceive them as able but unwilling to change (Koekkoek et al, 2009b). To keep the balance between playing a waiting game on the one hand, and being overly supportive and protective on the other hand is considered to be difficult with regard to these patients (van Luyn, B., 2007;Koekkoek et al, 2009b). Studies reveal that patients and care providers set different priorities during treatment, including the specific needs of patients that require attention (Hansen et al, 2004;Lasalvia et al, 2005;Hayward et al, 2006;Junghan et al, 2007;Lasalvia et al, 2008). These, at times, conflicting priorities can cause miscommunication between patients and care providers and, hence, adversely affect outcomes of care (Hansen et al, 2004;Junghan et al, 2007).

As a response to these challenges, we developed a structured easily accessible intervention program for this subpopulation of patients, provided by (community) mental health nurses. For this intervention program we have adapted the principles of Collaborative Care (von Korff, 1997;Bodenheimer et al, 2002;Lorig and Holman, 2003). Collaborative Care Programs (CCP) originated in somatic health care to increase shared decision making and to enhance self management skills of chronic patients. Collaborative relationships come into existence when patients, their informal carers, and care providers have shared goals and mutual understanding of roles, expectations and responsibilities. As a consequence of more effective self management, patients report that their quality of life improves, because they feel they can better cope with problems derived from their disorder (von Korff, 1997;Lorig and Holman, 2003). To date, CCPs have proven to be effective for depressive and bipolar disorders (Simon et al, 2001;Suppes et al, 2001;Bower et al, 2006;Gilbody et al, 2006;Bauer et al, 2006a;Bauer et al, 2006b;IJff et al, 2007;Vlasveld et al, 2008;Orden van et al, 2009).

Nurses have a prominent position in CCPs as they function as collaborative care managers. In this position they are responsible for optimal continuity and coordination of care. To optimize the continuity and coordination of care, intensive partnership working is needed within a Collaborative Care team (CCT). The CCT consists of the patient, his/her informal carer, the nurse, and the psychiatrist and/or psychologist. The CCT can optionally be expanded with others who possibly could contribute to effective treatment and care of the patient. The CCT lends support to the patient and it is in this team that crucial decisions regarding treatment will be made.

A CCP for patients with severe personality disorder has as to the best of our knowledge not yet been developed or tested. In this stage of intervention develop-

ment, insights in both the feasibility and as well as the preliminary results of the intervention are needed. Therefore, we combine quantitative and qualitative data in a comparative multiple case study, which makes it possible to test the feasibility of the CCP in clinical practice, and also provides insight into the preliminary outcomes of CCP (Simons, 2009;Yin, 2009). This study functions as a pre stage for a future RCT. The following research objectives are formulated:

1. To describe the processes of the application of a CCP for patients with a severe borderline or NOS personality disorder in comparison with Care as Usual (CAU) from the perspective of patients, their informal carers and nurses;
2. To describe the preliminary outcomes of the CCP in comparison with Care as Usual;
3. To explain which characteristics of the CCP are indicative for the occurrence of positive or negative outcomes compared to CAU.

Methods

Design

A comparative multiple case study may be used for the thorough evaluation of complex intervention programs (Stake, 2006;Simons, 2009;Yin, 2009). The research generates descriptive and explanatory data regarding treatment processes and outcomes of the intervention program. Different perspectives are integrated in the evaluation: the perspective of patients, their informal carers and nurses. In our multiple case study two treatment conditions will be compared: one functions as the experimental condition in which the CCP is provided; the other condition functions as the control condition in which CAU is offered. Different types of data collection will be used: questionnaires, documents, and interviews. A case is defined as the treatment process of one patient in which integrated data from the three perspectives (patient, informal carers and nurse) concerning the application and the outcomes of the CCP or CAU will be gathered and analysed.

Within a comparative multiple case study, data are analyzed at the individual case level, group level, as well as between groups level (Stake, 2006;Simons, 2009;Yin, 2009). The process of treatment and care within both research conditions is described with qualitative research methods. Additional quantitative data provide insight in the preliminary results of the CCP compared to CAU. By means of data triangulation, the connection between the application and the preliminary outcomes of the CCP will be explained in comparison with CAU. With a stepped analysis plan the 'black box' of the application of the intervention program will be revealed in order to understand which characteristics and influencing factors are indicative for positive or negative outcomes.

Participants

Patients

Participants are recruited from two comparable community mental health care (CMHC) teams of a large mental health organization in the Netherlands. One team is indicated as the experimental condition and the other as the control condition. Both CMHC teams provide long-term outpatient care for patients with various severe mental disorders. Patients that will be included should be between 18 and 65 years of age, have a main diagnosis of borderline or NOS personality disorder (DSM-IV-TR), have a score of 15 or higher on the Borderline Personality Disorder Severity Index (BPDSI, range 0-90) (Arntz et al, 2003;Giesen-Bloo et al, 2006) and have received psychiatric care for at least two years. Participants are required to speak and read Dutch sufficiently well to fill in the questionnaires.

Participants are excluded when they currently participate in a structured psychotherapeutic program or when it is expected they will participate in such a program within a period of nine months from the start of the study. All participants will be asked to sign for informed consent based on oral and written information about the research project.

Informal carers

The participating patients will be asked to give their permission for approaching one of their informal carers to also participate in the study. The carers need to be in contact with the patient (physically or by telephone/email) for at least one hour a week. When the collaboration with an informal caregiver impedes the treatment process or negatively influences the safety of the patient, carers can be excluded. This will only take place after consultation with the patient.

Nurses

Ten mental health nurses from the experimental condition and five nurses from the control condition will be included in the study. Participation takes place on a voluntary basis. Nurses who participate in the experimental condition will receive a three-days training in providing the CCP. Nurses in the control condition will offer CAU.

Selection of patients

The required number of cases for a multiple case study depends upon the heterogeneity among the cases (more heterogeneity requires more cases) and is therefore arbitrary. To take into account the variety in presentation of the disorder and the variety of problems, this study will include at least sixteen patients in each condition. This adds up to 32 cases.

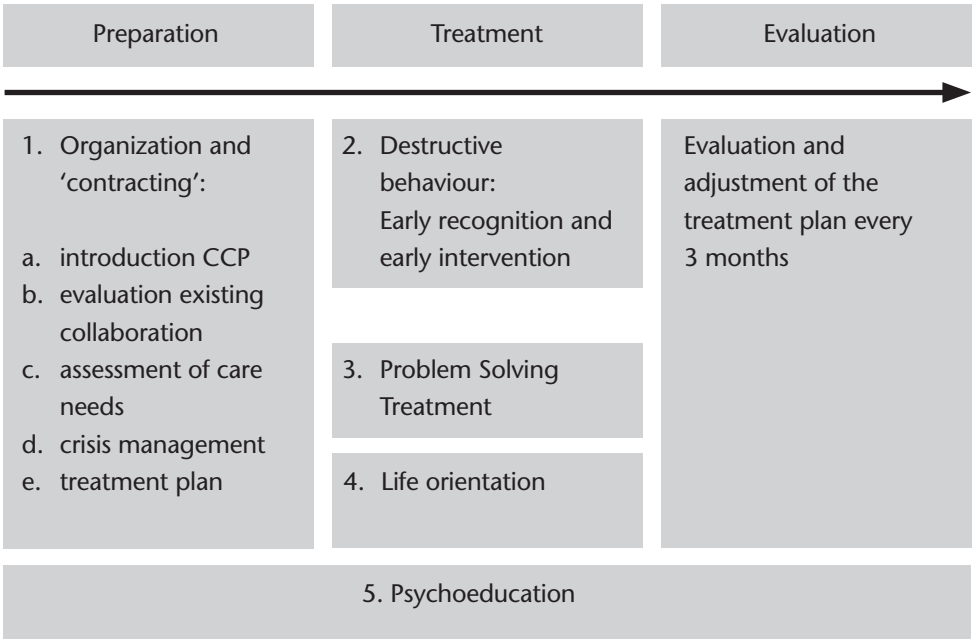
Intervention

Collaborative Care Program

This CCP is developed to improve the quality of care for patients with severe personality disorders within a CMHC setting. The expectation is that the CCP (1) improves quality of life, (2) reduces destructive behaviour (suicidal, self harm, aggressive or addictive behaviour) and other manifestations of the (borderline or NOS) personality disorder, (3) improves mastery of the patient, and (4) enhances satisfaction with care by both patients and informal caregivers. Finally, we aim for a positive effect on attitudes, knowledge and skills of nurses.

The CCP for patients with severe borderline or NOS personality disorders consists of five integrated components (see Figure 1). The different components of the treatment stage can be applied in a flexible order, dependent on the priorities in unmet needs and the preferences of the patient. Although CCP offers a goal-oriented structure, it comes to the professionalism of the nurses to adjust this structure to the preferences of the patient, the patient's cognitive capacities, and to the extent of illness insight / acceptance of each individual patient. The different components of the CCP will be briefly elucidated. The CCP is elaborated in a workbook for patients and nurses and in a separate manual for nurses. More detailed information about the content of the CCP is available (see Additional file).

Figure 1: The five integrated components of CCP.



1. Organization and contracting

A Collaborative Care team will be put together for adequate coordination of care, with optimal collaboration between the main team partners: i.e. the patient, his/her informal carer(s), a psychiatric nurse and a psychiatrist and/or psychologist. Because discontinuity of care increases the risk of drop-out and a negative course of the psychiatric illness (with possible suicide as the extreme negative outcome), Collaborative Care demands pro-active collaboration between all partners to minimize this discontinuity of care. The nurse is responsible to inform and involve all those partners, whenever necessary. The treatment stage of the CCP should not start before a treatment plan is established to which all collaborative partners commit (Bower et al, 2006;Gilbody et al, 2006;Bauer et al, 2006a). Due to the ambivalent care seeking of most of the patients, this stage is therefore crucial and requires a careful preparation. This preparation stage consists of several activities (see Additional File).

Within Collaborative Care the patient is perceived as the one who shapes his own life, and hence his own treatment. Active involvement of the patient is required to reach the objectives of improved self management skills and shared decision making (von Korff, 1997). Patients, however, often have a long history of contacts with health care providers, with divergent success. To learn from previous experiences, an inventory is made of life events and of former treatments, based on the medical record. This inventory will be discussed with the patient and with the other members of the Collaborative Care team to identify effective coping strategies with life events, effective elements in treatment, and relationships. Patients are invited to express their expectations about care providers and treatment and to speak aloud about disappointing (sometimes even traumatic) experiences, which still may hamper the relationships with care providers. Informal carers are invited to share their view upon past life events and expectations with regard to collaboration and treatment. Mutual expectations and responsibilities are made explicit between patients, informal carers and care providers, in order to promote a strong relationship (Linehan, 1993;Jobes, 2006). The agreements about the collaboration are recorded in the treatment plan. Health care needs will be assessed with the Camberwell Assessment of Needs (CAN) (Phelan et al, 1995). Based on the CAN results priorities in treatment goals will be set within the Collaborative Care team. Unmet needs, goals and related activities are recorded in the treatment plan. In anticipation of possible crises, a crisis card will be compiled (Jobes, 2006). The use of a crisis card fits in the philosophy of collaborative care because it communicates that patients are (at least partly) able to cope with crisis themselves. If not, a back up of professional care is always available 24/7. The content of the crisis card is communicated with the crisis services and informal carers. Additionally, contracting will be used, based on shared decision making about the

collaboration, the treatment process and the treatment plan (Linehan, 1993;Jobes, 2006). The final step in the preparation stage is to confirm the goals, activities and agreements about collaboration in the treatment plans, which are evaluated every three months.

2. Destructive behaviour

To reduce destructive behaviours a method of early recognition and early intervention will be implemented (van Meijel et al, 2003;Jobes, 2006;Fluttert et al, 2008;Bosman and van Meijel, 2009). These destructive behaviours may have different forms: suicidal, self harm, addictive or aggressive behaviours. The central aim of the intervention strategy is the recognition of early warning signs (thoughts, feelings and/or behaviours) of the destructive behaviour of the patient. The aim is to help the patient gain a better insight in the process of destructive behaviour and to enhance coping with this behaviour. A relapse prevention plan will be drafted in which early signs are described, as well as actions how to respond to raising stress, despair and imminent crisis.

3. Problem Solving Treatment

To reduce daily life problems Problem Solving Treatment (PST) will be applied (Mynors-Wallis et al, 1997). The amount of daily life problems is often overwhelming in this subpopulation of patients, through which they may loose their sense of control. Learning and applying problem solving skills regarding daily problems enhances mastery and may result in a better quality of life. Mastery reflects the extent to which individuals perceive themselves in control of forces that significantly impact on their lives. PST has proven to be effective in different studies and is part of different treatments for personality disorders (Linehan, 1993;Mynors-Wallis et al, 1997;Blum et al, 2008). It is an essential element of CCPs (Bodenheimer et al, 2002;IJff et al, 2007;Vlasveld et al, 2008).

4. Life orientation

As counterbalance to the prominent attention to problems and destructive behaviour, the focus of CCP is also aimed at a more positive orientation in a person's life. Elements of Solution Focused Treatment will therefore be used to encounter and expand positive experiences which is expected to be stimulating for a renewed and more positive life orientation (MacLeod et al, 2004;Wand, 2010).

5. Psychoeducation

By means of psychoeducation, the patient (and their carer) is provided with knowledge about his or her psychological condition, the causes and consequences of that condition, ways of coping with it, and the treatment possibilities includ-

ing the expected effects of it. Patients and their carers also will be prepared to the enduring character of the illness and to expected relapses. Psychoeducation is an integral element of Collaborative Care (Von Korff, 1997;Bauer et al, 2006a;Vlasveld et al, 2008).

Treatment integrity

The nurses who participate in the experimental condition will receive a three-day training program from three of the authors (BS, BvM en BK) in the principles and skills of the CCP. During the provision of the CCP, supervision for the nurses will be provided for continuing education on attitude and skills. Bi-weekly individual consultation and coaching (by telephone or email) will be offered based on the work sheets of the workbook and the manual to further support treatment integrity. Supervision, consultation and coaching are provided by the first author (BS).

Control Condition

Patients in the control condition receive care as usual from their current care providers. During the study period, nurses in both conditions are not permitted to receive any extra training that might interfere with the content of the CCP.

Data collection

There are three measurements in this study: when participants enter the study (T0), after five months (T1) and after nine months (T2). To achieve the formulated objectives of this study, the data collection is divided into two parts. Quantitative data are collected with questionnaires to describe the outcomes of the CCP in comparison with the CAU (summarized in Table 1). Qualitative data, such as interviews, and records of the supervision sessions are used to analyse the implementation process of the application of the CCP in comparison with CAU. Data will be collected among patients, their informal carers and nurses, as mentioned below.

Questionnaires for patients

Sample characteristics

Information will be gathered at baseline on demographic characteristics (age, gender, education level, marital status, work and ethnicity), history of illness, current medication use and diagnostic characteristics (DSM-IV Axis II by means of the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II) (Maffei et al, 1997), the other axes are obtained from the medical records).

Table 1: Summary of the used questionnaires

	Questionnaires		
Outcome indicator	Patients	Informal caregivers	Nurses
Quality of Life	• Manchester Short Appraisal (MANSA)		
Psychopathology	• Borderline Personality Disorder Severity Index (BPDSI) • Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)		
Destructive behaviours	• BPDSI • Beck Scale for Suicide Ideation (BSSI) • CAGE questions- adapted to include drugs (CAGE-AID)		• Suicide Behavior Attitude Questionnaire (SBAQ) • AttitudesTowards Deliberate Self-Harm Questionnaire (ADSHQ)
Health care use	• Trimbos/iMTA questionnaire for Costs associated with Psychiatric Illness (Tic-P)		• Process forms
Psychosocial symptoms	• Brief Symptom Inventory (BSI)		
Satisfaction (CQ-index)	• Consumer Quality- index	• CQ-index	
Therapeutic Alliance	• Scale to Asses Therapeutic Relationships in Community Mental Health Care (STAR)		• STAR
Mastery Involvement / social support	• Pearlin's Mastery Scale (PMS)	• Involvement Evaluation Questionnaire (IEQ)	

Primary outcome indicators

Quality of life

The Manchester Short Appraisal (MANSA) is a self-report scale, which measures quality of life. It is a short version (16 items) of the Lancashire Quality of Life Profile (LQoLP). Priebe et al (1999) found an adequate correlation between the results on both QoL scales.

Borderline Personality Disorder Severity Index (BPDSI)

The BPDSI is a DSM-IV BPD criteria-based semi-structured interview consisting of 70 items. It represents the current severity and frequency of the DSM-IV BPD manifestations. This instrument showed excellent psychometric features (Arntz et al, 2003;Giesen-Bloo et al, 2006;Giesen-Bloo et al, 2010).

Secondary outcome and process indicators

Destructive behaviours

Four frequently observed destructive behaviours are measured. The BPDSI contains subscales measuring parasuicidal behaviour, including self harm, and aggressive behaviour. Additionally, the Beck Scale for Suicidal Ideation is used to measure suicidal thoughts, ideas and behaviours. It is a self-report scale of 21 items and has good psychometric properties (Beck et al, 1988;Beck et al, 1997). The CAGE questions Adapted to Include Drugs (CAGE-AID) is a composed questionnaire describing the consequences of alcohol and drugs use (Brown and Rounds, 1995).

Health care use

The Trimbos/iMTA questionnaire for Costs associated with Psychiatric Illness (TiC-P) is developed to measure health care consumption (part 1) and costs (part 2) (Hakkaart-Roijen van, 2002). In this study only part 1 of the questionnaire, concerning health care consumption, is used.

Psychosocial symptoms

The Brief Symptom Inventory (BSI) is a shorted version of the SCL-90 with 53 items (self report). Reliability and validity are almost identical to the SCL-90 (de Beurs and Zitman, 2006).

Patient satisfaction

For the measurement of patient satisfaction the Consumer Quality-Index (CQ-Index) for outpatient mental health care is used (van Wijngaarden et al, 2008). It comprises items about information provision, involvement in treatment decisions, expertise and availability of professionals, and outcomes of treatment.

Quality of the therapeutic relationship

The Scale to Asses Therapeutic Relationships in Community Mental Health Care (STAR) is a questionnaire which measures the quality of the therapeutic relationship (Guire-Snieckus et al, 2007). A professional and patient version of the scale is available and a Dutch translation of this questionnaire will be used in this study.

Mastery

Pearlin and Schooler's Personal Mastery Scale (PMS) is a commonly used instrument to measure the external locus of control, also referred to as mastery. It consists of five items on a four point Likert scale (self report). The PMS has adequate validity and reliability (Pearlin et al, 1981;Seeman, 1991).

Questionnaires for informal carers

Process indicators

Carer satisfaction with care

For the measurement of carer satisfaction an adapted version of the CQ-index is used (Wijngaarden et al, 2008).

Involvement / social support

The Involvement Evaluation Questionnaire (IEQ) (Schene and van Wijngaarden, 1992;van Wijngaarden et al, 2000) is a self report list of 81 items, divided among seven sections. It measures consequences of care giving in informal carers.

Questionnaires for nurses

Sample characteristics

Information is gathered at baseline on demographic characteristics (age, gender, education), working experience in mental health care and with this specific patient population.

Process indicators

Quality of the therapeutic relationship

Complementary to the patient's view on the quality of the therapeutic relationship, nurses will be asked to fill in the professional version of the STAR (Guire-Snieckus et al, 2007).

Attitudes towards destructive behaviours

The Suicide Behavior Attitude Questionnaire (SBAQ) consists of 21 items to be scored on visual analogue scales. Three subscale are differentiated: (1) feelings in relation with the care for suicidal patients, (2) professional skills and (3) the right

for suicide (Botega et al, 2005). Attitudes towards self harm are measured with the Attitudes Towards Deliberate Self-Harm Questionnaire (ADSHQ) as developed by McAllister et al. (McAllister et al, 2002).

Process forms

Nurses in both conditions fill in process forms in which the number and content of contacts will be registered. In the experimental group items are added which provide additional insight in the treatment integrity. The process form follows the elements of the intervention and will systematically remind them on the structure and objectives of the CCP.

Qualitative data

Interviews

Individual interviews with patients, their carers and nurses (in this fixed order) will take place after the follow up measurement (T2). In the in-depth interviews the process of the application of the CCP, and the relationship between this application and outcomes will be examined and compared to the application of CAU. In the interviews participants are first asked to reflect on the quantitative outcomes and on which changes they perceive as most beneficial. Subsequently, the underlying (neutrally formulated) principles of the CCP will be discussed, e.g. problem solving, coping with destructive behaviour, quality of the therapeutic relationship, and self-management. Next, exemplifications will be asked to identify characteristics of these principles which may explain the individual outcomes. Finally, the participants are asked to identify hampering or fostering components in the application of CCP or CAU.

The interviews will be audio taped and transcribed verbatim. The data will be analysed using WINMAX qualitative text analysis software. The credibility and dependability of the data will be ensured by peer debriefing, member checking, and thick descriptions (Polit and Beck, 2003).

Supervision records

During the execution of the CCP nurses receive supervision. It focuses on the individual application of the CCP and on the promoting and impeding factors regarding the execution of CCP. The supervisions will be audio taped and transcribed verbatim. The records of these supervisions will be examined using content analysis.

Data analysis

A distinctive feature of a comparative multiple case study is the analysis of data on three different levels: Firstly at individual case level, secondly at group level and thirdly at the level of the comparison between the two conditions. At case level the combined quantitative and qualitative data will be used to gain insight in how the application of the CCP in an individual participant has evolved and how this is related to the outcomes. Hence, in first instance a within case analysis of the data from different data sources and different perspectives will be made for each individual case. Secondly, within the experimental and the control condition cross case analyses will be performed to formulate statements about the observed processes and outcomes per condition. Cases will be subdivided in three categories: (1) a group of cases with positive outcomes; (2) a group of cases with none or minimal changes in outcomes and (3) a group of cases with negative outcomes. Within these three subgroups patient characteristics and the process of application will be compared to explain the different outcomes. Finally, at an aggregated group level the observed differences in outcomes and process indicators will be examined between the experimental and the control condition (cross case synthesis) in order to assess the value of the intervention compared to care as usual and to explain differences in outcomes between the two treatment conditions.

Qualitative analyses

To describe and understand the process of the application of the CCP versus CAU, the qualitative interviews with patients, their carers and nurses will be analyzed, following the three steps as described above. Beforehand, as preparation for the interviews, the supervision records will be analysed and the quantitative outcomes will be assessed at an individual level.

For the within case analyses, the data from the interviews are coded and categorized following the structure as described above. As said, for the cross case analysis the participants of both research conditions are divided in three subgroups. Based on the interview data, similarities and differences in the process of the application are described for the three subgroups. The different perspectives of patients, informal caregivers and nurses will be taken into account in this analysis. The degree to which these perspectives differ from each other, might be indicative for the obtained outcomes. For the cross case synthesis, the data from the interviews will be examined to identify group differences between the two research conditions: Which statements do participants make about the underlying principles of the CCP? How do they value these principles? How do they value the outcomes of the CCP resp. CAU?

A content analysis of the supervision records will be performed to identify hampering and fostering characteristics in the process of the application of

the CCP from a nursing perspective. For the within case analysis this information will be used as a preparation for the interviews. When performing the cross case analysis and synthesis, this information exemplifies and partially explains observed outcomes of the application of CCP.

Quantitative analyses

The used questionnaires provide quantitative data about the outcome indicators from different perspectives. For the within case analyses the quantitative data are assessed to describe the individual outcomes. To facilitate the cross case analysis, differences in characteristics of the participants within the three subgroups are described. Descriptive analysis of the process forms will give additional information, which will be used for the cross case analysis and synthesis.

Statistical analyses will be performed to examine the differences at group level between the experimental and the control condition at the different measurements (cross case synthesis). Parametric and non-parametric comparisons of mean scores will be used. These analyses are used to identify preliminary results and to support the qualitative data. These quantitative data combined with the qualitative data provide insights in the value of CCP and in the feasibility of the intervention from different perspectives.

Discussion

A substantial group of patients with borderline or NOS personality disorders does, for different reasons, not participate in evidence based psychotherapeutic programs aimed at structural changes in personality and recovery. Poor quality of life, severe suffering, high risk of suicidal behaviour, and high health care use (and corresponding costs) of this population without access to these psychotherapies, justify the development of a structured, easy-accessible intervention program. Our Collaborative Care Program may function as a valuable alternative for the relatively unstructured treatment which dominates the care as usual within existent community mental health care teams (Koekkoek et al, 2010a). Within these CMHC teams nurses are the main care providers, although they are not always equipped to meet this responsibility. Collaborative Care will offer them a structured method in providing care for patients with severe personality disorder.

The present study is, as to the best of our knowledge, the first to examine Collaborative Care for patients with severe personality disorders receiving outpatient mental health care. Currently, health care research on the outcomes of interventions is dominated by randomized clinical trials. However, depending on the development stage of interventions other designs are desirable and available (van

Meijel et al, 2004;Grypdonck, 2006). With the chosen design we want to examine how and which elements of the CCP could contribute to a better quality of life for the patients and whether it will give better results for their carers and the staff than care as usual. Based on the results of our study, the CCP can be adapted in such a way that the chance for effectiveness will be maximized in a following RCT. This comparative multiple case study, hence, precedes the question of effectiveness. The start of this study is anticipated for January 2011 with results available in April 2012.

Ethical considerations

This research project has been approved by the Medical Ethics Committee of the VU Medical Centre in Amsterdam, the Netherlands.

REFERENCE LIST

American Psychiatric Association (2005) Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR Fourth Edition (Text Revision). Washington D.C.: American Psychiatric Association.

Arntz, A., van den Hoorn, M., Cornelis, J., et al (2003) Reliability and validity of the borderline personality disorder severity index. J Pers.Disord, **17**, 45-59.

Bateman, A. and Fonagy, P. (2008) 8-year follow-up of patients treated for borderline personality disorder: mentalization-based treatment versus treatment as usual. Am J Psychiatry, **165**, 631-638.

Bauer, M. S., McBride, L., Williford, W. O., et al (2006a) Collaborative care for bipolar disorder: part I. Intervention and implementation in a randomized effectiveness trial. Psychiatr.Serv., **57**, 927-936.

Bauer, M. S., McBride, L., Williford, W. O., et al (2006b) Collaborative care for bipolar disorder: Part II. Impact on clinical outcome, function, and costs. Psychiatr.Serv., **57**, 937-945.

Beck, A. T., Brown, G. K., and Steer, R. A. (1997) Psychometric characteristics of the Scale for Suicide Ideation with psychiatric outpatients. Behav Res Ther., **35**, 1039-1046.

Beck, A. T., Steer, R. A., and Ranieri, W. F. (1988) Scale for Suicide Ideation: psychometric properties of a self-report version. J Clin Psychol., **44**, 499-505.

Binks, C. A., Fenton, M., McCarthy, L., et al (2006) Psychological therapies for people with borderline personality disorder. Cochrane.Database.Syst.Rev., CD005652.

Blum, N., St, J. D., Pfohl, B., et al (2008) Systems Training for Emotional Predictability and Problem Solving (STEPPS) for outpatients with borderline personality disorder: a randomized controlled trial and 1-year follow-up. Am J Psychiatry, **165**, 468-478.

Bodenheimer, T., Lorig, K., Holman, H., et al (2002) Patient self-management of chronic disease in primary care. JAMA, **288**, 2469-2475.

Bosman M., van Meijel, B. (2009) Begeleiding van patiënten die zelfverwonden: een verpleegkundig interventiepakket. [Treatment of patients who self harm: a nursing intervention tool]. Maarssen: Elsevier Gezondheidszorg.

Botega, N. J., Reginato, D. G., da Silva, S. V., et al (2005) Nursing personnel attitudes towards suicide: the development of a measure scale. Rev.Bras.Psiquiatr., **27**, 315-318.

Bower, P., Gilbody, S., Richards, D., et al (2006) Collaborative care for depression in primary care. Making sense of a complex intervention: systematic review and meta-regression. Br.J Psychiatry, **189**, 484-493.

Brown, R. L. and Rounds, L. A. (1995) Conjoint screening questionnaires for alcohol and other drug abuse: criterion validity in a primary care practice. Wis.Med J, **94**, 135-140.

Deans, C. and Meocevic, E. (2006) Attitudes of registered psychiatric nurses towards patients diagnosed with borderline personality disorder. Contemp.Nurse, **21**, 43-49.

de Beurs, E. and Zitman F.G. (2006) De Brief Symtom Inventory (BSI): De betrouwbaarheid en validiteit van een handzaam alternatief voor de SCL-90. [The Brief Symptom Inventory (BSI): the reliability and validity of a managable alternative for the SCL-90]. MGv, **61**, 120-141.

Fluttert, F., van Meijel, B., Webster, C., et al (2008) Risk management by early recognition of warning signs in patients in forensic psychiatric care. Arch Psychiatr.Nurs, **22**, 208-216.

Fraser, K. and Gallop, R. (1993) Nurses' confirming/disconfirming responses to patients diagnosed with borderline personality disorder. Arch Psychiatr.Nurs, **7**, 336-341.

Giesen-Bloo, J., van Dyck, R., Spinhoven, P., et al (2006) Outpatient psychotherapy for borderline personality disorder: randomized trial of schema-focused therapy vs transference-focused psychotherapy. Arch Gen Psychiatry, **63**, 649-658.

Giesen-Bloo, J. H., Wachters, L. M., Schouten, E., et al (2010) The Borderline Personality Disorder Severity Index-IV: psychometric evaluation and dimensional structure. Personality and Individual Differences, **49**, 136-141.

Gilbody, S., Bower, P., Fletcher, J., et al (2006) Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. Arch Intern.Med, **166**, 2314-2321.

Goldblatt, M. J., Waltsberger, J. T. (2009) Countertransference in the treatment of suicidal patients. In Oxford textbook of suicidology and suicide prevention. A global perspective. (eds D. Wasserman & C. Wasserman), Oxford: University Press.

Grypdonck, M. H. (2006) Qualitative health research in the era of evidence-based practice. Qual.Health Res, **16**, 1371-1385.

Guire-Snieckus, R., McCabe, R., Catty, J., et al (2007) A new scale to assess the therapeutic relationship in community mental health care: STAR. Psychol.Med, **37**, 85-95.

Hakkaart-Roijen van, L. (2002) Manual Trimbos/iMTA Questionnaire for Costs Associated with Psychiatric Illness (in Dutch). Rotterdam: Institute for Medical Technology Assessment.

Hansen, T., Hatling, T., Lidal, E., et al (2004) The user perspective: respected or rejected in mental health care? J Psychiatr.Ment.Health Nurs, **11**, 292-297.

Hayward, M., Slade, M., and Moran, P. A. (2006) Personality disorders and unmet needs among psychiatric inpatients. Psychiatr.Serv., **57**, 538-543.

Hendin, H., Haas, A. P., Maltsberger, J. T., et al (2006) Problems in psychotherapy with suicidal patients. Am J Psychiatry, **163**, 67-72.

IJff, M. A., Huijbregts, K. M., van Marwijk, H. W., et al (2007) Cost-effectiveness of collaborative care including PST and an antidepressant treatment algorithm for the treatment of major depressive disorder in primary care; a randomised clinical trial. BMC Health Serv.Res, **7**, 34.

Jobes, D. A. (2006) Managing Suicidal Risk. A Collaborative Approach. New York: The Guilford Press.

Junghan, U. M., Leese, M., Priebe, S., et al (2007) Staff and patient perspectives on unmet need and therapeutic alliance in community mental health services. Br.J Psychiatry, **191**, 543-547.

Koekkoek, B., van Meijel, B., and Hutschemaekers, G. (2006) "Difficult patients" in mental health care: a review. Psychiatr.Serv., **57**, 795-802.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009a) Community psychiatric nursing in the Netherlands: a survey of a thriving but threatened profession. J Psychiatr.Ment.Health Nurs, **16**, 822-828.

Koekkoek, B., van Meijel, B., and Hutschemaekers, G. (2010a) Community mental health care for people with severe personality disorder: a narrative review. The Psychiatrist, **34**, 24-30.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009b) Clinical problems in community mental health care for patients with severe borderline personality disorder. Community Ment.Health J, **45**, 508-516.

Koekkoek, B., van Meijel, B., Schene, A., et al (2010b) Development of an intervention program to increase effective behaviours by patients and clinicians in psychiatric services: Intervention Mapping study. BMC.Health Serv.Res., **10**, 293.

Koekkoek, B., van Meijel, B., Tiemens, B., et al (2011) What makes community psychiatric nurses label non-psychotic chronic patients as 'difficult': patient, professional, treatment and social variables. Soc.Psychiatry Psychiatr.Epidemiol. **46**, 1045-1053.

Lasalvia, A., Bonetto, C., Malchiodi, F., et al (2005) Listening to patients' needs to improve their subjective quality of life. Psychol.Med, **35**, 1655-1665.

Lasalvia, A., Bonetto, C., Tansella, M., et al (2008) Does staff-patient agreement on needs for care predict a better mental health outcome? A 4-year follow-up in a community service. Psychol.Med, **38**, 123-133.

Leichsenring, F. and Leibing, E. (2003) The effectiveness of psychodynamic therapy and cognitive behavior therapy in the treatment of personality disorders: a meta-analysis. Am J Psychiatry, **160**, 1223-1232.

Linehan, M. M. (1993) Cognitive-Behavioral Treatment of Borderline Personality Disorder. New York: The Guilford Press.

Linehan, M. M., Comtois, K. A., Murray, A. M., et al (2006) Two-year controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and borderline personality disorder. Arch Gen Psychiatry, **63**, 757-766.

Lorig, K. R. and Holman, H. (2003) Self-management education: history, definition, outcomes, and mechanisms. Ann.Behav Med, **26**, 1-7.

MacLeod, A. K., Tata, P., Tyrer, P., et al (2004) Personality disorder and future-directed thinking in parasuicide. J Pers.Disord, **18**, 459-466.

Maffei, C., Fossati, A., Agostoni, I., et al (1997) Interrater reliability and internal consistency of the structured clinical interview for DSM-IV axis II personality disorders (SCID-II), version 2.0. J.Pers.Disord., **11**, 279-284.

Markham, D. and Trower, P. (2003) The effects of the psychiatric label 'borderline personality disorder' on nursing staff's perceptions and causal attributions for challenging behaviours. Br.J Clin Psychol., **42**, 243-256.

McAllister, M., Creedy, D., Moyle, W., et al (2002) Nurses' attitudes towards clients who self-harm. J Adv.Nurs, **40**, 578-586.

Mynors-Wallis, L., Davies, I., Gray, A., et al (1997) A randomised controlled trial and cost analysis of problem-solving treatment for emotional disorders given by community nurses in primary care. Br.J Psychiatry, **170**, 113-119.

Newton-Howes, G., Weaver, T., and Tyrer, P. (2008) Attitudes of staff towards patients with personality disorder in community mental health teams. Aust.N.Z.J Psychiatry, **42**, 572-577.

Paris, J. (2007) Managing suicidal crises in patients with severe personality disorders. In *Severe Personality Disorders. Everyday Issues in Clinical Practice.* (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

Pearlin, L. I., Lieberman, M. A., Menaghan, E. G., et al (1981) The stress process. J Health Soc.Behav, **22**, 337-356.

Phelan, M., Slade, M., Thornicroft, G., et al (1995) The Camberwell Assessment of Need: the validity and reliability of an instrument to assess the needs of people with severe mental illness. Br.J Psychiatry, **167**, 589-595.

Polit D.F., Beck C.T. (2003) Nursing Research. Principles and Methods. (7th edn) Philadelphia: Lippincott, Williams & Wilkins.

Priebe, S., Huxley, P., Knight, S., et al (1999) Application and results of the Manchester Short Assessment of Quality of Life (MANSA). Int J Soc.Psychiatry, **45**, 7-12.

Schene A.H., van Wijngaarden, B. (1992) The Involvement Evaluation Question-naire. Amsterdam: Department of Psychiatry, University of Amsterdam.

Seeman M. (1991) Alienation and Anomie. In Measures of Personality and Social Psychological Attitudes (eds Robinson J.P., Shaver P.R., & Wrightsman L.R.), pp. 291-372. San Diego CA: Academic Press Inc.

Simon, G. E., Katon, W. J., Korff, M. v., et al (2001) Cost-effectiveness of a collaborative care program for primary care patients with persistent depression. Am J Psychiatry, **158**, 1638-1644.

Simons, H. (2009) Case Study Research in Practice. London: SAGE Publications Ltd.

Skodol, A. E., Gunderson, J. G., McGlashan, T. H., et al (2002) Functional impairment in patients with schizotypal, borderline, avoidant, or obsessive-compulsive personality disorder. Am J Psychiatry, **159**, 276-283.

Soeteman, D. I., Hakkaart-Roijen van, L., Verheul, R., et al (2008) The economic burden of personality disorders in mental health care. J Clin Psychiatry, **69**, 259-265.

Stake, R. E. (2006) Multiple Case Study Analysis. New York: The Guilford Press.

Suppes, T., Swann, A. C., Dennehy, E. B., et al (2001) Texas Medication Algorithm Project: development and feasibility testing of a treatment algorithm for patients with bipolar disorder. J Clin Psychiatry, **62**, 439-447.

van den Bosch, L. M., Koeter, M. W., Stijnen, T., et al (2005) Sustained efficacy of dialectical behaviour therapy for borderline personality disorder. Behav Res Ther., **43**, 1231-1241.

van Luyn, B. (2007) Severe cases: management of the refractory borderline patient. In *Severe Personality Disorders. Everyday Issues in Clinical Practic* (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

van Meijel, B., van der Gaag, M., Kahn, R. S., et al (2003) Relapse prevention in patients with schizophrenia: the application of an intervention protocol in nursing practice. Arch Psychiatr.Nurs, **17**, 165-172.

van Meijel, B., Gamel, C., van Swieten-Duijfjes, B., et al (2004) The development of evidence-based nursing interventions: methodological considerations. J Adv.Nurs, **48**, 84-92.

van Orden, M., Hoffman, T., Haffmans, J., et al (2009) Collaborative mental health care versus care as usual in a primary care setting: a randomized controlled trial. Psychiatr.Serv., **60**, 74-79.

van Wijngaarden, B., Meije D., Kok I. (2008) Consumer Quality Index. Utrecht: Trimbos-instituut.

van Wijngaarden, B., Schene, A. H., Koeter, M., et al (2000) Caregiving in schizophrenia: development, internal consistency and reliability of the Involvement Evaluation Questionnaire--European Version. EPSILON Study 4. European Psychiatric Services: Inputs Linked to Outcome Domains and Needs. Br.J Psychiatry Suppl, s21-s27.

Verheul, R., van den Bosch, L. M., Koeter, M. W., et al (2003) Dialectical behaviour therapy for women with borderline personality disorder: 12-month, randomised clinical trial in The Netherlands. Br. J Psychiatry, **182**, 135-140.

Verheul, R. and Widiger, T. A. (2004) A meta-analysis of the prevalence and usage of the personality disorder not otherwise specified (PDNOS) diagnosis. J Pers.Disord, **18**, 309-319.

Vlasveld, M. C., Anema, J. R., Beekman, A. T., et al (2008) Multidisciplinary collaborative care for depressive disorder in the occupational health setting: design of a randomised controlled trial and cost-effectiveness study. BMC Health Serv.Res, **8**, 99.

von Korff, M. (1997) Collaborative Management of Chronic Illness. Annals of Internal Medicine, **127**, 1097-1102.

Wand, T. (2010) Mental health nursing from a solution focused perspective. Int J Ment.Health Nurs, **19**, 210-219.

Weissman, M. M. (1993) The epidemiology of personality disorders: a 1990 update. J Pers.Disord, **supplement**, 44-62.

Yin, R. K. (2009) Case Study Research. Design and Methods. Fourth Edition. London: SAGE Publications Ltd.

Zanarini, M. C., Frankenburg, F. R., Reich, D. B., et al (2010) Time to attainment of recovery from borderline personality disorder and stability of recovery: A 10-year prospective follow-up study. Am J Psychiatry, **167**, 663-667.

Chapter 2

A Collaborative Care Program for patients with severe borderline or NOS personality disorders.

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Introduction

The Collaborative Care Program is developed for patients with severe borderline or NOS personality disorders. When structured psychotherapy for these patients is not sufficient, feasible or available, patients most commonly receive Community Mental Health Care (CMHC). This CMHC is, however, not standardized and relatively unstructured (Koekkoek et al, 2009a;Koekkoek et al, 2010a). Professional guidelines demonstrate a lack of evidence based recommendations with regard to this sub population of patients with a severe personality disorder. To meet these deficiencies we developed a Collaborative Care Program.

Within Collaborative Care Programs nurses have a central coordinating role in optimizing the continuity and coordination of care. They function as a collaborative care manager. Currently, in CMHC nurses typically are the main care providers and they have a central share in the execution of the treatment plan. Research indicates, however, that nurses are not adequately prepared to meet this responsibility (Fraser and Gallop, 1993;Markham and Trower, 2003;Deans and Meocevic, 2006;Newton-Howes et al, 2008). Collaborative Care therefore offers a structured method to support nurses in providing care for patients with severe borderline or NOS personality disorder in community mental health care.

In our previous contribution we described the Collaborative Care Program briefly and elaborated the research methods for an exploratory study to examine the process of application and the preliminary effects of the intervention program. In this additional file we exemplify the principles and content of this Collaborative Care Program (CCP).

Collaborative Care Program

The CCP for patients with severe personality disorders consists of five integrated components:

1. Adequate organization and coordination of care, with optimal collaboration between the main partners: the patient, his/her informal carers, a psychiatrist and a psychiatric nurse.
2. Reduction of destructive behaviours, (i.e. suicidal behaviours; self-harm; aggression; addiction behaviours) by applying a structured method of early recognition and early intervention;
3. Reduction of daily life problems by the application of Problem Solving Treatment (PST);
4. Realization of a more positive life orientation, by utilizing elements of Solution Focused Treatment;
5. Provision of psychoeducation.

The first component refers to the preparation stage of the program, while

the components 2, 3, and 4 comprise the treatment stage. An evaluation of process and outcomes of the intervention program takes place every three months based on the goals as described in the treatment plan. Psychoeducation is integrated through all stages of the program. The different components will be elucidated in more detail below.

Additionally, during the provision of the CCP, supervision, consultation and coaching for the nurses are provided for permanent education on attitude and skills.

A collaborative approach

Within Collaborative Care we prefer an approach in which we perceive the patient as the one who shapes his own life, and hence his own treatment. As care providers we (even literally) take a seat next to the patient when discussing with the patient the priorities and content of treatment, and the process to be followed to accomplish the set treatment goals (Jobes, 2006). The professionals have knowledge and skills available, but it is up to the patient to decide about the kind of the professional support he needs to work on his own goals. Nurses offer, in the role of care manager, all support to the patient to make the best possible decisions. The principle is that no interventions will be executed as long as patient and care providers do not reach consensus about the content and process of treatment. An exception will be made when an acute and inevitable danger for the patient or his/her surrounding is present, as a result of which there is a need to act in line with the Dutch law (Special Admissions Act for Psychiatric Hospitals).

Jobes (2006) describes the collaboration as a therapeutic road trip in which the patient is the driver and the care provider the navigator. Driver and navigator travel together, but it is the driver who has a decisive vote in where to go and how to get there. The navigator stays right beside the patient with his/her expertise and experience to facilitate the 'trip' for a period of time patient and care provider both commit to and to a destination they both agree on. A successful trip requires safety agreements; the trip will fail, if the patient insists on leaving the door ajar so that he/she can jump out of the car if the road gets bumpy. Patients have to stay in the car completely with seat belts on and doors closed and locked. This way of travelling also implies that when the destination is not clear (read: no opinion or consensus about goals of treatment), the departure should be delayed until consensus is reached about the destination. In our program we use this metaphor to illustrate the collaboration between patients and care providers. The picture in Figure 1 is used to visualize this metaphor.

Figure 1: Metaphor of the therapeutic road trip.

This leading principle will undoubtedly be challenged by daily practice. The dynamics of the collaboration occasionally will bring along struggles and conflicts; patients sometimes will not be able or willing to take control over their lives; care providers occasionally feel – more than necessary and possible – responsible for the patient's life; severe crises can not always be prevented. Nevertheless, the basic attitude still remains: principal acceptance of the patient as a person, hence no judging or condemnation, transparency about and acceptance of restraints of both parties, and joining in the needs or possibilities of the patient.

In the manual, guidelines are elaborated on how to perform this collaborative approach.

Stage 1: Preparation

Organization, collaboration and contracting

The first stage consists of several steps as a preparation for future treatment and care:

a. Introduction of the principles of Collaborative Care to the patient and informal carers (if appropriate and available) and the forming of a Collaborative Care team;

b. Evaluation of treatment history, current treatment and collaboration;
c. Systematic assessment of needs;
d. Crisis management;
e. Formulation of a treatment plan.

a. Introduction of the principles of Collaborative Care and the Collaborative Care team

Collaborative Care is developed for patients who usually have a long history with treatment and with care providers. The successes of these previous efforts and contacts are divergent. Within Collaborative Care active involvement of the patient is needed to reach the objectives of improved self management and shared decision making. This active involvement, however, is not always obvious. On the one hand patients occasionally are disappointed and suspicious towards (intentions of) care providers due to preceding experiences. Care providers probably have to convince and motivate patients again to become active partners in their own care. It is therefore important to explain to the patient what will be different (and hopefully better) with regard to the collaboration as well as the actual treatment. Nurses, on the other hand, at times have difficulties to facilitate and enhance user involvement and self management skills of patients. Some of them find it hard to lean backwards and not to take responsibility to plan the patient's goals or solve a patient's problems. Others may underestimate the needs and disabilities of their patients and perceive them as able but unwilling to change (Koekkoek et al, 2009b;Koekkoek et al, 2011). To keep the balance between playing a waiting game on the one hand, and being overly supportive on the other hand is considered to be difficult with regard to these patients (Koekkoek et al, 2011). The previously mentioned guidelines with regard to the collaborative approach and the supervision / coaching support nurses to optimize this balance.

To optimize the continuity and coordination of care, a Collaborative Care team (CCT) will be brought together. The CCT consists of the patient, his/her carer, the nurse and the psychiatrist and/or psychologist. Informal carers have a prominent role in the CCT, because we assume that their involvement may benefit treatment. Concurrently, however, it is known that the social or family systems surrounding patients with severe personality disorders are frequently weakened. Over time relationships have suffered from many social and interpersonal problems. In many cases the disrupted relationships within the social system contribute to the psychopathology of the patient and to a low quality of life. In such situations adequate social support for informal carers helps them to persist supporting the patient and to understand and regulate the interactions within the social system. Simultaneously, attention will be paid to diminish the burden of informal carers and provide psychoeducation to them.

Next to the members of the CCT, Collaborative Care partners are involved. These are all other professionals who are involved in the treatment of the patient, e.g. a general practitioner, a care provider from a specialized addiction service, or a home care nurse. The nurse is responsible to inform and involve all those partners, whenever necessary. Discontinuity of care increases the risk for drop-out and a negative course of the psychiatric illness (with possible suicide as the extreme negative outcome). Transitions between or within health care services, discharge from an inpatient setting, and change of care providers all contribute to these risks. Collaborative Care demands proactive collaboration between all partners to minimize the risks of this discontinuity.

b. Evaluation of treatment history, current treatment and collaboration

Most of the patients have lived a turbulent life due to the occurrence of several (severe) life events. They usually have a long history with health care providers. Life-events and previous experiences with health care providers all affect current relationships and treatment. To learn from previous experiences, an inventory will be made of life events and of all former treatments, based on the medical record. This inventory will be discussed with the patient and with the other members of the CCT to identify effective coping strategies with life events, effective elements in treatment, and relationships. Patients are invited to bring along expectations with regard to care providers and treatment and to speak aloud about disappointing (sometimes even traumatic) experiences, e.g. seclusion episodes at closed wards, which still may hamper the relationships with care providers. Informal carers are invited to share their view upon past life events and expectations with regard to collaboration and treatment. The objective is to sustain that what is effective and to give up ineffective approaches. Mutual expectations and responsibilities are made explicit between patients and care providers, in order to promote a strong relationship as one of the main principles of Collaborative Care. This relationship will be evaluated systematically. During treatment the Session Rating Scale (SRS) and the Outcome Rating Scale (ORS) will be filled in to tune in to expectations and outcomes of each session (Miller et al, 2003;Duncan et al, 2003).

c. Systematic assessment of needs

Perceived needs of patients will be systematically examined by means of the Camberwell Assessment of Need (CAN) (Phelan et al, 1995). The CAN makes an inventory of 22 human needs, clustered in four categories: psychological, physical, environmental and social. Research indicates that care provider and patient views about these human needs may differ, and thus that their views on needs should be recorded independently (Slade, 1994;Lasalvia et al, 2005;Lasalvia et al, 2008). In the CCP, the ratings of needs will be completed by care providers and the patient (and their carer) separately. The different perspectives on met and unmet needs will be discussed in the Collaborative Care team and jointly priorities in treatment will be set. The fulfilment

of unmet needs can be aimed at the short or long term, dependent on the urgency and solvability. Long-term goals usually concern future wishes, e.g. building a stable social network or increasing employment opportunities. Goals for the future may inspire and motivate patients to solve or persevere the difficulties in daily life.

Unmet needs, goals and related activities are recorded in the treatment plan, which will be evaluated every three months.

d. Crisis management

Life of most patients with personality disorders is dominated by repeated crises. Consequently, attention will be paid to preventing and coping with crises. The use of a crisis card fits the philosophy of collaborative care because it communicates that patients are (at least partly) able to cope with crises themselves. If not, a backup of professional care is always available 24/7 (Jobes, 2006).

A crisis card consists of five activities for patients to carry out when a crisis occurs. The crisis card ideally is completed by the patient and includes concrete activities to reduce stress or despair. Prior to the drafting of the crisis card, the occurrence and nature of individual crises will be discussed with the patient and their informal carers: when do crises occur, how do crises develop over time, how can they best be solved, what does the patient expect from others (informal carers and professionals) during a crisis? In anticipation of severe crisis, the possibility and desirability of an admission will be discussed. The duration, expectations, and goals of a possible admission will be recorded.

e. Formulation of a treatment plan

Finally, at the end of the contracting stage a treatment plan is formulated, to which all partners involved commit and which meets the individual needs of the patient. Contracting is perceived as the obvious means for patients with personality disorders to exemplify mutual expectations and responsibilities (Linehan, 1993;Jobes, 2006). Contracting includes shared decision making about the collaboration, form as well as the content of treatment. Conflicting views are discussed and neutralised if possible, in order to create and maintain a predictable supportive structure for treatment, which is watched over, regardless of frequent challenges to release this structure.

Stage 2: Execution

Destructive behaviour

Patients with borderline or NOS personality disorders often show various or multiple problem behaviours. These problem behaviours can be expressed in several ways: suicidal, self harm, addictive or aggressive behaviour. A method of early recognition and early intervention will be used to gain insight in the process of emergent problem behaviour and to enhance coping with this destructive behaviour. Early recogni-

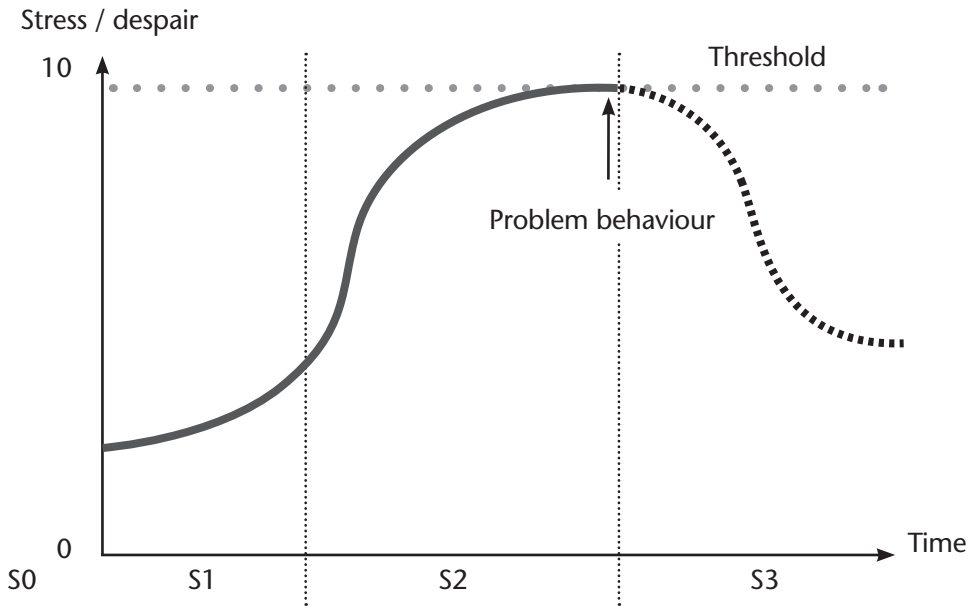
tion plans are drawn up concerning different kinds of destructive behaviour (van Meijel et al, 2003;Jobes, 2006;Fluttert et al, 2008;Bosman and van Meijel, 2009).

The central aim is the early recognition of triggers and signs (thoughts, feelings or behaviours) of the destructive behaviour of the patient. Experience shows that in general destructive behaviour does not originate out of nowhere (and thus unexpectedly), but that a gradual process of rising stress or despair precedes it (Figure 2). Specific risks or situations (triggers) can be identified in advance, as a result of which the behaviour occurs. Individual signs of rising stress or despair can be explored, e.g. bad sleep, thoughts of failure or self-hate, withdrawal from social contacts by not answering the phone, or cancelling appointments. Occasionally, hours, days or even weeks pass between the first signs of stress and the moment of escalation when the destructive behaviour arises severely. Especially this period offers opportunities for preventive interventions.

Nurses support the patient to gain insight in his/her individual process of increasing stress and despair leading to specific destructive behaviour. The first step is to explore the different destructive behaviours of each patient. Self report questionnaires, such as the Beck Scale for Suicide Ideation (Beck et al, 1988), the Self Harm Questionnaire (Claes et al, 2004), the CAGE-AID (Brown and Rounds, 1995) and questions regarding aggressive behaviour are used for this exploration and for raising the awareness of destructive behaviour. Secondly, the triggers and early signs will be identified and recorded in the relapse prevention plan. Subsequently, actions will be chosen to react adequately at an imminent crisis. Actions to reduce stress or despair will ideally take place as early as possible. The better the patient recognizes his/her specific triggers and early signs, the better the patient can act proactively (preferably in stage S1: see Figure 2). Part of the early recognition plan is the crisis card for those moments when the stress rises too high and acute acting is needed to prevent damage and to promote control (stage S2).

The incidence of specific destructive behaviour will be assessed repeatedly by means of the self-report questionnaires. This makes it possible to discuss despair and corresponding destructive behaviours openly and systematically, and to periodically evaluate and update the relapse prevention plan based on new insights. This method of early recognition and intervention can be individualised according to the level of cognitive and social functioning of the individual patient. Informal carers are invited to contribute to the development of this relapse prevention plan.

Figure 2: Rising stress and/or despair.



Problem Solving

In the preparation stage an inventory is made of individual needs with the Camberwell Assessment of Need. Subsequently, in the treatment plan goals are formulated based on the unmet needs. Many of these needs tend to correspond with some of the daily problems the patient perceives, like finding significant day activities, coping with debts, housing problems, interpersonal problems et cetera. The amount of problems is often so overwhelming that patients are paralysed by it and may loose their sense of control. To enhance the self-management skills of the patient in solving these problems, Problem Solving Treatment (PST) will be provided. Learning and applying problem solving skills regarding daily problems enhances patients' feelings of mastery. Mastery reflects the extent to which individuals perceive themselves to be in control of forces that significantly impact their lives. PST has proven to be effective in various studies and is part of different treatments for personality disorders (Linehan, 1993;Mynors-Wallis et al, 1997;Black et al, 2008;Blum et al, 2008). PST diminishes mental disorders and decreases indirect costs. It is an essential element of Collaborative Care programs (Bodenheimer et al, 2002;IJff et al, 2007;Vlasveld et al, 2008).

Life orientation

As a counterbalance to the prominent attention to problems, the focus is also aimed at a more positive orientation in a person's life. To encounter and expand positive experiences might be stimulating for a renewed and more positive life orientation.

A lack of positivity seems to be related to cluster B personality disorders (MacLeod et al, 2004). This can be explained by: (1) a lack of rewarding and enjoyable experiences, (2) a cognitive impairment of representations of a positive future, (3) an inability to derive pleasure from what are normally enjoyable events (MacLeod et al, 2004). A more positive life orientation, with increased optimism and reduced hopelessness may protect against suicidal behaviour (Malone et al, 2000;Soloff et al, 2000;MacLeod et al, 2004;MacLeod et al, 2005). To achieve this we introduce some exercises to expand positive experiences and to visualize a more stimulating future. We focus on and stimulate the unique qualities and strengths of people. The exercises are based on the principles of solution focused treatment (de Shazer et al, 1986;McAllister et al, 2008;Wand, 2010).

Psychoeducation

By means of psychoeducation, the patient (and his informal carer) is provided with knowledge about his or her psychiatric disorder and psychological condition, the causes and consequences, effective ways of coping, and the treatment possibilities including their expected effects. Psychoeducation is an integral element of Collaborative Care. Throughout all stages of the program nurses examine whether the patients and their informal carers have sufficient knowledge of the illness and its consequences. Patients' personal experiences are related to corresponding symptoms of the illness. Patients are taught how to cope effectively with the consequences of their illness in daily life. Patients and their carers also will be prepared to the enduring character of the illness and to expected relapses. The main psychoeducational information is written out in the workbook for patients. Supplementary resources (books or websites) are listed.

Stage 3: Evaluation

The treatment plan will be evaluated in the Collaborative Care team every three months. This enables the patient to monitor his progress and - if necessary - change treatment decisions and reformulate goals. During the evaluation, the collaboration between the patient and the members of the CCT will also be evaluated. The perspectives and experiences of all CCT members during the last period will be clarified. Based on this evaluation the treatment plan will be adjusted.

Discussion

With this Collaborative Care Program we aim to support patients, their informal carers and care providers in the organization and provision of effective treatment. We assume that the easily accessible structured CCP will have an additional value compared to CAU. When compared to some psychotherapies, like Dialectical Behavioural Therapy (Linehan, 1993), mentalization-based treatment (Allen et al, 2008), schema-focused and transference-focused treatment (Giesen-Bloo et al, 2006), the CCP is more easily accessible and less intensive. The primary objective of these psychotherapies differs from that of Collaborative Care. Psychotherapy is aimed at sustainable changes in personality, psychopathology and recovery, while Collaborative Care is aimed at increased self-management of chronic illnesses and improved quality of life. Primary choice of treatment for most patients with personality disorders, in accordance with international multidisciplinary guidelines, should be psychotherapy. This CCP is developed for the subpopulation of patients who, for different reasons, do not have access to this psychotherapy. For this subpopulation the CCP might be an alternative for the care as usual within community mental health care.

Within the CCP the pro-active involvement of all collaborative partners, including informal carers, will probably contribute to the effectiveness and continuity of care provided. For nurses this implies a more pro-active anticipating strategy, because they are the ones who inform and involve different partners. The investments in time and effort during the preparation stage especially will probably be earned back over time. Crisis management, contracting and shared goals to which all partners commit prevent misunderstandings, needless treatment and needless admissions at both emergency and inpatient settings.

Furthermore, the collaborative approach supports patient and nurse to sustain an effective relationship, which will be systematically evaluated. The collaborative approach challenges nurses to lean back and not take too much responsibility for the patient's life. At the same time, this approach tempts patients to be an active partner in their care and to take responsibility for their choices, goals and activities within treatment. The CCP has a goal-oriented structure, which means that in each session these goals need to be made explicit. An endless offer without commitment, which at times characterise community mental health care, makes patients unnecessarily dependent on mental health care and decreases their autonomy. In the context of the CCP nurses are trained to increase their alertness of this goal-oriented structure over time and in each session. During the training of the CCP nurses will be taught how to accomplish their role as care manager with regard to the specific subpopulation of patients. The supervision, coaching and consultation offer additional support to maintain and expand their skills.

To conclude, with this CCP nurses are offered knowledge, skills and structure to be better equipped to provide care for these patients. As we have seen, nurses are the main care providers within CMCH teams for this sub population of patients, which nurses perceive occasionally as 'difficult' patients. Collaborative Care underlines the coordinating role of nurses within the multidisciplinary collaboration. It provides a framework for care providers in which collaboration, coordination and continuity of care and treatment are integrated.

REFERENCE LIST

American Psychiatric Association (2005) Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR Fourth Edition (Text Revision). Washington D.C.: American Psychiatric Association.

Allen, J. G., Fonagy, P., Bateman, A. W. (2008) Mentalizing in Clinical Practice. Washington D.C.: American Psychiatric Publishing.

Beck, A. T., Steer, R. A., and Ranieri, W. F. (1988) Scale for Suicide Ideation: psychometric properties of a self-report version. J Clin Psychol., **44**, 499-505.

Black, D. W., Blum, N., Eichinger, L., et al (2008) STEPPS: Systems Training for Emotional Predictability and Problem Solving in women offenders with borderline personality disorder in prison-a pilot study. CNS.Spectr., **13**, 881-886.

Blum, N., St, J. D., Pfohl, B., et al (2008) Systems Training for Emotional Predictability and Problem Solving (STEPPS) for outpatients with borderline personality disorder: a randomized controlled trial and 1-year follow-up. Am J Psychiatry, **165**, 468-478.

Bodenheimer, T., Lorig, K., Holman, H., et al (2002) Patient self-management of chronic disease in primary care. JAMA, **288**, 2469-2475.

Bosman M., van Meijel, B. (2009) Begeleiding van patiënten die zelfverwonden: een verpleegkundig interventiepakket. [Treatment of patients who self harm: a nursing intervention tool]. Maarssen: Elsevier Gezondheidszorg.

Brown, R. L. and Rounds, L. A. (1995) Conjoint screening questionnaires for alcohol and other drug abuse: criterion validity in a primary care practice. Wis.Med J, **94**, 135-140.

Claes L., Vandereijken W., Vertommen H. (2004) Zelfverwondingsvragenlijst [Self harm questionnaire].

Deans, C. and Meocevic, E. (2006) Attitudes of registered psychiatric nurses towards patients diagnosed with borderline personality disorder. Contemp.Nurse, **21**, 43-49.

de Shazer, S., Berg, I. K., Lipchik, E., et al (1986) Brief therapy: focused solution development. Fam.Process, **25**, 207-221.

Duncan B.L., Miller S.D., Sparks J.A., et al (2003) The Session Rating Scale: Preliminary psychometric properties of a “working” alliance measure. Journal of brief Therapy, **3**, 3-12.

Fluttert, F., van Meijel, B., Webster, C., et al (2008) Risk management by early recognition of warning signs in patients in forensic psychiatric care. Arch Psychiatr.Nurs, **22**, 208-216.

Fraser, K. and Gallop, R. (1993) Nurses' confirming/disconfirming responses to patients diagnosed with borderline personality disorder. Arch Psychiatr.Nurs, **7**, 336-341.

Giesen-Bloo, J.,van Dyck, R., Spinhoven, P., et al (2006) Outpatient psychotherapy for borderline personality disorder: randomized trial of schema-focused therapy vs transference-focused psychotherapy. Arch Gen Psychiatry, **63**, 649-658.

IJff, M. A., Huijbregts, K. M.,van Marwijk, H. W., et al (2007) Cost-effectiveness of collaborative care including PST and an antidepressant treatment algorithm for the treatment of major depressive disorder in primary care; a randomised clinical trial. BMC Health Serv.Res, **7**, 34.

Jobes, D. A. (2006) Managing Suicidal Risk. A Collaborative Approach. New York: The Guilford Press.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009a) Community psychiatric nursing in the Netherlands: a survey of a thriving but threatened profession. J Psychiatr.Ment.Health Nurs, **16**, 822-828.

Koekkoek, B., van Meijel, B., and Hutschemaekers, G. (2010a) Community mental health care for people with severe personality disorder: a narrative review. The Psychiatrist, **34**, 24-30.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009b) Clinical problems in community mental health care for patients with severe borderline personality disorder. Community Ment.Health J, **45**, 508-516.

Koekkoek, B., van Meijel, B., Tiemens, B., et al (2011) What makes community psychiatric nurses label non-psychotic chronic patients as 'difficult': patient, professional, treatment and social variables. Soc.Psychiatry Psychiatr.Epidemiol. **46**, 1045-1053.

Lasalvia, A., Bonetto, C., Malchiodi, F., et al (2005) Listening to patients' needs to improve their subjective quality of life. Psychol.Med, **35**, 1655-1665.

Lasalvia, A., Bonetto, C., Tansella, M., et al (2008) Does staff-patient agreement on needs for care predict a better mental health outcome? A 4-year follow-up in a community service. Psychol.Med, **38**, 123-133.

Linehan, M. M. (1993) Cognitive-Behavioral Treatment of Borderline Personality Disorder. New York: The Guilford Press.

MacLeod, A. K., Tata, P., Tyrer, P., et al (2004) Personality disorder and future-directed thinking in parasuicide. J Pers.Disord, **18**, 459-466.

MacLeod, A. K., Tata, P., Tyrer, P., et al (2005) Hopelessness and positive and negative future thinking in parasuicide. Br.J Clin Psychol., 44, 495-504.

Malone, K. M., Oquendo, M. A., Haas, G. L., et al (2000) Protective factors against suicidal acts in major depression: reasons for living. Am J Psychiatry, **157**, 1084-1088.

Markham, D. and Trower, P. (2003) The effects of the psychiatric label 'borderline personality disorder' on nursing staff's perceptions and causal attributions for challenging behaviours.Br.J Clin Psychol., **42**, 243-256.

McAllister, M., Zimmer-Gembeck, M., Moyle, W., et al (2008) Working effectively with clients who self-injure using a solution focused approach. Int Emerg.Nurs, **16**, 272-279.

Miller S.D., Duncan B.L., Brown J., et al (2003) The Outcome Rating Scale: A preliminary study of the reliability, validity and feasability of a brief visual analog measure. Journal of brief Therapy, **2**, 91-100.

Mynors-Wallis, L., Davies, I., Gray, A., et al (1997) A randomised controlled trial and cost analysis of problem-solving treatment for emotional disorders given by community nurses in primary care. Br.J Psychiatry, **170**, 113-119.

Newton-Howes, G., Weaver, T., and Tyrer, P. (2008) Attitudes of staff towards patients with personality disorder in community mental health teams. Aust.N.Z.J Psychiatry, **42**, 572-577.

Phelan, M., Slade, M., Thornicroft, G., et al (1995) The Camberwell Assessment of Need: the validity and reliability of an instrument to assess the needs of people with severe mental illness. Br.J Psychiatry, **167**, 589-595.

Slade, M. (1994) Needs assessment. Involvement of staff and users will help to meet needs. Br.J Psychiatry, **165**, 293-296.

Soloff, P. H., Lynch, K. G., Kelly, T. M., et al (2000) Characteristics of suicide attempts of patients with major depressive episode and borderline personality disorder: a comparative study. Am J Psychiatry, **157**, 601-608.

van Meijel, B., van der Gaag, M., Kahn, R. S., et al (2003) Relapse prevention in patients with schizophrenia: the application of an intervention protocol in nursing practice. Arch.Psychiatr.Nurs., 17, 165-172.

Vlasveld, M. C., Anema, J. R., Beekman, A. T., et al (2008) Multidisciplinary collaborative care for depressive disorder in the occupational health setting: design of a randomised controlled trial and cost-effectiveness study. BMC Health Serv.Res, **8**, 99.

Wand, T. (2010) Mental health nursing from a solution focused perspective. Int J Ment.Health Nurs, **19**, 210-219.

Chapter 3

Feasibility and preliminary results of a Collaborative Care program for patients with severe personality disorders: A comparative multiple case study.

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Submitted

ABSTRACT

Background

A substantial group of patients with severe personality disorders does not benefit from structured psychotherapy. For those patients we developed a Collaborative Care program (CCP), managed by (community) mental health nurses. We aimed to investigate the feasibility and preliminary outcomes of this CCP for patients with severe borderline personality disorder or personality disorders NOS.

Methods

Mixed methods were used in a comparative multiple case study, including 26 cases, to compare the CCP with Care as Usual. Data were collected among patients, informal carers and nurses at baseline, and at five and nine months follow up.

Results

A significant decrease in severity of borderline symptoms was found, despite incomplete implementation of the CCP and the small sample size. Some other outcomes, although not significant, showed medium effect sizes. In the experimental condition a significantly higher Mental Health Care utilization was found. Three core elements of the CCP were: 1) improved goal orientation in the treatment process; 2) a stronger appeal to self-management skills of patients; and 3) improved skills in establishing and maintaining effective therapeutic relationships.

Conclusions

This CCP may be beneficial for patients with severe personality disorders who did not benefit nor have access to structured psychotherapy. However, experimental research is needed to confirm the preliminary outcomes of this study.

Trial Registration Number: NTR2763

Background

Evidence based structured psychotherapy is the preferred treatment for severe personality disorders. Research has shown that psychotherapy contributes to improved quality of life, reduced psychopathology and destructive behaviour, as well as sustainable changes in personality (van den Bosch et al, 2005;Linehan et al, 2006;Verheul and Herbrink, 2007;Bateman and Fonagy, 2008;McMain et al, 2012). A number of patients, however, has no access or does not benefit from these psychotherapies and therefore habitually receive community mental health care (CMHC), mostly provided by (community) mental health nurses (van Luyn, 2007;Hermens et al, 2011;van Manen et al, 2012). Care delivered by CMHC teams is usually not standardized and generally unstructured (Koekkoek et al, 2009a;Koekkoek et al, 2010). Moreover, outcomes of this treatment are limited due to ineffective behaviours among both patients and professionals; patients show ambivalence towards their needs for treatment and commonly professionals perceive their patients as able but unwilling to change (Koekkoek et al, 2009b). In order to optimize treatment for this vulnerable patient group, we developed a Collaborative Care program (CCP). Generally, CCPs aim to increase shared decision making and enhancement of self management skills of chronically ill patients and to optimize continuity and coordination of care (von Korff, 1997). Nurses have a prominent position in CCPs as they function as collaborative care managers, being responsible for both a proper implementation and optimal organization of treatment.

To our best knowledge this is the first CCP for patients with borderline personality disorder or NOS personality disorder. In this stage of intervention development and testing, insight in both the feasibility and the preliminary effects of this type of intervention are needed. Therefore, we combined quantitative and qualitative methods in a comparative multiple case study, examining processes of application and outcomes in their mutual relation. The following research objectives were formulated:

1. To describe the feasibility of a CCP for patients with a severe borderline or NOS personality disorder in comparison with Care as Usual (CAU);
2. To describe the preliminary outcomes of the CCP in comparison with CAU;
3. To identify characteristics of the CCP determining positive or negative outcomes.

Methods

Design

A comparative multiple case study design is suitable when testing a new intervention among a small number of patients (Stake, 2006). We aimed to provide descriptive and explanatory data regarding both the feasibility and preliminary outcomes of the intervention program. By making use of a control group we were able to systematically compare the CCP with Care as Usual. In this design relatively few participants are needed for a thorough evaluation. A distinctive feature of a comparative multiple case study is the analysis of data on three different levels by means of data and method triangulation: firstly at individual case level (within case analysis), secondly at group level (cross case analysis), and thirdly at the level of the comparison of the two conditions (cross case synthesis). The within case analysis provides detailed insight in the actual application of CCP and Care as Usual, the individual outcomes, and explanatory factors for these outcomes in each case. Within the experimental and control condition cross case analyses are carried out to formulate statements about the observed processes and outcomes per condition. At an aggregated group level (cross case synthesis) the observed differences in outcomes and process indicators are examined between the experimental and the control condition in order to assess the value of the intervention and to explain differences in outcomes of CCP compared to Care as Usual. A detailed description of the study protocol has been published elsewhere (Stringer et al, 2011).

The research project has been approved by the Medical Ethics Committee of the VU Medical Centre in Amsterdam, the Netherlands. All participants signed for informed consent based on oral and written information about the research project.

Sample

Participants, patients, informal carers and nurses, were recruited from two comparable community mental health care (CMHC) teams of a large mental health organization in the Netherlands. In this study two treatment conditions were compared: an experimental condition in which one CMHC team provided the Collaborative Care Program, and a control condition in which the other CMHC team offered Care as Usual (CAU). Within both conditions caseloads of the participating nurses were screened for eligible patients. These patients were approached in random order for participation in the study. In the experimental condition a maximum of three patients was determined for each nurse to limit the required efforts regarding the implementation of CCP.

Patients, aged between 18 and 65 years, had a main diagnosis of borderline or NOS personality disorder (DSM-IV-TR), had a score of 15 or higher on the Borderline Personality Disorder Severity Index (BPDSI, range 0-90) (Arntz et al,

2003;Giesen-Bloo et al, 2010) and had received psychiatric care for at least two years. Participants were required to speak and read Dutch sufficiently well to fill in questionnaires. We aimed to include 32 (2x16) patients. We screened 85 patients for eligibility, of whom 32 were excluded for various reasons. Fifty-three were eligible for inclusion. The final sample consisted of 26 patients: sixteen in the experimental condition and ten in the control condition (see Figure 1). The planned 32 patients were not attainable due to limited participation of control patients: patients gave no informed consent and nurses were reluctant to allow their patients to participate in research, because they expected no benefits when participating in the control condition .

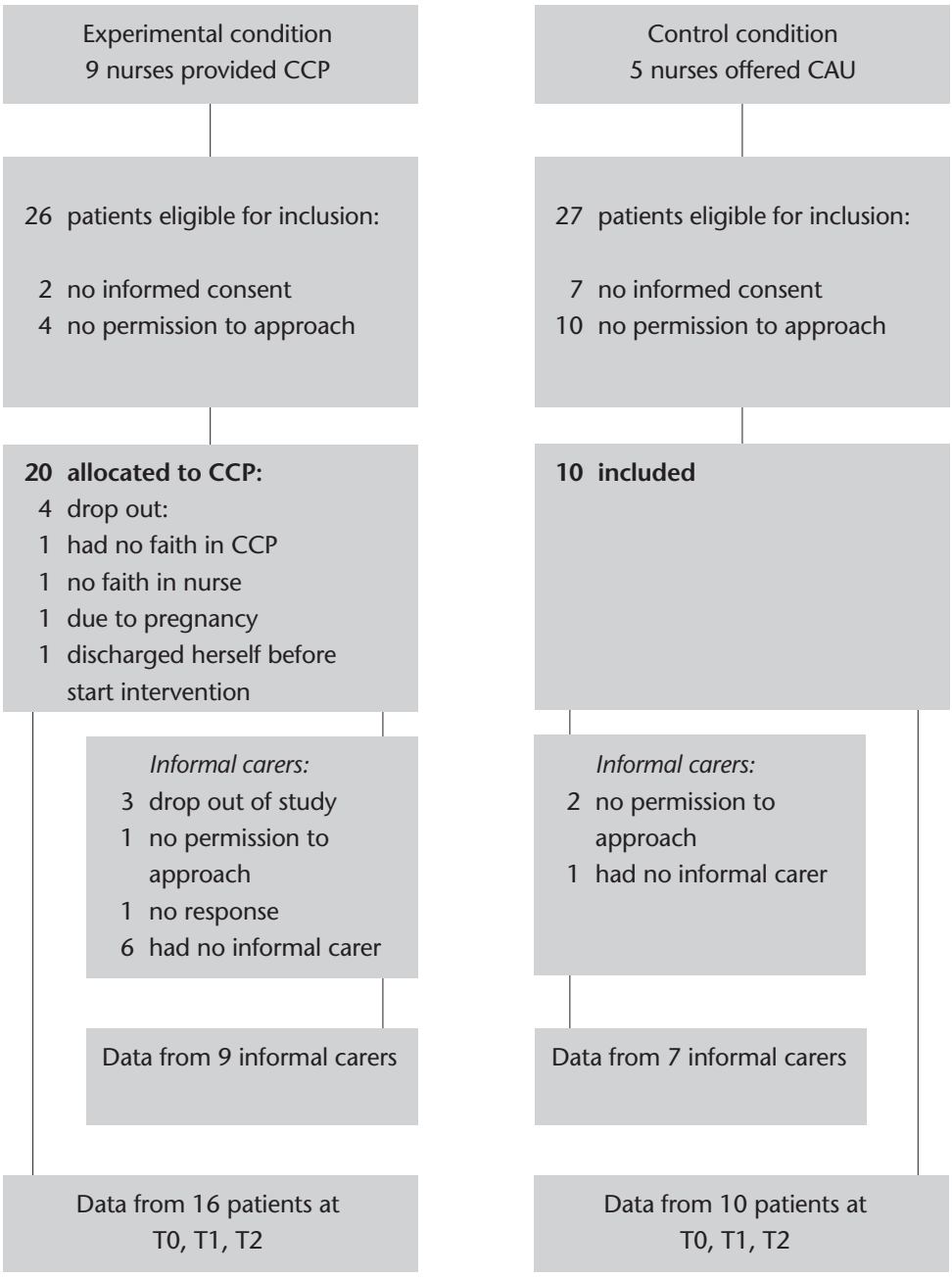
The included patients were asked for permission to approach one of their informal carers to participate in the study. In the experimental condition nine informal carers participated (56%), as opposed to seven in the control condition (70%). Not all patients had an informal carer. Some other patients did not give permission to approach an informal carer, because of their fragile or damaged relationships with family members or close-by friends.

Ten nurses from the experimental condition and five nurses from the control condition were included in the study. Participation was on a voluntary basis. Two nurses of the control condition could not participate in the study because they did not have eligible patients. Nurses who participated in the experimental condition received a three-day training in providing the CCP. From the ten nurses who were trained, four changed jobs during the research period. Three new nurses were included in this study and were trained individually by the first author. They continued the implementation of CCP where their predecessors had stopped.

The Collaborative Care Program

The Collaborative Care Program (CCP) was developed to improve the quality of care for patients with severe borderline or NOS personality disorders within a CMHC setting. The expectation was that the CCP would (1) improve quality of life, (2) reduce destructive behaviour (suicidal, self harm, aggressive or addictive behaviour) and other manifestations of the personality disorder, (3) improve mastery of the patient, and (4) enhance satisfaction with care by both patients and informal carers. Finally, we expected a positive effect on attitudes, knowledge and skills of nurses.

Figure 1: Flow chart of included patients and informal carers



The CCP consisted of five integrated components:

1. Adequate organization and coordination of care, with optimal collaboration between the main partners: patients, their informal carers, psychiatrists and nurses. This first component consisted of several consecutive activities:
    a *Introduction* of the principles of Collaborative Care to the patient and informal carers;
    b. Forming of a Collaborative Care team, consisting of the above-mentioned partners;
    c. Evaluation of treatment history and coping skills with life-events, by means of a *time-line*;
    d. Explication of *collaboration agreements*. To emphasize the collaboration and mutual expectations and responsibilities, a metaphor was used that describes the collaboration *as a therapeutic road trip* in which the patient is the driver and the care provider the navigator (Jobes, 2006);
    e. *Crisis management* by drafting a crisis response card;
    f. Systematic *assessment of needs* by means of the Camberwell Assessment of Needs;
    g. Formulation of a *treatment plan*.
2. *Early recognition of destructive behaviours* (i.e. suicidal, self-harm, aggressive or addictive behaviours) *followed by early interventions*, to promote self-management using a relapse prevention plan;
3. Application of *Problem Solving Treatment* (PST) to promote problem solving skills;
4. Application of elements of Solution Focused Treatment to gain a more *positive life orientation*;
5. Provision of *psychoeducation*.

The first component refers to the preparation stage of the program, while the components 2 to 4 comprise the treatment per se. The preparatory activities provide a treatment frame, which is recommended in (inter)national treatment guidelines for personality disorders. Psychoeducation is integrated through all stages of the program. The goals, as described in the treatment plan, were evaluated every three months within the Collaborative Care team.

The CCP was elaborated in a workbook for patients and a separate manual for nurses. During the research period the nurses received monthly supervision, supervised by the first author (BS).

Data collection

Data were collected at three time points: at baseline (T0) and at five (T1) and at nine (T2) months. Mixed research methods were used to reach the studyobjectives:

1. Quantitative data were collected among patients, their informal carers and nurses. A detailed overview can be found in the study protocol.
   a. Self-report questionnaires were completed, representing outcome and process indicators. The main outcomes were quality of life, measured with the Manchester Short Appraisal (MANSA) (Priebe et al, 1999), and current severity and frequency of the borderline manifestations, measured with the Borderline Personality Disorder Severity Index (BPDSI) (Arntz et al, 2003;Giesen-Bloo et al, 2010). The MANSA is a 16-item self-report scale, which measures quality of life with 7-point Likert scales, with higher scores indicating higher quality of life. The BPDSI is a semi-structured interview conducted among patients and consists of 70 items, with a total score ranging from 0-90. A cut-off score of 15 was found to distinguish patients with BPD from healthy controls (Giesen-Bloo et al, 2006). The BPDSI interviews were conducted and audio taped by three psychologists and the first author, who were all trained to administer this interview. For the interviews conducted by the first author, the inter-rater reliability was assessed based on two interviews. The audiotapes of these interviews were rated by a second rater, resulting in an intra-class coefficient of 1.00 ($p = .006$), indicating a very high inter-rater reliability.
   b. Nurses from both conditions filled out process forms in which the number and content of contacts were registered. In the experimental group items were added to these forms, which provided additional insight in the treatment integrity of the CCP. In both conditions available treatment plans, crisis response cards and/or relapse prevention plans, derived from the electronic patient records, provided additional information about the content of treatment.
   c. Mental health care utilization during the 9-month research period was derived from the administration of contacts registered in the electronic patient record. This utilization includes the number of face-to-face and telephonic contacts with the CMHC team and (24/7) crisis facilities.

2. Qualitative data were gathered by individual semi-structured interviews with nurses and patients. The interviews with the nurses were conducted by a research assistant (PK); the interviews with the patients by the first author (BS). This distribution of interviews was motivated by the fact that the first author was too closely involved with the nurses. Interviews took place after the last measurement (T2) with all participating nurses (n=14). They were interviewed about one

of their patients who participated in the study. These patients were interviewed as well at T2, except one (lost to follow-up). For these interviews a topic list was used, referring to the underlying, neutrally formulated, principles of the CCP, e.g. quality of the therapeutic relationship, problem solving, coping with destructive behaviour, and self-management. For both conditions the same topic lists were used, however the questions were adapted in line with de different treatment contexts in the experimental and control condition. Initially, in the interviews participants were asked to reflect on their individual quantitative outcomes. Subsequently, the underlying principles of the CCP were discussed. Finally, the participants were asked to identify characteristics of respectively the CCP or CAU which were indicative for positive or negative outcomes.

Analyses

To describe and compare the participant characteristics of the experimental and control condition, a comparison was made of socio-demographic and psychopathological characteristics (t-test for continuous variables, and χ^2-test for categorical variables).

To achieve the first research objective, i.e. describing the feasibility of CCP in detail, we examined the actual application of the program compared to CAU. Therefore, a content analysis was performed of all qualitative interviews, which were audio taped and transcribed verbatim. Factors were identified which referred to the process of application, feasibility of the intervention, and explaining factors for the effectiveness of (parts of) the program, resulting in single case descriptions. The data were analysed using ATLAS-TI qualitative text analysis software. The credibility and dependability of the data were ensured by peer debriefing and member checking (Polit and Beck, 2003).

For determining the actual application of the various components of the CCP, the degree of application was assessed. The classification of the actual application of these components was derived from the single case descriptions. This classification consisted of four levels:

++ : Component was optimally applied and concrete proof was available; worksheets, documents from the electronic health record and/or process forms. The actual application was confirmed by statements in the interviews with patient and nurse;

\+ : Component was appropriately applied and proof was available; process forms or statements in interviews with patient and nurse;

+/– : Component was moderately applied and little proof was available; statements in interviews with patient or nurse;

– : Component was not or only barely applied and proof was barely available or absent; statements in interviews with patient or nurse.

The sum of optimally or appropriately (++ or +) applied components (range 0-12) was used as a measure of treatment integrity in which three levels were distinguished: 0-5 poor application; 6-8 moderate application; 9-12 good application. In the control condition an assessment was made to which extent the underlying principles and the components of the CCP had been applied recognizably in Care as Usual. This assessment was only possible for the cases with interview data (n=5). The scoring was repeated by a second rater (PK) to assess inter-rater reliability. The intra-class correlation was .96 ($p < .000$), indicating a very high inter rater reliability.

For the second research objective, describing the preliminary results of the CCP, we first examined the differences between the experimental and the control condition at group level. Longitudinal analysis by means of random intercept models were performed for all variables, since most outcome and process indicators were measured at three time points (baseline, 5 and 9 months) (Twisk, 2003). Because the BPDSI was measured only at two measurement points, a paired t-test was performed to examine the differences between baseline and the nine-month follow-up. Effect sizes were calculated for all variables, based on the difference scores T2-T0. At individual case level, difference scores (T2 - T0) were computed for the main outcome indicators quality of life (MANSA) and severity of BPD manifestations (BPDSI). All quantitative data were analysed using SPSS 20.

For the third research objective, identifying explanatory factors for positive or negative outcomes, we used the single case descriptions and aggregated data of the cross case analyses to explain which characteristics of the CCP were indicative for these outcomes, compared to CAU.

Results

Sample characteristics

Sample characteristics are summarized in Table 1. The data suggest that the CCP and CAU groups were comparable on most variables.

The application of the CCP compared to the treatment applied in CAU

Table 2 shows that in 4 cases (25%) the CCP was applied well (≥ 9 components optimally or appropriately applied), while in another 31.5% of the cases the CCP was applied moderately (6 or 7 components optimally or appropriately applied). In the experimental condition the mean of optimally or appropriately applied components was 6.0, compared to 3.0 in the control condition (d.f. = 19; $t = 2.46$, $p = .024$). In general, in the experimental condition the preparatory activities were more frequently executed than the treatment activities.

Table 1: Sample characteristics

	Experimental condition	Control condition	p-value
Patients n=26			
Age (mean, SD)	43.9 (11.7)	44.5 (8.7)	.897
Sexe (n, % female)	15 (94%)	8 (80%)	.286
Marital status (n, % unmarried)	12 (80%)	8 (89%)	.572
Diagnosis			.780
Main diagnosis BPD (n, %)	12 (75%)	7 (70%)	
Main diagnosis PD NOS (n, %)	4 (25%)	3 (30%)	
Co-morbid axis I-disorder(s) (n, %)	16 (100%)	10 (100%)	
Co-morbid somatic disorder(s) (n, %)	15 (94%)	10 (100%)	
GAF (mean, SD)	49.8 (11.0)	55.5 (6.9)	.153
Years of MHC treatment (mean, SD)	16.6 (10.7)	16.1 (9.5)	.923
Years in CMHC team (mean, SD)	1.9 (2.1)	3.8 (5.1)	.323
Informal carers n=17			
Age	52.4 (15.5)	53.3 (21.0)	.922
Sexe (n, % female)	8 (80%)	2 (25%)	.020
Relation to patient (n, %):			.064
Partner	6 (60%)	2 (25%)	
Family	3 (30%)	1 (13%)	
Other	1 (10%)	5 (63%)	
Nurses n= 14			
Age (mean, SD)	43.5 (5.5)	46.2 (11.1)	.567
Experience MHC (mean, SD)	17.3 (10.9)	25.2 (13.9)	.302
Experience CMHC team (mean, SD)	1.6 (1.2)	6.2 (4.7)	.093

Table 2: Actual application of treatment: the CCP compared to CAU

	Experimental condition									
Components Cases	1	2	3	4	5	6	7	8	9	10
Preparation										
1a. Introduction	++	+	+	+	+	+	+	+	+	+
1b. Forming a CCT	+	+	+	–	–	+	–	+/–	+	–
1c. Time-line	+	+	+	+	–	+	+	+	++	+
1d. Collaboration agreements	+	++	+	–	–	++	–	–	++	–
1e. Crisis management	+	–	+	–	–	–	–	–	++	–
1f. Assessment of Needs	++	+/–	+	+	–	+	+	+	++	–
1g. Treatment plan	–	++	++	+	+	++	+	+	++	+
Treatment										
2. Early recognition and intervention of destructive behaviour	–	++	+/–	–	–	++	–	–	++	–
3. Problem Solving Treatment	+/–	+	–	–	–	+	–	–	+	–
4. Life orientation	+/–	++	+/–	+/–	–	+/–	–	–	+/–	–
5. Psychoeducation	–	+	–	–	–	–	–	–	+/–	–
Evaluation										
Treatment plan	–	+	–	–	–	+	–	–	–	–
Total 'treatment adherence'	6	10	7	4	2	9	4	4	10	3

++ : *Component was optimally applied and concrete proof was available;*
\+ : *Component was appropriately applied and proof was available;*
+/– : *Component was moderately applied and little proof was available;*
– : *Component was not or barely applied and proof was barely available or absent.*

										Control condition						
11	12	13	14	15	16		17	18	19	20	21	22	23	24	25	26
+	+	++	+	+	+		–		+	+			–			+
–	–	–	+	+	++		+		–	–			+			+
++	+	++	+	–	++		+		–	–			–			–
–	+	++	++	+	++		–		–	–			–			–
+/–	–	–	–	–	++		–		–	–			–			+
+/–	+	++	+	+	++		–		–	–			–			–
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–	–	++	–	–	–		–		–	–			+/–			–
–	–	+	–	–	–		+/–		+	+/–			+/–			+/–
–	–	–	+	–	+		–		–	+/–			–			–
–	–	+	–	+	–		–		–	+			–			?
3	5	9	7	6	7		3		3	3			1			5

Outcomes of the CCP versus CAU

Table 3 summarizes the outcomes of treatment in the experimental and control condition. At group level the BPDSI decreased significantly more in the experimental group compared to the control group (p .03, effect size 0.9; Table 3). Considering the individual case-level data in the experimental condition, in 50% of the cases the BPDSI score dropped to a score below the cut off point of 15 points (Table 4). This compares favourably with patients in the control condition, where no BPDSI scores dropped below the cut-off point.

Concerning the other outcome variables no significant improvement could be detected in the experimental condition, partly because of the small number of participants in our study. However, despite non-significance of the changes two variables showed medium effect sizes, i.e. treatment satisfaction with ES of 0.6, and quality of the therapeutic relationship with ES 0.5, respectively (Table 4). At individual case-level, 56% of the patients in the experimental condition reported an improved quality of life (+3 to +17; Table 5). However, in the control condition the quality of life improved to a rather similar extent (40% of the cases; +3 to +14). With regard to use of mental health care, a significant difference was found between the experimental and control condition in the mean number of contacts (78 versus 23, p .024; Table 3), which can largely be explained by two cases (case 5 and 16; Table 4).

Informal carers in the experimental condition reported improved satisfaction with care and decreased burden. When compared with CAU large effect sizes were found, but these were not statistically significant.

Nurses in the experimental condition reported improved quality of the therapeutic relationship (medium effect size) and improved attitudes towards deliberate self-harm. Attitude scores concerning suicidal behaviour did barely change over time. None of these differences were significant compared to CAU

Table 3: Preliminary results of outcome and process indicators part 1

		Experimental condition[2]	Control condition[2]	Test statistic[3]	p-value	Effect seize[4]
Patients n=26						
BPD severity (BPDSI)	T0	27.4 (8.1)	22.5 (5.3)	*t*(23) = -2.31	0.30	-0.9
	T2	19.6 (11. 7)	22.4 (4.2)			
Quality of life (MANSA)	T0	40.1 (9.9)	46.1 (6.7)	*t*(44.4) = 1.01	.316	0.2
	T1	45.1 (10. 6)	48.1 (7.0)			
	T2	44.9 (13.0)	48.0 (7.3)			
Suicidal behaviour (BSS)	T0	21.8 (7.9)	16.6 (6.5)	*t*(26.1) = -0.81	.428	-0.2
	T1	21.0 (8.2)	18.8 (7.5)			
	T2		14.9 (9.0)			
Psychosocial symptoms (BSI)	T0	111.3 (29.6)	124.0 (34.5)	*t*(44.3) = -0.85	.402	-0.4
	T1	92.6 (52.0)	117.3 (31.1)			
	T2	89.3 (46.7)	113.6 (39.1)			
Satisfaction (CQ-index)	T0	7.2 (1.5)	7.9 (1.1)	*t*(40.6) = 1.22	.229	0.6
	T1	6.8 (1.7)	7.6 (1.0)			
	T2	7.4 (1.2)	7.4 (1.7)			
Mastery (PMS)	T0	10.5 (4.0)	9.9 (3.4)	t(44.7) = -0.23	.816	-0.1
	T1	11.5 (4.1)	12.0 (2.6)			
	T2	11.8 (3.6)	11.4 (3.4)			
Quality of therapeutic relation (STAR)	T0	39.2 (6.5)	40.0 (4.5)	t(40.7) = 1.00	.326	0.5
	T1	38.5 (6.8)	38.9 (4.3)			
	T2	38.8 (6.5)	37.4 (4.7)			
Number of MHC contacts[1]		78.1 (70.4)	22.5 (20.0)	t(23) = 2.42	.024	

Table 3: Preliminary results of outcome and process indicators part 2

		Experimental condition[2]	Control condition[2]	Test statistic[3]	p-value	Effect seize[4]
Informal carers n=17						
Satisfaction	T0	5.9 (2.0)	7.2 (0.8)	*t*(37.0) = 1.06	294	0.8
(CQ-index)	T1	6.8 (1.0)	6.8 (0.8)			
	T2	6.3 (1.0)	6.7 (0.5)			
Involvement/	T0	21.2 (13.0)	8.4 (4.0)	*t*(26.4) = -1.09	.286	-1.2
social support	T1	18.6 (8.3)	15.3 (7.1)			
(IEQ)	T2	17.8 (12.7)	12.3 (7.7)			
Nurses n= 14						
Quality of	T0	35.8 (3.1)	36.8 (4.1)	*t*(46.8) = 0.85	398	0.5
therapeutic relation	T1	34.9 (3.3)	37.3 (4.4)			
(STAR)	T2	37.7 (4.7)	37.1 (4.3)			
Attitudes towards	T0	41.8 (5.0)	42.8 (7.4)	*t*(24.1) = -0.45	.658	-0.3
suicidal behavior	T1	40.6 (5.1)	40.8 (3.1)			
(SBAQ)	T2	40.7 (6.5)	43.0 (6.8)			
Attitudes towards	T0	91.5 (7.2)	96.7 (5.4)	t(21.7) = -0.73	.476	-0.2
self harm behaviour	T1	100.5 (7.6)	95.6 (4.5)			
(ADSHQ)	T2	97.0 (6.1)	101.7 (6.2)			

1 *Number of Mental Health Care contacts during the research period at individual case level, including face-to-face and telephonic contacts with CMHC team and (24 hours) crisis facilities.*
2 *Mean, SD*
3 *For BPD severity and Number of MHC contacts (where only T0 and T2 measurements are available) the test statistics concern paired samples t-tests on the change scores. For other variables the test statistics concern the fixed effects regression parameters of the 'condition by T2' interaction in a mixed effects regression model.*
4 *Effect sizes based on difference scores T2-T0.*

Explanatory factors

To explain which characteristics of the CCP were indicative for positive or negative outcomes compared to CAU, the single case descriptions and data from the cross case analyses at group level were used. The three stages of the CCP will be discussed successively.

Preparatory stage

The preparatory stage of the CCP consists of seven components, of which several activities were uniquely applied in the experimental condition (Table 2; 1a-1g).

The first important step was to inform patients about the CCP and to introduce the workbook. Patients stated that they were attracted by the principles of autonomy and self-management, although several patients mentioned that they were anxious for or unfamiliar with increased autonomy. All nurses reported that the 'therapeutic road trip' metaphor had a strong positive impact, because it helped them to hold position, become more goal-oriented, panic less in case of suicidal threats and encourage patient autonomy.

Secondly, the CCP aimed to optimize continuity and coordination of care with all stakeholders. In only 50% of the cases the forming of a Collaborative Care team (CCT) had succeeded; nurses mentioned that in these cases continuity and coordination of care improved. Collaboration with other stakeholders increased, including health care providers from addiction services, home care and supervised independent living facilities. Patients' experiences with the intensified collaboration were predominantly positive: bringing all stakeholders together increased mutual understanding and diminished the burden among informal carers, because they were better understood, informed and involved. Nurses also reported positive effects of the CCT: new information or views upon the patients' problems came up from informal carers, and collaboration agreements were more easily fulfilled because everybody was involved in making these agreements and thus commitment regarding the treatment plan improved.

Thirdly, explicit attention was paid to learning from previous experiences by identifying helpful coping strategies, effective treatment-elements, and supportive therapeutic relationships, all these aspects summarized in a time-line. Nurses mentioned that a good introduction and a clear objective of the time-line were required, because looking back at (sometimes traumatic) life events could bring up strong emotions.

Table 4: Results of the main outcome indicators and Mental Health Care utilization at individual case level

Cases Exp	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Diff MANSA[1]	-10	17	.	1	-4	4	0
Diff BPDSI[2]	-6.15	-16.73[4]	-9.96[4]	5.64	-0.03	-16.6[4]	11.36
MHC contacts[3]	58	12	107	79	289	35	40
Cases Control	**17**	**18**	**19**	**20**	**21**	**22**	**23**
Diff MANSA	-4	-2	14	-1	-3	4	-2
Diff BPDSI	-.71	-3.74	7.56	4.97	-1.8	-2.22	.86
MHC contacts[3]	9	56	9	21	23	9	14

1 *Difference score T2-T0 for the Manchester Short Appraisal at individual case level.*
2 *Difference score T2-T0 for the Borderline Personality Severity Index at individual case level.*
3 *Number of Mental Health Care contacts during the research period at individual case level, including face-to-face and telephonic contacts with CMHC team and (24 hours) crisis facilities.*
4 *BPDSI score dropped below cut-off point of 15 points.*

However, working with the timeline provided profound insight in the history and coping strategies of the patient, which enhanced understanding and empathy among the nurses. Nurses stated that this enhanced understanding enabled them to establish and maintain more effective therapeutic relationships.

Fourthly, based on the constructed time-line, collaboration agreements were made. For the cases in which this was successfully applied (63%), patients and nurses stated that it improved the quality of the therapeutic relationship and continuity of care. The clarification of mutual expectations and increased openness about the collaboration enhanced trust and diminished miscommunication, and based on statements from the interviews it prevented drop-out of treatment in 20% of the cases. Reasons for not making explicit collaboration agreements were that in some cases patients and nurses thought this was not necessary as their collaboration was fine as it was. In other cases the nurses perceived the collaboration as too complex and they avoided bringing up the quality of their collaboration.

8	9	10	11	12	13	14	15	16
3	0	8	16	0	4	12	7	10
-9.52[4]	4.66	-18.24[4]	-7.8[4]	.	-9.52	-12.38[4]	-4.87	-18.11[4]
42	95	92	74	32	21	35	.	161

24	25	26
3	.	8
-1.72	-1.12	-3.56
8	14	62

The fifth component of the preparation stage was making a crisis response card. Similar reasons were put forward for not doing so: in some cases patients and nurses did not expect that a crisis would occur, while in other cases patients were too instable to discuss crisis management properly. In the 25% of the cases where a crisis response card was made, patients mentioned increased awareness of their own capacities to manage a crisis.

The sixth component was the structured assessment of needs by means of the Camberwell Assessment of Need (CAN) and the translation of unmet needs into treatment objectives. Nurses perceived the use of the CAN as helpful in 75% of the cases. Assessing all domains of potential needs increased insight in the difficulties patients faced, especially if informal carers were also able to establish a CAN. Perceived unmet needs were prioritized and based on these priorities treatment objectives were established. Most patients valued their increased involvement in establishing treatment objectives.

The last component was drafting a treatment plan, in which all information from previous activities was combined. This succeeded in all but one case (93%). By having a treatment plan, supported by all involved partners, nurses reported that the goal orientation of the treatment process was much improved.

Concerning the preparatory stage, the contrast with Care as Usual was obvious. In CAU, building a treatment frame was hardly recognizable resulting in unorganized treatment. This was confirmed by the statements made in the interviews with patients and nurses, in combination with a lack of demonstrable

information about collaboration agreements, crisis management and care needs within the electronic health records.

Treatment stage

The treatment stage of the CCP consisted of four components, which in general were applied moderately well (Table 2; 2-5). In the following section, we will describe the characteristics indicative for positive or negative outcomes and compare them to CAU.

Early recognition and intervention

In four cases (25%) a complete relapse prevention plan was drafted. In three more cases a start was made with discussing risk behaviours and investigating triggers and early signs of risky behaviour. Some nurses felt that discussing suicidal behaviours triggered (suicidal) crisis and therefore avoided further discussion. Further, nurses did not always feel competent to discuss and manage suicidal behaviour adequately. Several patients had difficulties to reflect on their risk behaviours and recognize early signs and triggers. But if they succeeded, it increased insight in the emergence of their risk behaviour, which led to diminished impulsive or ineffective reactions during crisis. In the control condition managing risky behaviours was unstructured and relapse prevention plans only were made incidentally.

Problem Solving

Problem solving treatment (PST) was executed according to the protocol in four cases (25%). In all other cases problem solving was discussed, but merely explaining the advantages of increased problem solving skills did not lead to enhanced self-management as intended with PST. Two of the three nurses had prior experience with the intervention and felt competent to carry it out properly. Their patients mentioned feeling more competent in coping with problems. The other nurses used a diluted version of PST and did not use the worksheets as a result of which the contrast with CAU was not clearly visible.

Life orientation

The application of life orientation was scarcely executed according to the workbook exercises. Both nurses and patients mentioned that attention was paid to strengths and creating and validating positive experiences, but no contrast was found with CAU.

Psychoeducation

Four nurses provided psychoeducation and two of them used the information from the workbook for this purpose. In the two other cases psychoeducation was specifically focused on alcohol addiction and morbid overweight in combination with depression. In six cases nurses reported not feeling competent enough to provide psychoeducation and therefore avoided the provision of it. Similar to CAU, they commonly assumed their patients knew sufficiently well, but did not check how well patients were informed.

Evaluation stage

Nurses within the CCP were asked to evaluate treatment progress and collaboration every three months. This was in contrast with CAU with its standard evaluation of once a year. The three-month evaluation in CCP was successfully executed in four cases. In three of these cases patients (nearly) terminated treatment, partially due to the increased goal-orientation in treatment and appeal to self-management dictated by the CCP. In the control condition treatment plans had to be evaluated yearly but this was not always done accordingly.

Discussion

With this comparative multiple case study we aimed to provide structured pilot data concerning the feasibility and outcomes of a Collaborative Care Program for patients with severe personality disorders. The program aims to improve treatment for patients who do not benefit or have no access to the existing evidence based structured psychotherapies.

Six nurses, responsible for nine patients, were able to perform the CCP (moderately) well. Successful implementation was most evident in the preparatory stage of CCP. Eight of these patients showed positive results on the main outcomes. The three other nurses, responsible for seven patients, did not perform the CCP according to the intervention protocol. Despite the incomplete implementation of the CCP and the small sample, we found a significant decrease of borderline symptoms in the experimental condition, when compared with the control condition. Other outcomes did not show significant differences, but several outcomes showed clinically relevant, medium to large effect sizes. Mental health care utilization was significantly higher among patients in the experimental condition. This could partially be explained by the required higher frequency of contacts to build the treatment frame within the CCP. It should be interesting to investigate if these efforts will be repaid over time by diminishing crisis interventions. In general, nurses held the opinion that the CCP helped them by providing necessary structure in taking care for this difficult-to-treat patient group. Informal carers reported to be more actively involved in treatment and also reported statisti-

cally non-significant, but clinically relevant benefits.

In explaining the effects of CCP using largely qualitative data we identified three core elements of CCP: 1) improved goal orientation in treatment, 2) a stronger appeal to self-management skills of patients and 3) improved skills in establishing and maintaining effective therapeutic relationships for all those involved. As a consequence, both nurses and patients were more critical about why and with which objectives patients received care in contrast with CAU. Even in cases where the implementation did not succeed, nurses identified these core elements.

Several other researchers investigated the contribution of nurses in providing care for patients with personality disorders within psychotherapies or as alternatives for psychotherapy (Woods and Richards, 2003;Kerr et al, 2007;Thompson et al, 2008;Amianto et al, 2011;McMain et al, 2012;Koekkoek et al, 2012). Generally, our positive effects of a shared theoretical framework for treatment, improved attention to the therapeutic relationship, and supervision confirm their conclusions. In addition to the current knowledge, the CCP adds an easy-accessible elaborated intervention managed by (community) mental health nurses.

Given the severe patient group and the lack of previous data on feasibility of CCP we decided to conduct a comparative multiple case pilot study as a first step to assess whether CCP may be a fruitful addition to the treatments already available for patients with severe personality disorders. The most important strengths of the design are that it allows highly structured and systematic comparison of the implementation and outcomes of CCP, using both quantitative and qualitative data. The comparative multiple case design also has a number of limitations that should be recognised. The most important limitation is that patients were not randomly assigned to CAU or CCP, but that two existing CMHC teams were recruited, nurses of one of which were trained to conduct CCP. Characteristics of patients, nurses and teams were highly comparable on most characteristics measured, but bias due to unmeasured confounders cannot be ruled out.

A second limitation is that we (deliberately) included a small number of patients in the study, which reduces the power of statistical tests comparing the effects of CCP with CAU. It is striking that, even with a very small sample size, the CCP had a statistically significant effect on borderline symptomatology when compared with CAU.

In conclusion, patients who either have not been able to benefit or have no access to structured psychotherapy may benefit from a Collaborative Care Program, managed by (community) mental health nurses. Although far from 100% successfully implemented, our data suggest that not only patients, but also their informal carers and the nurses involved in the treatment benefited from CCP. A larger Randomised Controlled Trial is warranted to test our preliminary results and investigate cost effectiveness of Collaborative Care for severe personality disorders.

REFERENCE LIST

Amianto, F., Ferrero, A., Piero, A., et al (2011) Supervised team management, with or without structured psychotherapy, in heavy users of a mental health service with borderline personality disorder: a two-year follow-up preliminary randomized study. BMC.Psychiatry, **11**, 181.

Bateman, A. and Fonagy, P. (2008) 8-year follow-up of patients treated for borderline personality disorder: mentalization-based treatment versus treatment as usual. Am J Psychiatry, **165**, 631-638.

Giesen-Bloo, J. H., van Dyck, R., Spinhoven, P., et al (2006) One-Year Follow-up of Schema focused therapy and Transference focused psychotherapy for BPD, and the influence of drop-out status, treatment status and medication. In *Crossing Borders: Theory, Assessment and Treatment in Borderline Personality Disorder* (ed. Giesen-Bloo), Maastricht: University Press Maastricht.

Giesen-Bloo, J. H., Wachters, L. M., Schouten, E., et al (2010) The Borderline Personality Disorder Severity Index-IV: psychometric evaluation and dimensional structure. Personality and Individual Differences, **49**, 136-141.

Hermens, M. L., van Splunteren, P. T., van den Bosch, A., et al (2011) Barriers to implementing the clinical guideline on borderline personality disorder in the Netherlands. Psychiatr.Serv., **62**, 1381-1383.

Jobes, D. A. (2006) *Managing Suicidal Risk. A Collaborative Approach.* New York: The Guilford Press.

Kerr, I. B., Dent-Brown, K., and Parry, G. D. (2007) Psychotherapy and mental health teams. Int.Rev.Psychiatry, **19**, 63-80.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009a) Community psychiatric nursing in the Netherlands: a survey of a thriving but threatened profession. J Psychiatr.Ment.Health Nurs, **16**, 822-828.

Koekkoek, B., van Meijel, B., and Hutschemaekers, G. (2010) Community mental health care for people with severe personality disorder: a narrative review. The Psychiatrist, **34**, 24-30.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009b) Clinical problems in community mental health care for patients with severe borderline personality disorder. Community Ment.Health J, **45**, 508-516.

Koekkoek, B., van Meijel, B., Schene, A., et al (2012) Interpersonal community psychiatric treatment for non-psychotic chronic patients and nurses in outpatient mental health care: a controlled pilot study on feasibility and effects. Int.J.Nurs.Stud., **49**, 549-559.

Linehan, M. M., Comtois, K. A., Murray, A. M., et al (2006) Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and borderline personality disorder. Arch Gen Psychiatry, **63**, 757-766.

McMain, S. F., Guimond, T., Streiner, D. L., et al (2012) Dialectical behavior therapy compared with general psychiatric management for borderline personality disorder: clinical outcomes and functioning over a 2-year follow-up. Am.J.Psychiatry, **169**, 650-661.

Polit D.F., Beck C.T. (2003) *Nursing Research. Principles and Methods. (7th edn)* Philadelphia: Lippincott, Williams & Wilkins.

Priebe, S., Huxley, P., Knight, S., et al (1999) Application and results of the Manchester Short Assessment of Quality of Life (MANSA). Int.J.Soc.Psychiatry, **45**, 7-12.

Stake, R. E. (2006) *Multiple Case Study Analysis*. New York: The Guilford Press.

Stringer, B., van Meijel, B., Koekkoek, B., et al (2011) Collaborative Care for patients with severe borderline and NOS personality disorders: a comparative multiple case study on processes and outcomes. BMC.Psychiatry, **11**, 102.

Thompson, A. R., Donnison, J., Warnock-Parkes, E., et al (2008) Multidisciplinary community mental health team staff's experience of a 'skills level' training course in cognitive analytic therapy. Int.J.Ment.Health Nurs., **17**, 131-137.

Twisk, J. (2003) *Applied Longitudinal Data Analysis for Epidemiology.* Cambridge: Cambridge University Press.

van den Bosch, L. M., Koeter, M. W., Stijnen, T., et al (2005) Sustained efficacy of dialectical behaviour therapy for borderline personality disorder. Behav Res Ther., **43**, 1231-1241.

van Manen, J. G., Kamphuis, J. H., Goossensen, A., et al (2012) In search of patient characteristics that may guide empirically based treatment selection for personality disorder patients-a concept map approach. J.Pers.Disord., **26**, 481-497.

van Luyn, B. (2007) Severe cases: management of the refractory borderline patient. In *Severe Personality Disorders. Everyday Issues in Clinical Practice.* (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

Verheul, R. and Herbrink, M. (2007) The efficacy of various modalities of psychotherapy for personality disorders: a systematic review of the evidence and clinical recommendations. Int.Rev.Psychiatry, **19**, 25-38.

Von Korff, M. (1997) Collaborative Management of Chronic Illness. Annals of Internal Medicine, **127**, 1097-1102.

Woods, P. and Richards, D. (2003) Effectiveness of nursing interventions in people with personality disorders. J.Adv.Nurs., **44**, 154-172.

Chapter 4

A Collaborative Care program for patients with severe personality disorders: Analyzing the feasibility of a complex intervention for complex nursing situations.

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ABSTRACT

We analyzed the feasibility of a Collaborative Care Program to assess whether CCP may be an adequate treatment model for patients with severe personality disorders. In 57 % of the cases CCP was applied moderately to well as opposed to 43% poorly applied CCPs. Four factors were identified explaining the process of execution, related to: the context in which CCP was executed, the patient population, CCP itself and the individual application of CCP by nurses. Several nurses were able to achieve effective execution and preliminary results of CCP are encouraging, indicating that CCP is feasible and might be beneficial to patients and nurses.

Trial registration number: NTR2763

Background

During the past two decades several structured psychotherapies regarding the treatment of patients with personality disorders have been developed and tested for effectiveness with positive results (Verheul and Herbrink, 2007;Bateman and Fonagy, 2008;McMain et al, 2012). A substantial group of patients, however, does not benefit from these psychotherapies or does not have access (van Luyn, 2007;Hermens et al, 2011;van Manen et al, 2012). These patients usually receive community mental health care (CMHC), mostly provided by (community) mental health nurses (Paris, 2007;Koekkoek et al, 2010). The treatment delivered by CMHC teams is, however, not standardized and generally unstructured (Koekkoek et al 2009a;Koekkoek et al 2010;Amianto et al 2011),

The treatment of patients with severe (borderline) personality disorders is considered as highly stressful for all care providers, but as several studies suggest, especially for nurses (Markham and Trower, 2003;Deans and Meocevic, 2006;Newton-Howes et al, 2008). Strong emotional responses towards the patient arise frequently, particularly when the disruptive behaviour of the patient is unpredictable and difficult to understand (Woollaston and Hixenbaugh, 2008;McGrath and Dowling, 2012). Combined with occasionally insufficient understanding of the complexity of BPD and a lack of evidence based interventions, nurses frequently feel frustrated when their efforts are not accepted and appreciated by the patient, thus reducing the effectiveness of care (Koekkoek et al, 2009b; Newton-Howes et al, 2008).

In order to optimize treatment for this vulnerable patient group and to support nurses in the difficult task to take care of these patients, we developed a Collaborative Care Program (CCP), managed by (community) mental health nurses. The strength of Collaborative Care models is that they combine the implementation of organizational aspects of care with the application of effective therapeutic interventions. Nurses have a prominent position in these models as they function as Collaborative Care managers, being responsible for both an optimal organization of treatment and a proper implementation. Collaborative Care models have proven to be effective for a variety of mental disorders in various settings (Woltmann et al, 2012). The CCP used in this study consists of several aligned structured interventions elaborated in a manual for professionals and patients (Stringer et al, 2011). In previous research we presented the feasibility and preliminary results of the CCP compared to Care as Usual, suggesting that CCP is feasible and could be beneficial to patients, their informal carers and nurses (Stringer et al, submitted).

The present study examines the process of execution of the Collaborative Care Program in order to gain a more profound insight in its feasibility. It may be expected that the above-mentioned factors specific to the population of patients with severe personality disorder complicate straightforward execution of CCP. At

the same time, other variables, such as organizational preconditions, and the fit of the intervention with existing work manners or the aimed target population, may also influence the process of execution (Grol and Grimshaw, 2003;Forsner et al, 2010). Making this process subject of study gives us the opportunity to learn how composite intervention programs could be implemented most effectively in clinical practice. In this study we aim to analyze the process of execution of the CCP for patients with severe personality disorders, and identify hampering and fostering factors in this process. The following research questions are formulated:

1. To what extent is the execution of the CCP realized?
2. Which factors hamper or foster effective execution?

Methods

Design

We used a comparative multiple case study design to study the process of execution of the CCP. This design is suitable when testing a new intervention, implemented in complex patient situations, in order to obtain a profound insight into its value (Stake, 2006). The study consisted of three measurements: at baseline (T0), at five (T1) and at nine (T2) months after baseline. Mixed research methods, both quantitative and qualitative, were used. To achieve the study objectives of this sub-study the qualitative data were used. In addition, to provide a general insight in the quantitative results, descriptives of the main outcome indicators were presented. A detailed description of the study protocol has been published elsewhere (Stringer et al, 2011).

The research project has been approved by the Medical Ethics Committee of the VU Medical Centre in Amsterdam, the Netherlands. All participants signed for informed consent based on both oral and written information about the research project.

Sample

Participants were recruited from two comparable CMHC teams of a large mental health organization in the Netherlands. In this study two treatment conditions were compared: an experimental condition in which one CMHC team provided the Collaborative Care program, and a control condition in which the other CMHC team offered Care as Usual (CAU). Usually, CMHC teams provide long-term support to patients who mostly had received (unfinished) specialized treatments before. Within both conditions, caseloads of participating nurses were screened for eligible patients, who were approached in random order. In the experimental condition a maximum of three patients was set for every nurse, to limit the required efforts regarding the execution of CCP.

Patients, aged between 18 and 65 years, had a main diagnosis of borderline personality disorder (BPD) or personality disorder not otherwise specified (PD NOS) (DSM-IV-TR). They had a score of 15 or higher on the Borderline Personality Disorder Severity Index (BPDSI, range 0-90) (Arntz et al, 2003;Giesen-Bloo et al, 2010) and had received psychiatric care for at least two years. In the study 53 patients were eligible for inclusion, the final sample consisted of 26 patients: sixteen in the experimental condition and ten in the control condition (Figure 1).

Ten nurses from the experimental condition and five nurses from the control condition were included in the study. Participation took place on a voluntary basis. Nurses who participated in the experimental condition received a three-days training in providing the Collaborative Care Program. From the originally ten nurses who were trained, four changed jobs during the research period. Three new nurses started and were trained individually by the first author. They continued the execution of the CCP where the previous nurses had stopped. In the end, 14 nurses could be followed up.

Based on our previous research, no significant differences in sample characteristics were found between the experimental and control condition (Table 1).

Figure 1: Flow chart of included patients

Experimental condition 9 nurses provided CCP	Control condition 5 nurses offered CAU
26 patients eligible for inclusion: 2 no informed consent 4 no permission to approach	**27 patients eligible for inclusion:** 7 no informed consent 10 no permission to approach
20 included 4 drop out: 1 had no faith in CCP 1 no faith in nurse 1 due to pregnancy 1 discharged herself before start intervention	**10 included**
Data from 16 patients at T0, T1, T2	Data from 10 patients at T0, T1, T2

Table 1: Sample characteristics

	Total	Experimental condition	Control condition	p-value
Patients n=26				
Age (mean, SD)	44.15 (10.4)	43.94 (11.7)	44.5 (8.7)	.897
Sexe (n, % female)	23 (88.5)	15 (93.8)	8 (80)	.286
Marital status (n, % unmarried)	20 (83.3)	12 (80)	8 (88.9)	.572
Diagnosis				.780
Main diagnosis BPD (n, %)	19 (73.1)	12 (75)	7 (70)	
Main diagnosis PD NOS (n, %)	7 (26.9)	4 (25)	3 (30)	
Co-morbid axis I-disorder(s) (n, %)	26 (100)	16 (100)	10 (100)	
Co-morbid somatic disorder(s) (n, %)	25 (96.2)	15 (93.8)	10 (100)	
GAF (mean, SD)	52.0 (9.9)	49.8 (11.0)	55.5 (6.9)	.153
Years of MHC treatment (mean, SD)	16.41 (10.0)	16.6 (10.7)	16.1 (9.5)	.923
Years in CMHC team (mean, SD)	2.68 (3.6)	1.9 (2.1)	3.8 (5.1)	.323
Nurses n= 14				
Age (mean, SD)	44.54 (7.8)	43.5 (5.5)	46.2 (11.1)	.567
Experience MHC (mean, SD)	19.90 (12.0)	17.26 (10.9)	25.16 (13.9)	.302
Experience CMHC team (mean, SD)	3.37 (3.7)	1.59 (1.2)	6.22 (4.7)	.093

The Collaborative Care Program

A detailed description of the content and aims of the CCP is provided elsewhere (Stringer et al, 2011). In short, the Collaborative Care Program consists of five components:

1. Adequate organization and coordination of care, with optimal collaboration between the main partners: patients, their informal carers, psychiatrists and nurses. This first component consisted of several activities:
    a. *Introduction* of the principles of Collaborative Care to the patient and informal carers;
    b. Forming of a *Collaborative Care team*, consisting of the above-mentioned partners;
    c. Evaluation of treatment history and coping skills with life-events, by means of a *time-line*;
    d. Explication of collaboration agreements. To emphasize the collaboration and mutual expectations and responsibilities, in the CCP a metaphor was used that described the collaboration as a therapeutic road trip in which the patient is the driver and the care provider the navigator (Jobes, 2006).
    With this road trip in mind, collaboration agreements were established;
    e. *Crisis management* by drafting a crisis response card;
    f. Systematic *assessment of needs* by means of the Camberwell Assessment of Needs (CAN);
    g. Formulation of a *treatment plan*, agreed upon in the Collaborative Care team.
2. Early recognition of destructive behaviours (i.e. suicidal, self-harm, aggressive or addictive behaviours) followed by early interventions, to promote self-management using a relapse prevention plan;
3. Application of Problem Solving Treatment (PST) to promote problem solving skills;
4. Application of elements of Solution Focused Treatment to support a more positive life orientation;
5. Provision of psychoeducation.

The first component referred to the preparation stage of the program, while the components 2 to 5 comprised the treatment per se. The objectives as described in the treatment plan were evaluated every three months within the Collaborative Care team.

Data collection

Qualitative data:

a. Individual in-depth interviews with nurses and patients were carried out. Interviews took place after the last measurement (T2) with all participating nurses (n=14). They were interviewed about one of their participating patients. These patients were interviewed as well after the last measurement, except one (lost to follow-up). The interviews with the nurses were conducted by a research assistant (PK); the interviews with the patients by the first author (BS). These separate responsibilities in the interviews were motivated by the fact that the first author was too closely involved with the nurses to ensure objectivity. All interviews were audio taped.

   In the interviews a topic list was used, referring to the underlying, neutrally formulated, principles of the CCP, e.g. quality of the therapeutic relationship, involvement of stakeholders, problem solving, coping with destructive behaviour, and self-management. For both conditions the same interview topic list was used, however the questions were adapted in line with the different treatment contexts in the experimental and control condition. From the perspective of either the nurse or the patient each topic was questioned on the basis of the following questions: 1) How was the topic applied in treatment, 2) What were the reasons for (un)successful application, 3) What were the actual consequences for treatment of successful or unsuccessful application of the topic, 4) What factors hampered or fostered the application of this topic? Preceding these questions, all participants were asked to reflect on the individual quantitative outcomes: How do these outcomes match with their expectations and how would they explain these outcomes? Ultimately, the participants from the experimental condition were asked to reflect on the feasibility of CCP in general.

b. Supervision records. During the application of the CCP nurses received monthly supervision, supervised by the first author. These supervisions were audio taped. These meetings focused on the individual application of the CCP and on hampering and fostering factors during the execution process.

c. Nurses from both conditions filled out process forms in which the number and content of contacts were registered. In the experimental group items were added to these forms, which provided additional insight in the treatment integrity of the CCP. In both conditions available treatment plans, crisis response cards and/or relapse prevention plans, derived from the electronic health record, provided additional information about the actual content of treatment.

Additional quantitative data:

The main outcomes were quality of life, measured with the Manchester Short Appraisal (MANSA) (Priebe et al, 1999), and severity of the borderline manifestations, measured with the Borderline Personality Disorder Severity Index (BPDSI) (Arntz et al, 2003;Giesen-Bloo et al, 2010). The MANSA is a 16-item self-report scale, which measures quality of life with 7-point Likert scales, with higher scores indicating higher quality of life. The BPDSI is a semi-structured interview conducted among patients, which represents the current severity and frequency of the DSM-IV BPD manifestations. The BPDSI consists of 70 items, with a total score ranging from 0-90. A cut-off score of 15 was found to distinguish patients with BPD from healthy controls (Giesen-Bloo et al, 2006).

Analyses

For determining the actual application of the CCP, referring to the first research question, the well-applied components were assessed by using a classification with four levels: components could be applied optimally, appropriately, moderately or not/barely (Stringer et al., submitted). The sum of optimally or appropriately applied components (range 0-12) was used as a measure of treatment adherence in which three levels were distinguished: 0-5 poor application; 6-8 moderate application; 9-12 good application. In the control condition an assessment was made to which extent the underlying principles of the CCP had been applied recognizably in Care as Usual. This assessment was only possible for the cases with interview data (n=5). The scoring was repeated by a second rater (PK) to assess inter-rater reliability. The intra-class correlation was .96 ($p < .000$).

For answering the second research question, i.e. investigating hampering and fostering factors in the process of execution, a content analysis was performed of all qualitative interviews and supervision sessions, which were transcribed verbatim. With regard to the interviews, single case descriptions were made as a first step to acquire insight into the process of the execution at individual case level and identify fostering and hampering factors. With regard to the transcriptions of the supervision sessions, recurring surpassing themes were identified referring to problems with the individual application of the CCP. Subsequently, we used the aggregated qualitative data of the single case descriptions and content analysis of the transcriptions of the supervision sessions to analyse these factors at group level.

Additionally, at individual case level difference scores (T2 - T0) were computed for the main outcome indicators quality of life (MANSA) and severity of BPD manifestations (BPDSI).

The qualitative data were analysed using ATLAS-TI qualitative text analysis software. The credibility and dependability of the data were ensured by peer debriefing among members of the research group and member checking, meaning

that the single case descriptions were presented to the interviewees for feedback (Polit and Beck, 2003). Quantitative data were analysed using SPSS 20.

Results

Initial acceptation of the intervention

The flow chart for inclusion (Figure 1) shows that in the experimental condition 13% of the patients were lost for inclusion, because no permission of the nurse had been obtained to approach them, due to presumed vulnerability of patients, compared to 40% in the control condition. The nurses in the control condition were more reluctant than those in the experimental condition, to allow their patients to participate in research, because they expected no benefits from participation in the control condition and considered the burden of participation unacceptably high. Further, in the experimental condition 6% refusals for informed consent were encountered, opposed to 28% in control condition, indicating a high acceptance rate of the CCP research project. In the experimental condition 20% dropped out, but only one due to a lack of giving credence to CCP, compared to no drop out in the control condition. The CCP training, given to the nurses in the experimental condition in advance of the actual start, was well received with a mean appreciation score of 4 (SD 0.9; scoring range 0-5) and a mean score for perceived competency in applying the CCP of 6.5 (SD 1.1; scoring range 0-10).

The application of the CCP compared to the treatment applied in CAU

Based on Table 2, it can be seen that in 4 cases (25%) the CCP was applied well, because at least 9 out of 12 of the CCP components were executed optimally or appropriately. In another 32% of the cases CCP was moderately applied (6 or 7 components optimally / appropriately applied). In 43% of the cases the CCP was poorly applied, with two well-applied components of CCP as minimum; these cases should be considered as treatment drop outs, because patients were insufficiently exposed to the intervention.

Table 3 (pag. 112-113) relates treatment adherence in the experimental condition to the results of the main outcome indicators at individual case level. With some exceptions, there seems to be a positive relation between treatment adherence and results.

Influencing factors for effective execution of CCP

Based on the aggregated data of the interviews and supervision records, four interdependent factors could be identified:

1. Factors related to the context in which CCP was executed;
2. Factors related to the patient population
3. Factors related to the CCP
4. Factors related to the individual application of CCP by the nurses

In the following section the factors will be elucidated sequentially and are summarized in Table 4.

1. Context of CCP

The application of the CCP took place in a context in which several preconditions were poorly met during the research period. The CMHC team was highly instable during the research period, i.a. due to many changes within treatment staff. This threatened the continuity of care and entire implementation of the research project. The work and administration burden was considered high because of vacancies and training of new nurses. As a result of these vacancies, the case loads of the nurses were overcrowded. Further, nurses considered the multidisciplinary embedment and support of CCP insufficient: they perceived little commitment of other disciplines and management staff. Moreover, no shared caseloads were accomplished, as a result of which especially three nurses perceived high levels of work-related stress in caring for their most severely ill patients. The patients involved did such a strong emotional appeal to the nurses by continuously expressing suicidal behaviour, which the nurses could hardly endure and burned them out. This hampered execution of CCP, because it resulted in the premature detachment of the CCP protocol.

Although the CCP training was well received, the time between training and actual start of CCP was long due to inclusion delay. As a consequence the acquired knowledge and skills weakened and nurses' self-confidence regarding the application of the CCP diminished, hampering effective execution. Lastly, presence during supervision sessions was limited to an average of three participants per session, mainly because of the high work burden. Because of this limited participation of the nurses the supervision sessions were made obligatory half way the research period. This obligation ensured that more nurses attended the sessions,

Table 2: Actual application of treatment: the CCP compared to CAU

	Experimental condition									
Components/ Cases	1	2	3	4	5	6	7	8	9	10
Preparation										
1a. Introduction	++	+	+	+	+	+	+	+	+	+
1b. Forming a CCT	+	+	+	–	–	+	–	+/–	+	–
1c. Time-line	+	+	+	+	–	+	+	+	++	+
1d. Collaboration agreements	+	++	+	–	–	++	–	–	++	–
1e. Crisis management	+	–	+	–	–	–	–	–	++	–
1f. Assessment of Needs	++	+/–	+	+	–	+	+	+	++	–
1g. Treatment plan	–	++	++	+	+	++	+	+	++	+
Treatment										
2. Early recognition and intervention of destructive behaviour	–	++	+/–	–	–	++	–	–	++	–
3. Problem Solving Treatment	+/–	+	–	–	–	+	–	–	+	–
4. Life orientation	+/–	++	+/–	+/–	–	+/–	–	–	+/–	–
5. Psychoeducation	–	+	–	–	–	–	–	–	+/–	–
Evaluation										
Treatment plan	–	+	–	–	–	+	–	–	–	–
Total 'treatment adherence'	6	10	7	4	2	9	4	4	10	3

++ : *Component was optimally applied; worksheets, documents from the electronic health record and/or process forms as proof*

\+ : *Component was appropriately applied; process forms, statements in interviews with patient and nurse as proof*

+/– : *Component was moderately applied; statements in interviews with patient or nurse as proof*

– : *Component was not or barely applied; no proof available or statements in interviews with patient and nurse as proof*

								Control condition								
	11	12	13	14	15	16		17	18	19	20	21	22	23	24	25	26
	+	+	++	+	+	+		–		+	+			–			+
	–	–	–	+	+	++		+		–	–			+			+
	++	+	++	+	–	++		+		–	–			–			–
	–	+	++	++	+	++		–		–	–			–			–
	+/–	–	–	–	–	++		–		–	–			–			+
	+/–	+	++	+	+	++		–		–	–			–			–
	+	+	++	+	+	++		+		+	+			+/–			+
	–	–	++	–	–	+/–		–		–	–			–			+
	–	–	++	–	–	–		–		–	–			+/–			–
	–	–	+	–	–	–		+/–		+	+/–			+/–			+/–
	–	–	–	+	–	+		–		–	+/–			–			–
	–	–	+	–	+	–		–		–	+			–			?
	3	5	9	7	6	7		3		3	3			1			5

Table 3: Treatment adherence related to the results of the main outcome indicators at individual case level

CASES experimental condition	1	2	3	4	5	6	7
Treatment adherence[1]	6	10	7	4	2	9	4
Diff MANSA[2]	-10	17	.	1	-4	4	0
Diff BPDSI[3]	-6.15	-16.73[4]	-9.96[4]	5.64	-0.03	-16.6[4]	11.36

1 *Treatment adherence derived from Table 2.*
2 *Difference score T2-T0 for the Manchester Short Appraisal at individual case level.*
3 *Difference score T2-T0 for the Borderline Personality Severity Index at individual case level.*
4 *BPDSI score dropped below cut-off point of 15 points.*

but initially it decreased motivation for CCP. During supervision sessions experiences with CCP were shared and the execution of the diverse components of CCP, including maintaining effective therapeutic relationships, was boosted. This increased specific skills related to the application of CCP and basic knowledge and skills regarding the treatment of patients with severe personality disorders. Consequently, it fostered acurate execution of CCP.

2. Specific features of the patient population

The patient population for which the CCP has been developed can be characterized by a strong will to survive despite long-lasting suffering. However, the patient population had also several features that complicated effective execution.

Firstly, presumed incapacities of patients to work according to CCP were repeatedly put forward in supervision sessions and the interviews. Some of these incapacities were related to the aforementioned 'therapeutic road trip': 'Does every patient have a driver's license?' or 'Is each patient at least able to attain one?' or 'Is it safe that this patient drives?' were frequently asked questions during the supervision sessions. And consequently, what if not? CCP relied on autonomy and responsibility of the patients, but questions raised how to apply CCP when patients could not manage this autonomy or responsibility. This accounted especially for five patients with severe cognitive problems (and low IQ). Besides dilemmas with regard to autonomy, severe cognitive problems had also negative consequences for concentration, memory and understanding. This impeded execution because provided information had to be repeated frequently and homework was not made.

8	9	10	11	12	13	14	15	16
4	10	3	3	5	9	7	6	7
3	0	8	16	0	4	12	7	10
-9.52[4]	4.66	-18.24[4]	-7.80[4]	.	-9.52	-12.38[4]	-4.87	-18.11[4]

Secondly, difficulties to establish and maintain stable interpersonal relationships, specific to patients with severe personality disorders, hampered or delayed execution of CCP. These difficulties were often put forward in supervision sessions and were also related to the 'therapeutic road trip': 'How to act if you, as a nurse, are kicked out the car?' or 'What if the patient just stopped the car'? In at least five cases effective execution was hampered, because of problems within the therapeutic relationship. On the one hand, frequent no shows, expressing ambivalence towards treatment, raised questions about when treatments could or should be ended. On the other hand, when patients claimed frequent contacts, while they simultaneously expressed an extreme passive or dependent attitude, the same questions raised about the added value of continuing treatment. A related problem was that several patients expected their nurses to solve all their problems: they forgot 'how to drive' or they had no idea 'where to go or how to get there'. After many years of treatment, they were ingrained with MHC and heavily dependent on MHC. As a result they unlearnt skills how to take responsibility for their own lives and how to cope with daily problems. Again, the emphasis on self management skills in the CCP might have overcharged some of the patients.

Thirdly, demoralization lurked among patients. Patients reported that the occurrence or burden of several core features of their BPD diminished over time, e.g. acting out, avoidance of /withdrawal from relationships, and lack of stable support. However, they considered the remaining symptoms, such as affect instability, emptiness, chronic suicidal behaviours, and severe social problems as difficult to cope with and less responsive to change. As a consequence, due to this limited responsiveness to change, demoralization arose. This demoralization hampered effective execution in cases where patients did not expect that CCP

Table 4: Summary of hampering and fostering factors

	1. Context	2. Specific features of patient population
Hampering	• Discontinuity of care providers due to long-lasting illnesses, burn outs, frequent job changing and a vacancy stop due to cost reductions • Insufficient multidisciplinary embedment and support of CCP • Change of electronic health record (EHR) software system requiring extra effort to get used to the new system • Time between training and actual start of CCP • Limited presence during supervision session	• Limited autonomy and self management • Turbulent therapeutic relationships • Cognitive problems • Limited responsiveness to change leading to demoralization • Dependency on MHC • High crisis sensitivity • Severe life events and social problems
Fostering	• High acceptance rate of CCP project • Well received CCP training • Eagerness to enlarge knowledge and skills with regard to the specific patient population • Sufficient perceived competency in applying CCP in advance • Supervision sessions boosted generic and specific skills regarding the application of CCP	• Strong will to survive • Highly motivated to participate in CCP project

3. CCP intervention	4. Individualized application the of CCP
• Unfamiliarity with working according to protocol • Uncertainty regarding the new intervention • Limited overview of CCP due to multitude of components • Difficulties to position the function of CC manager • Insufficient integration of CCP with (new) EHR: it needed relocation of information from the workbook to EHR and information was not available for stakeholders	• Problems in adjusting the protocol to the individual patient • Non-commitment and demoralization • Poor agenda setting • Avoiding addressing serious problems
• CCP considered as helpful and 'effective' • CCP provided necessary structure • Improvement of generic skills in treatment of target population • 'Therapeutic road trip' • Positive evaluation of increased collaboration with stakeholders	• Endurance • Creativity • Eclectic working style • Higher education level

would change anything. Moreover, nurses were at risk to be contaminated by this demoralization.

3. The intervention CCP

To approach this patient population CCP was developed as an easy-accessible composite intervention program, but application appeared to be more complex than expected, with negative consequences for the execution. In general, nurses were positive about the intervention itself and several components of the CCP were considered 'effective' and 'helpful'. They reported that it provided necessary structure to the treatment process and that relevant skills were trained for effectively treating patients with severe personality disorders. Especially the 'therapeutic road trip' and the increased attention paid to goal orientation were attractive to nurses.

However, the application of the composite intervention and executing the function of CC manager appeared to be complex for most nurses. Nurses found it difficult to deal with the experienced tension between working according to the protocol and providing patient-oriented care based on the specific needs and preferences of patients. Generally, the participating nurses were unfamiliar with working according to protocols. They reported uncertainty regarding the execution of CCP, partly due to the time elapsed between the training and start of the CCP. This seems inconsistent with the fact that the manual, intended to provide the necessary support when executing the intervention, was not or barely used. It seems also inconsistent with the limited presence during supervision sessions. Some nurses also reported insufficient skills needed to apply the single treatment components of the CCP properly.

The organization and coordination of care within the Collaborative Care team and with stake holders, as elaborated in the CCP, raised questions about the degree of outreach and responsibility of the members of the CMHC team with regard to this patient population: How to deal with no-shows? In which situations are home visits advisable? At what point can treatment be ended? How pro-active should we act towards family guardians, and care providers of addiction or general health care services? Apart from these questions, nurses considered the increased collaboration with stakeholders and informal carers a valuable component of CCP.

4. Individualized application of CCP

Applying the CCP among difficult-to-treat patients required much effort and skills of nurses. It was emphasized during the CCP training and repeated during supervision sessions that the different components of the program, especially during the treatment stage, could be applied in a flexible order, dependent on the priorities in unmet needs and the preferences of the patient. Although CCP offered

a goal-oriented structure, it was up to the nurses to adjust this structure to the preferences and characteristics of each individual patient. Four nurses who had an eclectic working style were able to switch between and adapt components of CCP in order to meet patient's needs, resulting in effective execution of CCP. However, in several cases this process of adjusting did not work out and in some cases it even shifted towards non-commitment. Some nurses appeared to be unable to switch between components of CCP without 'losing' the patient; they got stuck and ultimately put aside CCP. Nurses confronted with highly complex patients considered this process of adjusting as (too) difficult, motivated by problems within the therapeutic relationship, cognitive problems, crisis sensitivity or demoralization.

Another related problem was the poor agenda setting: nurses were overruled by daily worries of patients, e.g. severe life events, discontinuity due to psychotic episodes or admissions, severe social problems and high crisis sensitivity. It appeared to be highly complicated for nurses to relate these daily problems to components of CCP, explaining the limited execution of specifically the components problem solving treatment and life orientation. Nonetheless, nurses reported that the repeated emphasis on goal orientation had a positive effect on the management of the treatment process, independent of the strict application of the CCP.

Finally, in some cases execution was hampered because nurses avoided addressing the core problems as elaborated in CCP. Occasionally, nurses reported to avoid discussing suicidal ideation or behaviours out of fear to trigger suicidal crisis or to disturb 'agreeable' therapeutic relationships. Moreover, they reported not feeling sufficiently competent to cope with crisis: they had a strong emphasis on preventing suicide instead of trying to understand the underlying distress and to refocus the patient to work at resolving life problems. As a result of this avoidance, drafting crisis response cards and relapse prevention plans combined with providing psychoeducation and the component life orientation were implemented inadequately. Another topic of avoidance was that nurses not always addressed lack of progress in treatment out of fear to disturb these 'agreeable' therapeutic relationships. In several cases, however, after discussing these avoidances in supervision sessions, nurses brought up the core problems after all and yielded a breakthrough in the treatment.

Discussion

Main findings

In this study we aimed to analyze the process of execution of CCP for patients with severe personality disorders and identify hampering and fostering factors in this process. One main finding is that CCP is feasible. In 57% of the treatments CCP was moderately to well applied as opposed to 43% of the treatments poorly carried out. Execution was most successful in the preparation stage of CCP. Four interdependent factors were identified explaining the process of execution. Firstly, context variables are indicative for (in-) effective implementation (Grol & Grimshaw, 2003; Forsner et al., 2010). In our study we found a high initial acceptance rate of the project, a well received CCP training and sufficient perceived competence among nurses. However, to some extent, conducting research in everyday clinical practice is subject to adverse conditions and both researchers and professionals have to deal with them in the best possible way, in the end being modest in their expectations. In line with our expectations, features of the target population had a hampering effect on the execution of CCP. These features, however, are specific to the patients' psychopathology and the main reason why CCP was developed in an effort to meet their problems and needs. Nonetheless, one might wonder if we still have overcharged some patients with the appeal to autonomy and self management and if CCP is applicable to all patients. Some patients suffer from such poor identity integration and ego-strength, needing a more supportive treatment than CCP might offer (van Manen et al., 2012). On the other hand, unsuccessful execution of CCP should not too easily being attributed to patient characteristics only, because our findings also reveal that the incapacity of nurses to manage the CCP intervention in complex situations play a role. Thirdly, the CCP intervention itself appeared to have both fostering and hampering features. These features give indications how to adapt CCP to improve feasibility and facilitate execution. Finally, the key to successful execution is the individualized application of CCP by the nurses. As has been shown, four nurses with an eclectic working style were capable to execute the CCP properly. However, our research revealed also that this step was most complicating due to a more general unfamiliarity of nurses with working according to a protocol, problems in adjusting this specific protocol to the individual patient, poor agenda setting and avoidance of core problems of patients of our target group. Simultaneously, nurses made limited use of the provided support (supervision sessions and manual). Apparently, with respect to five nurses, we and perhaps they also, have underestimated the required knowledge and skills needed to apply CCP adequately. Nonetheless, it could be argued that nurses need to be capable to apply composite intervention programs, in order to meet the specific problems and needs of the patient population. Many of these problems and needs belong (at least partially) to the nursing intervention domain,

as they are related to living with the consequences of a chronic psychiatric illness: a combination of mostly reduced psychopathological symptoms and severe social and interpersonal problems. Besides, the current organization structure of CMHC with limited availability of psychiatrists and psychotherapists, motivated by cost reductions and shift of tasks towards the nursing profession, stresses the urgency that nurses are well equipped to fulfill their professional responsibility.

When compared to studies concerning CCPs for other mental disorders, mainly affective and anxiety disorders, one could argue that we have overstretched the concept of Collaborative Care in applying it to difficult-to-treat patients within a specialized mental health care setting. Critical features distinguish patients with severe personality disorders from other target populations: easily triggered disturbances within therapeutic relationships and the persistent threat of suicidal, self harm and addictive behaviours complicate a straight-forward application of a CCP. However, these critical features also stress the urgency for CCP for this patient population and both patients and nurses evaluated the intervention positively. Moreover, we found a satisfying effect size for decrease in borderline symptoms in previous research, indicating that CCP is promising (Stringer et al, submitted).

Recommendations for effective execution

Based on the findings of this study several recommendations can be made to facilitate effective execution. Even though we may have little influence on the conditions under which interventions are implemented, it is important to stress that working with this target group is demanding upon nurses and professionals from other disciplines, and consequently, support and facilitation from managers is necessary (van Luyn, 2007). This target population justifies a lower caseload, given the complexity of their problems and needs, and high care consumption. Furthermore, to reduce the perceived burden, CCP should be adequately embedded in the multidisciplinary collaboration by involving the other disciplines more actively in training, supervision and treatment. Moreover, the treatment of patients with severe personality disorders within a CMHC setting requires organizational policy in relation to patient groups with other psychiatric, mainly psychotic, disorders: policy regarding degree of outreach, intensive outpatient treatment, short admissions, and criteria for in- and outflow will be different for our target population. The CCP itself might need some adaptation as well: a modular system of the different treatment components, as opposed to the current protocol, might facilitate execution. With a modular system it may be easier to motivate why some treatment components have priority in a given patient situation. For patients it may be easier to choose which components correspond with their needs and to define priorities. Finally, the prominent position of nurses in complex and composite intervention programs is relatively new, posing new challenges for mental

health nurses to make these programs work. This has consequences for the required competence levels of mental health nurses regarding clinical reasoning, proper use of different theoretical frameworks, methodical execution of interventions, and adequate planning and coordination of care within multidisciplinary cooperation. Higher educated nurses are needed, preferably coached on the job by clinical nurse specialists and academically trained professionals. Also, more profound training in the skills needed to apply CCP appeared to be necessary. Permanent supervision sessions are needed to support nurses in the execution of these complex interventions programs for difficult-to-treat target groups.

Strengths and limitations

In this research project we conducted a comparative multiple case pilot study as a first step to assess whether CCP may be an adequate treatment model for patients with severe personality disorders, in particular patients who are currently treated in community mental health centres. The most important strength of the comparative multiple case study design is that it allows highly structured and systematic evaluation of the implementation and outcomes of CCP, within both an experimental and control condition. For methodological triangulation we used quantitative and qualitative data, thus obtaining insight into both the experiences of patients and professionals, and into the quantitative outcomes of the intervention program. This study also has a number of limitations that should be recognised. Firstly, the involvement of the primary investigator (BS): she developed the manuals, served as the supervisor of the supervision sessions, interviewed the patients and was leading in all analyses. However, to warrant the quality of research the following precautions were made: assigning the interview with nurses to an independent co-author (PK), peer reviewing of all analysis with this co-author (PK), peer reviewing findings within the research group, assessing the interrater reliability of the classification of application, and member checking. Secondly, some bias may be caused by including nurses on voluntary basis, implicating that they had affinity with the target population.

Conclusion

In this study four factors could be illuminated which influenced effective execution of a collaborative intervention program for patients with severe personality disorder. Although challenging, effective execution of CCP was achieved by some of the nurses and preliminary results of CCP are encouraging. This indicates that CCP is feasible and might be beneficial to patients, their informal carers and nurses. Following the recommendations for effective execution, effectiveness of CCP might be increased and tested in a future RCT.

REFERENCE LIST

Amianto, F., Ferrero, A., Piero, A., et al (2011) Supervised team management, with or without structured psychotherapy, in heavy users of a mental health service with borderline personality disorder: a two-year follow-up preliminary randomized study. BMC.Psychiatry, **11**, 181.

Arntz, A., van den Hoorn, M., Cornelis, J., et al (2003) Reliability and validity of the borderline personality disorder severity index.J Pers.Disord, **17**, 45-59.

Bateman, A. and Fonagy, P. (2008) 8-year follow-up of patients treated for borderline personality disorder: mentalization-based treatment versus treatment as usual. Am J Psychiatry, **165**, 631-638.

Deans, C. and Meocevic, E. (2006) Attitudes of registered psychiatric nurses towards patients diagnosed with borderline personality disorder. Contemp.Nurse, **21**, 43-49.

Forsner, T., Hansson, J., Brommels, M., et al (2010) Implementing clinical guidelines in psychiatry: a qualitative study of perceived facilitators and barriers. BMC.Psychiatry, **10**, 8.

Giesen-Bloo, J. H., Wachters, L. M., Schouten, E., et al (2010) The Borderline Personality Disorder Severity Index-IV: psychometric evaluation and dimensional structure. Personality and Individual Differences, **49**, 136-141.

Giesen-Bloo, J. H., van Dyck, R., Spinhoven, P., et al (2006) One-Year Follow-up of Schema focused therapy and Transference focused psychotherapy for BPD, and the influence of drop-out status, treatment status and medication. In *Crossing Borders: Theory, Assessment and Treatment in Borderline Personality Disorder* (ed. Giesen-Bloo), Maastricht: University Press Maastricht.

Grol, R. and Grimshaw, J. (2003) From best evidence to best practice: effective implementation of change in patients' care. Lancet, **362**, 1225-1230.

Hermens, M. L., van Splunteren, P. T., van den Bosch, A., et al (2011) Barriers to implementing the clinical guideline on borderline personality disorder in the Netherlands. Psychiatr.Serv., **62**, 1381-1383.

Jobes, D. A. (2006) *Managing Suicidal Risk. A Collaborative Approach.* New York: The Guilford Press.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009a) Community psychiatric nursing in the Netherlands: a survey of a thriving but threatened profession. J Psychiatr.Ment.Health Nurs, **16**, 822-828.

Koekkoek, B., van Meijel, B., and Hutschemaekers, G. (2010) Community mental health care for people with severe personality disorder: a narrative review. The Psychiatrist, **34**, 24-30.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009b) Clinical problems in community mental health care for patients with severe borderline personality disorder. Community Ment.Health J, **45**, 508-516.

Markham, D. and Trower, P. (2003) The effects of the psychiatric label 'borderline personality disorder' on nursing staff's perceptions and causal attributions for challenging behaviours. Br.J Clin Psychol., **42**, 243-256.

McGrath, B. and Dowling, M. (2012) Exploring Registered Psychiatric Nurses' Responses towards Service Users with a Diagnosis of Borderline Personality Disorder. Nurs.Res.Pract., **2012**, 601918.

McMain, S. F., Guimond, T., Streiner, D. L., et al (2012) Dialectical behavior therapy compared with general psychiatric management for borderline personality disorder: clinical outcomes and functioning over a 2-year follow-up. Am.J.Psychiatry, **169**, 650-661.

Newton-Howes, G., Weaver, T., and Tyrer, P. (2008) Attitudes of staff towards patients with personality disorder in community mental health teams. Aust.N.Z.J Psychiatry, **42**, 572-577.

Paris, J. (2007) Managing suicidal crises in patients with severe personality disorders. In *Severe Personality Disorders. Everyday Issues in Clinical Practice*. (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

Polit D.F., Beck C.T. (2003) *Nursing Research. Principles and Methods.* (7th edn) Philadelphia: Lippincott, Williams & Wilkins.

Priebe, S., Huxley, P., Knight, S., et al (1999) Application and results of the Manchester Short Assessment of Quality of Life (MANSA). Int.J.Soc.Psychiatry, **45**, 7-12.

Stake, R. E. (2006) *Multiple Case Study Analysis*. New York: The Guilford Press.

Stringer, B., van Meijel, B., Koekkoek, B., et al (2011) Collaborative Care for patients with severe borderline and NOS personality disorders: a comparative multiple case study on processes and outcomes. BMC.Psychiatry, **11**, 102.

Stringer,B., van Meijel,B., Karman,P., et al (submitted) Feasibility and preliminary results of a Collaborative Care program for patients with severe personality disorder.

van Luyn, B. (2007) Severe cases: management of the refractory borderline patient. In *Severe Personality Disorders. Everyday Issues in Clinical Practice.* (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

van Manen, J. G., Kamphuis, J. H., Goossensen, A., et al (2012) In search of patient characteristics that may guide empirically based treatment selection for personality disorder patients-a concept map approach. J.Pers.Disord., **26**, 481-497.

van Meijel, B., Gamel, C., van Swieten-Duijfjes, B., et al (2004) The development of evidence-based nursing interventions: methodological considerations. J Adv.Nurs, **48**, 84-92.

Verheul, R. and Herbrink, M. (2007) The efficacy of various modalities of psychotherapy for personality disorders: a systematic review of the evidence and clinical recommendations. Int.Rev.Psychiatry, **19**, 25-38.

Woltmann, E., Grogan-Kaylor, A., Perron, B., et al (2012) Comparative effectiveness of collaborative chronic care models for mental health conditions across primary, specialty, and behavioral health care settings: systematic review and meta-analysis. Am.J.Psychiatry, **169**, 790-804.

Woollaston, K. and Hixenbaugh, P. (2008) Destructive Whirlwind: nurses' perceptions of patients diagnosed with borderline personality disorder. J.Psychiatr.Ment.Health Nurs., **15**, 703-709.

Chapter 5

Perceived need for care and health care utilization among depressed and anxious patients with and without suicidal ideation.

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ABSTRACT

Background

Information about perceived needs and the amount of health care utilization of persons with suicidal ideation (SI) compared to those without SI is scarce.

Aims

To describe needs and health care use of persons with and without SI and investigate whether these differences are associated with severity of the axis-I symptomatology.

Methods

Data were obtained from 1699 respondents with a depressive and/or anxiety disorder who participated in the Netherlands Study of Depression and Anxiety. Persons with and without SI were distinguished. Outcome variables were perceived needs and health care utilization. We used multivariate regression in two models: (1) adjusted only for socio-demographic variables and (2) additionally adjusted for severity of axis-I symptomatology.

Results

Persons with SI had higher odds for both unmet and met needs in almost all domains and made more intensive use of mental health care. Differences in needs and health care utilization of persons with and without SI were strongly associated with severity of axis I symptomatology.

Conclusions

Our results validate previous findings about perceived needs and health care use of persons with SI. The results also suggest that suicidal persons are more seriously ill and that they need more professional care, dedication and specialized expertise than anxious and depressed persons without SI, especially in the domains of information and referral.

Introduction

Worldwide approximately one million people die from suicide each year, which makes suicide an important public health issue in many countries (Bertelote and Fleischmann, 2009). Suicidal ideation is a necessary, yet no unique, predictor for future suicidal behaviour (Ten Have et al, 2009;Ten Have et al, 2011). Several studies reveal that anxiety and depressive disorders increase the risk for suicidal ideation, suicide attempts and completed suicide (Angst et al, 1999;Sareen et al, 2005a;Ten Have et al, 2009). Previous work also suggests that patients with suicidal ideation are likely to experience more needs, both unmet and met, than those without suicidal ideation, whether or not they have actually contacted mental health services (Pirkis et al, 2001a, 2001b; Sareen et al, 2005b;Brook et al, 2006;Pagura et al, 2009). However, the quantity of mental health care contacts is not taken into account, while there may be differences in non-consumers, moderate consumers and high consumers of mental health care. And although there are studies which thoroughly investigate the specific type of perceived needs among depressed and anxious persons, few studies provide detailed information about the needs of suicidal persons in particular (Pirkis et al, 2001a;Pagura et al, 2009). Perceived needs are defined as the patient's perception that one needed a kind of professional help. Perceived needs can be subdivided in no needs, unmet needs or met needs (Meadows et al, 2000). Unmet needs are a strong predictor of low quality of life, negative health perceptions and health expenses (Slade et al, 1999;Slade et al, 2004;Wiersma, 2006). Health care is more likely to be effective if it meets the perceived needs of patients.

In case of suicidal persons it seems, however, difficult to meet their needs, despite their frequent contacts with (mental) health care providers. There might be several explanations for the difficulty in meeting their needs. Studies have shown that suicidality in patients is associated with perceived lack of knowledge, understanding of, and empathy with suicidal behaviour among (mental) health care professionals (Taylor et al, 2009). Their fear of a suicide may provoke feelings of powerlessness or excessive responsibility, each of which may have negative consequences for the therapeutic relationship (Hendin et al, 2006;Jobes, 2006;Goldblatt and Waltsberger, 2009). These cognitions or interaction problems may have their influence on help-seeking or perceived needs. Additionally, suicidal persons experience attitudinal barriers to seeking help, such as shame, hopelessness, trying to solve problems alone, fear of stigma, etc. (Bruffaerts et al, 2012). One other possible explanation, however, is that the driver for unmet needs is not the suicidal ideation itself, but the severity of the axis-I symptomatology. For clinical practice it is important to have an answer to this matter because of its implications for treatment. If this last explanation is true, effective treatment should focus more strongly

on the severity of the anxiety and depressive disorders.

For the present study, the objective is two-fold. At first, we describe the perceived needs of care and health care utilization of persons with and without suicidal ideation. Secondly, we aim to examine whether severity of the axis-I symptomatology explains the differences in perceived needs and health care utilization between persons with and without suicidal ideation.

Methods

Study sample

The Netherlands Study on Depression and Anxiety (NESDA) (Penninx et al, 2008) is designed as an ongoing 8-year longitudinal cohort study, to investigate the long-term course of depression and anxiety disorders over a period of eight years. The baseline data of the NESDA study provide the opportunity to study a large cohort of depressed and/or anxious respondents with and without suicidal ideation. This baseline assessment was conducted in 2004-2007. A total of 2981 respondents were recruited, including healthy controls. Participants (age 18-65) were recruited from the community (19%), primary care (54%) and specialized outpatient mental health care facilities (27%). This was deliberately chosen in order to represent depression and anxiety at different levels of severity and development. In the Netherlands financial barriers regarding access to health care services are limited, because each citizen has a compulsory insurance. The community-based participants had previously been identified in a population-based study. Primary care participants were identified by a screening procedure conducted among a random sample of patients of 65 General Practitioners. This screening procedure was conducted irrespective of the reason for consultation. In the Netherlands, the general practitioner serves as the gatekeeper and referrals are necessary to access specialized mental health care. The mental health-care participants were recruited consecutively when newly enrolled at one of the 17 participating mental health organization locations.

All respondents took part in a four-hour assessment including e.g. psychopathology, demographic and personal characteristics and psychosocial functioning. Persons with insufficient command of the Dutch language or a primary clinical diagnosis of bipolar disorder, obsessive-compulsive disorder, substance use disorder, psychotic disorder or organic psychiatric disorder, as reported by them or their mental health practitioner, were excluded. The research protocol was approved by the Ethical Committee of participating universities and all respondents provided written informed consent. A more detailed description of the NESDA study is provided elsewhere (Penninx et al, 2008).

For the present study we included the 1701 respondents at baseline with a current (last 6 month) depressive (MDD or dysthymia) or anxiety disorder (panic disorder, generalized anxiety disorder, agoraphobia or social phobia). The healthy controls were excluded. Approximately forty-five percent were derived from primary health care, another forty-five percent from specialized mental health care, and ten percent were derived from the community. The depressive and anxiety disorders were assessed with the Composite International Diagnostic Interview (CIDI), which classifies diagnoses according to DSM-IV criteria (WHO, 1998; APA, 2001). The CIDI is frequently used worldwide and it has acceptable reliability and validity (Wittchen, 1994). Specially trained clinical staff conducted the CIDI interviews. Two respondents were excluded because of missing items on the Scale for Suicidal Ideation (SSI) (Beck et al, 1979). So, 1699 respondents remained in the sample.

Table 1: Levels of perceived need and questionnaire phrasing

Level of perceived need	**Questionnaire phrasing**
No need	Has a mental health problem but did not perceive that they needed this type of help, and received no service of this type.
Unmet need	Perceived that they needed this type of help, but received no service or not as much as they perceived they needed.
Met need	Received this type of help, and received as much as they perceived they needed.

Measures

Suicidal ideation

Suicidal ideation, as the predictor variable, was assessed at baseline with the first five items of the Beck Scale for Suicidal Ideation (SSI) making use of a semi-structured interview (Beck et al, 1979). The following five statements were assessed: wish to (1) live or (2) die, (3) reasons for living or dying, (4) desire for an active suicide attempt, (5) passive suicide behaviour. This fifth statement asked whether or not someone will save his life when faced with a life-threatening event. Items were scored with zero, one or two, with higher scores indicating more severe suicidal ideation. Reverse scored items were recoded. To distinguish between

respondents without and with suicidal ideation, we made use of a binary variable, derived from the SSI; if any of the five items was scored as one or two, then respondents were assessed as having suicidal thoughts the week before assessment.

Needs

The Perceived Need for Care Questionnaire (PNCQ) was used as one of the two outcome variables. The PNCQ collected information about the past six months. It addresses five types of perceived needs: (1) information about mental illness, its treatment and available services; (2) medication; (3) counseling or therapy to get insight in causes of the illness and learn to cope with the illness; (4) practical support or help to sort out housing or financial problems; (5) skills training (Meadows et al, 2000). In addition to the original version of the PNCQ, referral was added because of the Dutch health care organization in which the general practitioner functions as a gatekeeper for specialized mental health care (Prins et al., 2009; Prins et al., 2010). With the PNCQ three levels of needs were distinguished: (1) no need, (2) unmet needs and (3) met needs (see **Table 1**).

Health care use

Health care use was the second outcome variable. It was measured with the Trimbos/iMTA Questionnaire for Costs Associated with Psychiatric Illness (TiC-P) (Hakkaart-van Roijen, 2002). With the TiC-P respondents were asked which health care providers they visited during the last six months and how often they visited them. All contacts with a general practitioner were assessed, in which contacts because of a mental problem (binary variable (yes/no) were examined separately. Contact with mental health care providers included primary mental health care providers (psychologist, social worker or community mental health nurse, independent psychiatrist or psychotherapist) and/or a (community) mental health center. These contacts were first described with a binary variable (yes/no). Additionally, to assess the quantity of health care utilization of both primary and specialized mental health care providers, a categorical variable was computed with three groups: (1) no contact with one of these mental health care providers; (2) one to six contacts during the last six months; and (3) more than six contacts during the last six months. The rationale to distinguish these three categories is based on the fact that contact with mental health care providers with a frequency up to once a month is a relatively standard frequency for patients with a depressive or anxiety disorder (Fernandez et al, 2007;Wang et al, 2007).

Covariates

Analyses were adjusted for potentially confounding socio-demographic characteristics, which include age, sex, education (years), and living with a part-

ner (yes/no). To adjust for severity of the axis-I symptomatology, the Inventory of Depressive Symptomatology (IDS) was used as a measure of severity of depression (Rush et al, 1996). The IDS includes an anxiety symptom subset and is highly correlated with the Beck Anxiety Inventory (r=.78) (Beck et al, 1988). The IDS is a 28-item self-report scale of which we used the IDS sum score as a measure of severity of depressive symptoms. In the IDS the one item that refers explicitly to suicidal ideation, was deleted to prevent overcorrection for suicidal ideation. The remaining 27 items have a range from 0-81. Analyses were also adjusted for co-morbidity (both depression and anxiety disorder last 6 month) which is an additional measure of the severity of axis-I symptomatology.

Statistical analyses

Descriptive and inferential statistics (χ2-tests or t-tests) were used to compare characteristics of respondents without (non suicidal ideation group – NSI group) and with suicidal thoughts (suicidal ideation group – SI group). To answer our research question, each multinomial or logistic regression analysis was tested with two models: Model 1 was adjusted only for socio-demographic variables and Model 2 was additionally adjusted for severity of axis-I symptomatology with the IDS sum score and for comorbidity (both a depressive and anxiety disorder).

To examine the association between suicidal ideation and perceived needs, multinomial regression analyses were used with the group 'no needs' as the reference group. Next, the association between suicidal ideation and contact with different mental health care providers was examined with logistic regression models. Additionally, a multinomial regression analysis was performed to describe the association between suicidal ideation and the amount of health care use with odds ratios for 1-6 contacts and more than six contacts, with 'no contact' as reference group. All analyses were performed using SPSS version 15.0.

Results

Socio-demographic and clinical characteristics

The mean age of our total sample was 41.3 years (SD 12.35) and about two thirds were women (Table 2). Those with SI were less likely to be diagnosed with a single anxiety disorder and more likely to have comorbid depression and anxiety disorders (66.2% versus 39.7%; χ^2 [2, n=1699] = 92.81, p= <.001). This probably reflects severity, as the SI group also had a significantly higher mean IDS score (38.3 versus 26.4; t=-17.11, p <.001).

Table 2: Socio-demographic and clinical characteristics

Characteristics	NSI group (n= 1374)	SI group (n = 325)	P*
Age (years, ±SD)	41.43 (12.41)	40.63 (12.08)	.30
Female (%)	937 (68.2)	203 (62.5)	.06
Education level attained (years, ± SD)	11.84 (3.26)	11,53 (3.28)	.13
Partner status (% no partner)	855 (62.2)	209 (64.3)	.49
Psychiatric disorders (%)			**<.001**
Current depressive disorder only	323 (23.5)	72 (22.2)	
Current anxiety disorder only	505 (36.8)	38 (11.7)	
Current depressive and anxiety	546 (39.7)	215 (66.2)	
IDS (mean, SD)	26.4 (11.4)	38.3 (10.6)	**< .001**

** Note that bold figures are significant, p ≤ 0.05.*

Perceived needs

Respondents with suicidal ideation had significantly higher odds for any unmet and met needs (OR_{unmet} 5.81; 95% CI 3.19-10.58 and OR_{met} 2.86; 95% CI 1.49-5.47) as can be seen in **Table 3**. This was however largely explained by the severity of the axis-I symptomatology. The adjusted risks for unmet and met needs were no longer significant when adjusting for severity. When looking at specific needs suicidal respondents did have higher odds for all unmet needs (OR's varying between 3.51 and 1.72). The OR's of met needs were elevated for respondents with suicidal ideation in the domains of information, medication, referral and, counseling. After adjusting for socio-demographics and severity of the axis-I symptomatology the differences in both unmet and met needs disappeared, except the unmet needs in the domains information and a referral (AOR_{info} 1.68; 95% CI 1.51-2.47 and AOR_{ref} 1.73; 95% CI 1.19-2.50).

Table 3: The association between suicidal ideation and perceived needs

Needs[1]	NSI N (%)	SI N (%)	OR[2]	95 % CI	AOR[3]	95% CI
Any need						
No need	221 (16.1)	12 (3.7)	REF		REF	
Unmet need	808 (58.5)	259 (79.7)	**5.81**	**3.19-10.58**	1.79	0.94-3.41
Met need	345 (25.1)	54 (16.6)	**2.86**	**1.49-5.47**	1.32	0.66-2.64
Information						
No need	451 (32.8)	53 (16.3)	REF		REF	
Unmet need	341 (24.8)	143 (44.0)	**3.44**	**2.43-4.88**	**1.68**	**1.51-2.47**
Met need	582 (42.4)	129 (39.7)	**1.84**	**1.92-2.61**	**1.15**	0.79-1.68
Medication						
No need	684 (49.8)	109 (33.5)	REF		REF	
Unmet need	157 (11.4)	64 (19.7)	**2.53**	**1.77-3.60**	1.13	0.76-1.69
Met need	533 (38.8)	152 (46.8)	**1.77**	**1.35-2.33**	0.99	0.73-1.35
Referral						
No need	551 (40.1)	65 (20.0)	REF		REF	
Unmet need	286 (20.8)	122 (37.5)	**3.51**	**2.51-4.91**	**1.73**	**1.19-2.5**
Met need	537 (39.1)	138 (42.5)	**2.14**	**1.55-2.95**	1.24	0.88-1.77
Counseling						
No need	464 (33.8)	62 (19.1)	REF		REF	
Unmet need	511 (37.2)	180 (55.4)	**2.58**	**1.88-3.54**	1.33	0.94-1.89
Met need	399 (29.0)	83 (25.5)	**1.55**	**1.08-2.21**	0.97	0.65-1.43
Practical support						
No need	1200 (87.3)	247 (76.0)	REF		REF	
Unmet need	125 (9.1)	61 (18.8)	**2.35**	**1.68-3.31**	1.29	0.88-1.89
Met need	49 (3.6)	17 (5.2)	1.65	0.93-2.93	0.89	0.48-1.68
Skills training						
No need	1078 (78.5)	224 (68.9)	REF		REF	
Unmet need	233 (17.0)	83 (25.5)	**1.72**	**1.28-2.31**	1.02	0.73-1.42
Met need	63 (4.6)	18 (5.5)	1.36	0.79-2.35	0.90	0.50-1.62

1 *Multinomial regression analyses with needs as the dependent and suicidal ideation as the independent variable ('no need' as reference group).*

2 *Model 1: OR adjusted for age, sex, education, marital status*

3 *Model 2: AOR adjusted for age, sex, education, marital status and IDS sum score and comorbidity*

Health care use

Table 4 shows that about 90% of the respondents had contact with their general practitioner. When considering GP contact specifically for a mental health problem, suicidal ideation was associated with more GP consultation (73.4% versus 64.2%; χ^2 [1, n=1525] = 8.93, p .003). However, taking account of severity of axis-I symptomatology, the odds ratio for suicidal respondents to contact their GP because of a mental health problem was no longer significant (AOR .90; 95% CI .65-1.24).

Looking at the intensity of health care use in more detail, among suicidal respondents 24.6% had no contact and 40.6% had contact more than once a month with mental health care providers, versus respectively 38.5% and 26.6% of the non-suicidal respondents. The odds for suicidal respondents compared to non-suicidal respondents to have had contact with any mental health care provider more than once a month were clearly elevated (OR 2.34; 95% CI 1.71-3.20). However, this again was explained largely by the severity of the axis-I symptomatology as the adjusted OR was no longer significant (AOR: 1.30; 95% CI .91-1.84).

Table 4: The association between suicidal ideation and health care use

	NSI	SI	OR[2]	95% CI	AOR[3]	95%CI
Health care use[1]	N (%)	N (%)				
General practitioner	1235 (89.9)	290 (89.2)	.95	.64-1.40	**.62**	**.40-.96**
General practitioner because of mental problem	93 (64.2)	213 (73.4)	**1.49**	**1.12-1.99**	.90	.65-1.24
Primary mental health care provider	506 (36.8)	142 (43.7)	**1.33**	**1.04-1.71**	.91	.69-1.20
(Community) Mental health care service	627 (45.6)	199 (61.2)	**1.84**	**1.42-2.37**	1.11	.84-1.48
Contact with a mental health care provider						
No contact	528 (38.5)	80 (24.6)	REF		REF	
1-6 contacts	479 (34.9)	113 (34.8)	**1.54**	**1.12-2.11**	.96	.68-1.36
> 6 contacts	366 (26.6)	132 (40.6)	**2.34**	**1.71-3.20**	1.30	.91-1.84

1 *Logistic and multinomial regression analyses with health care use as dependent and suicidal ideation as independent variable. In the multinomial regression analysis ' no contact' is set as reference group.*

2 *Model 1: OR adjusted for age, sex, education, marital status.*

3 *Model 2: AOR adjusted for age, sex, education, marital status and IDS sum score and comorbidity.*

Discussion

The results confirm previous findings that persons with suicidal ideation were more at risk to perceive unmet and met needs than persons without suicidal ideation. In all domains of needs persons with suicidal ideation reported more unmet needs. With regard to met needs, the risk for persons with and without SI did not differ in the domains of practical support and skills training, while all other met needs showed an increased risk for persons with SI. We also found that persons with suicidal ideation had more intensive contact with mental health care providers than persons without suicidal ideation.

The increased risk of unmet needs for information and referral among respondents with suicidal ideation, even after adjusting for severity of axis-I psychopathology, raises questions with important clinical implications: Which information do suicidal persons expect and why do they perceive their need for information is not being met by care providers, unless their frequent contacts? And, in addition, to whom wanted suicidal respondents to be referred, because most of them already received mental health care? A possible explanation may be that it reveals the suicidal patient's wish to be informed better about their illness, the course and prognosis of their illness and alternatives for, more effective, treatment than they receive currently. It might be an expression of a perceived mismatch between available services and needs for care of suicidal persons.

However, our data also clearly showed that differences in perceived needs and health care utilization were largely explained by severity of the axis-I symptomatology. It appears that having suicidal thoughts correlates strongly with severity of depression or anxiety, which drives perceived patient needs. Part of this more severe psychopathology may be reflected in the entrapped mindset and feelings of hopelessness of suicidal persons which may result in fixed ideas that nothing will help (Williams et al, 2005). This may explain why suicidal patients are not easily satisfied with the care they received or why they did not seek help in advance. In this respect the suicidal person demonstrates his core beliefs that make him suicidal by engaging in prototypical cognitions of being untreatable, being too worthless to be treated, being incapable of profiting from any help, fear of stigma, etc. (Bruffaerts et al, 2012). These convictions should be explicitly targeted, since they reflect the basis of the suicidal despair but at the same time they reflect the higher levels of severity of the axis – I disorders.

In our study, in contrast with Pagura et al (2009) almost all associations we found were explained by severity of the axis-I symptomatology. Pagura et al included respondents with or without a mental disorder and adjusted for the amount of disorders, including alcohol and drugs dependence. Other studies also adjust for the presence or amount of mental disorders (Brook et al, 2006; Pirkis et al, 2001b). In our study we were able to control for severity using an estab-

lished symptom severity measure. This may explain why controlling for severity had more effect in our study, overruling almost all effects of suicidal ideation alone on perceived needs and health care use.

In comparison with several other studies, we found a low percentage of persons with suicidal ideation who did not have contact with any mental health care provider. Brook et al (2006), Pirkis et al (2001) and Pagura et al (2009) found higher percentages. Although this might be caused by the use of a broader definition of service use, it could also be explained by the few financial barriers and easy access to specialized mental health care in the Netherlands.

The clinical implications of our findings are important and hopeful, because an encouraging message can be given to suicidal persons: the suffering due to the suicidality is to a large extent a changeable feature by treating the comorbid psychopathology. Suicidal persons have more needs for care and are more seriously ill. To realize effective treatment they therefore need more of our care, dedication and specialized expertise.

Certainly some comments can be made with regard to this statement. In some cases the suicidality will still be present after the depression or anxiety disorder is dissolved. Clinicians should therefore regularly assess suicidality even when there is no current axis-I psychopathology. And obviously there are other features which influence suicidality such as trauma, chronicity or personality characteristics. So, profound exploration of the suicidality is always needed to optimize treatment (APA, 2003).

Strengths and limitations

Methodological strengths of our study were that we had access to a large sample of well diagnosed persons with depressive and/or anxiety disorders (n= 1699) with participants from the community, and primary as well as specialized mental health care settings. Furthermore, we had access to detailed information about both perceived needs and actual use of mental health care. In the Netherlands there are few financial barriers to the use of mental health care use. Disparity in access to care, a strong potential confounder in this type of study is therefore limited. However, a limitation should also be recognized. Our measure of suicidal ideation is based on a single assessment. Suicidal thoughts may fluctuate over time (ten Have et al, 2009). This may have caused misclassification of the suicidal/non-suicidal persons, in turn leading to a weakening of the associations under study.

Conclusions

Although persons with suicidal ideation made more intensive use of mental health services, they also report more unmet needs. Both findings were driven by the higher levels of severity of their axis-I symptomatology. For clinical practice this implies that to realize effective treatment for suicidal persons they need more of our care, dedication and specialized expertise, especially in the domains of information and referral.

REFERENCE LIST

American Psychiatric Association (2003) *Practice guideline for the assessment and treatment of patients with suicidal behavior.* American Psychiatric Association: Washington D.C.

American Psychiatric Association (2001) *Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR Fourth Edition (Text Revision)*. American Psychiatric Association: Washington D.C.

Angst J., Angst F., Stassen H.H. (1999) Suicide risk in patients with major depressive disorder. J Clin Psychiatry, **60** Suppl 2, 57-62.

Beck, A. T., Kovacs, M., and Weissman, A. (1979) Assessment of suicidal intention: the Scale for Suicide Ideation. J Consult Clin Psychol., **47**, 343-352.

Beck, A. T., Epstein, N., Brown, G. et al (1988) An inventory for measuring clinical anxiety: psychometric properties. J. Consult. Cli. Psychol. **56**, 893-897.

Bertolote J.M., Fleischmann A. (2009) *A global perspective on the magnitude of suicide mortality. In Suicidology and Suicide Prevention. A global perspective.*, (eds. D. Wasserman and C. Wasserman), pp. 91-98. Oxford: Oxford University Press.

Brook, R., Klap, R., Liao, D., et al (2006) Mental health care for adults with suicide ideation. Gen Hosp.Psychiatry, **28**, 271-277.

Bruffaerts, R., Demyttenaere, K., Hwang, I., et al (2011) Treatment of suicidal people around the world. Br.J.Psychiatry, **199**, 64-70.

Fernandez A., Haro J.M., Martinez-Alonso M., et al (2007) Treatment adequacy for anxiety and depressive disorders in six European countries. Br. J. Psychiatry **190**, 172-173.

Goldblatt M.J., Waltsberger J.T. (2009) Countertransference in the treatment of suicidal patients. In *Oxford textbook of suicidology and suicide prevention. A global perspective.*,(eds. D. Wasserman and C. Wasserman), pp. 389-393. Oxford: University Press.

Hakkaart-Roijen van L. (2002) *Manual Trimbos/iMTA Questionnaire for Costs Associated with Psychiatric Illness (in Dutch)*. Rotterdam:Institute for Medical Technology Assessment.

Hendin H., Haas A.P., Maltsberger J.T., et al (2006) Problems in psychotherapy with suicidal patients. Am. J. Psychiatry **163**, 67-72.

Jobes D.A. (2006) *Managing Suicidal Risk. A Collaborative Approach.* New York: The Guilford Press.

Meadows G., Harvey C., Fossey E., Burgess P. (2000) Assessing perceived need for mental health care in a community survey: development of the Perceived Need for Care Questionnaire (PNCQ). Soc. Psych. Psychiatric Epidem. **35**, 427-435.

Pagura, J., Fotti, S., Katz, L. Y., et al (2009) Help seeking and perceived need for mental health care among individuals in Canada with suicidal behaviors. Psychiatr.Serv., **60**, 943-949.

Penninx, B. W., Beekman, A. T., Smit, J. H., et al (2008) The Netherlands Study of Depression and Anxiety (NESDA): rationale, objectives and methods. Int J Methods Psychiatr.Res, **17**, 121-140.

Pirkis, J., Burgess, P., Meadows, G., et al (2001a) Self-reported needs for care among persons who have suicidal ideation or who have attempted suicide. Psychiatr.Serv., **52**, 381-383.

Pirkis J.E., Burgess P.M., Meadows G.N., Dunt D.R. (2001b) Suicidal ideation and suicide attempts as predictors of mental health service use. Med. J. Austr. **175**, 542-545.

Prins M.A., Verhaak P.F., van der Meer K., et al (2009) Primary care patients with anxiety and depression: Need for care from the patient's perspective. J.Affect. Disorders **119**,163-171.

Prins M., Meadows G., Bobevski I., et al (2010) Perceived need for mental health care and barriers to care in the Netherlands and Australia. Soc. Psychiatr. Psychiatr. Epidemiol. Aug 5.

Rush, A. J., Gullion, C. M., Basco, M. R., et al (1996) The Inventory of Depressive Symptomatology (IDS): psychometric properties. Psychol.Med., **26**, 477-486.

Sareen, J., Cox, B. J., Afifi, T. O., et al (2005a) Anxiety disorders and risk for suicidal ideation and suicide attempts: a population-based longitudinal study of adults. Arch Gen Psychiatry, **62**, 1249-1257.

Sareen, J., Stein, M. B., Campbell, D. W., et al (2005b) The relation between perceived need for mental health treatment, DSM diagnosis, and quality of life: a Canadian population-based survey. Can.J Psychiatry, **50**, 87-94.

Slade, M., Leese, M., Ruggeri, M., et al (2004) Does meeting needs improve quality of life? Psychother.Psychosom., **73**, 183-189.

Slade, M., Leese, M., Taylor, R., et al (1999) The association between needs and quality of life in an epidemiologically representative sample of people with psychosis. Acta Psychiatr.Scand., **100**, 149-157.

Taylor T.L., Hawton K., Fortune S., Kapur N. (2009) Attitudes towards clinical services among people who self-harm: systematic review. Br. J. Psychiatry **194**, 104-110.

Ten Have, M., de Graaf. R., van Dorsselaer. S., et al (2009) Incidence and course of suicidal ideation and suicide attempts in the general population. Can.J Psychiatry, **54**, 824-833.

Ten Have M., de Graaf R., Ormel J., et al (2011) Are attitudes towards mental health help-seeking associated with service use? Results from the European Study of Epidemiology of Mental Disorders. Soc. Psychiatr. Psychiatr. Epidemiol. **45**, 153-163.

Wang, P. S., Aguilar-Gaxiola, S., Alonso, J., et al (2007) Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. Lancet **380**, 841-850.

World Health Organization (1998) *Composite International Diagnostic Interview (CIDI),* version 2.1. Geneva; WHO.

Wiersma, D. (2006) Needs of people with severe mental illness. Acta Psychiatr.Scand.Suppl, 115-119.

Williams, J. M. G., Crane, C., Barnhofer, T. et al (2005) In *Prevention and treatment of suicidal behavior. From science to practice.*(ed. Hawton, K.), Oxford: Oxford University Press.

Wittchen, H.U. (1994) Reliability and validity studies of the WHO-Composite International Diagnostic Interview (CIDI): a critical review. J. Psychiatr. Res. **28**, 57-84.

Chapter 6

Recurrent suicide attempts in patients with depressive and anxiety disorders: The role of borderline personality traits.

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ABSTRACT

Background

The presence of a comorbid borderline personality disorder (BPD) may be associated with an increase of suicidal behaviours in patients with depressive and anxiety disorders. The aim of this study is to examine the role of borderline personality traits on recurrent suicide attempts.

Methods

The Netherlands Study on Depression and Anxiety included 1838 respondents with lifetime depressive and/or anxiety disorders, of whom 309 reported at least one previous suicide attempt. A univariable negative binomial regression analysis was performed to examine the association between comorbid borderline personality traits and suicide attempts. Univariable and multivariable negative binomial regression analyses were performed to identify risk factors for the number of recurrent suicide attempts in four clusters (type and severity of axis-I disorders, BPD traits, determinants of suicide attempts and socio-demographics).

Results

In the total sample the suicide attempt rate ratio increased with 33% for every unit increase in BPD traits. A lifetime diagnosis of dysthymia and comorbid BPD traits, especially the symptoms anger and fights, were independently and significantly associated with recurrent suicide attempts in the final model (n=309).

Limitations

The screening of personality disorders was added to the NESDA assessments at the 4-year follow up for the first time. Therefore we were not able to examine the influence of comorbid BPD traits on suicide attempts over time.

Conclusions

Persons with a lifetime diagnosis of dysthymia combined with borderline personality traits especially difficulties in coping with anger seemed to be at high risk for recurrent suicide attempts. For clinical practice, it is recommended to screen for comorbid borderline personality traits and to strengthen the patient's coping skills with regard to anger.

Introduction

Suicide attempts represent an important public health problem. The lifetime prevalence of suicide attempts is estimated at 4.6% (Kessler et al, 2005;Nock et al, 2008). The risk of suicide increases after more attempts and more unsuccessful treatments (Zahl and Hawton, 2004; Paris, 2007; Soloff and Chiapetta, 2012). Several researchers compared the characteristics of single and recurrent attempters, hypothesizing that these two groups differ. Several studies reveal that the presence of anxiety and depressive disorder increases the risk of suicide attempts and completed suicide (Angst et al, 1999;Sareen et al, 2005;Ten Have et al, 2009). Moreover, patients with severe anxiety and depression symptoms more often were recurrent attempters than patients with moderate symptoms. At the same time, the presence of comorbid personality disorders – especially borderline personality disorder (BPD) – has a negative impact on suicidal behaviours in these patients groups. However, the evidence for the specific influence of comorbid BPD on recurrent suicidal behaviour is inconsistent: some researchers found an association between comorbid BPD and recurrent suicide attempts (Boisseau et al 2012;Hawton et al 2003;Brodsky et al 2006;Soloff et al 2000), while others did not (Forman et al 2004). Moreover, it is unclear which borderline personality traits explain recurrent suicide attempts best. Most studies found an association with impulsivity, aggressiveness, and hostility (Soloff et al 2000;Boisseau et al 2012; Keilp et al, 2006;Brodsky et al, 2006), while a recent prospective study did not find confirm this association with impulsivity and aggression (Soloff and Chiapetta 2012). While several studies found an association between hopelessness and recurrent suicide attempts (Forman et al. 2004; Berk et al, 2007; Hawton et al. 2003; Soloff et al. 2000), this same prospective study did not confirm this association (Soloff and Chiapetta 2012). The influence of maltreatment in childhood on recurrent suicide attempts is also inconsistent, where again the prospective study of Soloff and Chiapetta (2012) did not confirm the association between maltreatment and recurrent suicide attempts (Berk et al 2007;Forman et al 2004;Hawton et al 2003). Finally, the association between substance abuse on recurrent suicide attempts was found in a study of Berk et al (2007), but not confirmed in the same prospective study of Soloff and Chiapetta (2012).

Inconsistency of previous findings may be due to methodological differences among studies. Examples are (i) differences in sample size, leading to problems with statistical power in some studies, (ii) variation in recruitment strategies, some studies recruiting only at inpatient or outpatient mental health care facilities or at emergency centres, including patients following a suicide attempt, and (iii) most studies focused on depression, not taking anxiety disorders into account.

The clinical relevance of improving our understanding of recurrent suicide attempts among patients with affective disorders seems self-evident, as this repre-

sents the best known and most accessible high risk group for suicide. Therefore, we aimed to study the role of comorbid BPD traits in relation to recurrent suicide attempts in a large sample of patients with depression and/or anxiety disorders. Our first objective was to examine the association between comorbid borderline personality traits and suicide attempts in general by exploring to what degree comorbid borderline personality traits are associated with suicide attempts in persons with lifetime anxiety or depressive disorders. Secondly, we tested whether the effect of comorbid borderline personality traits increases when moving from single to recurrent attempters and, thirdly, we tested concurrent effects on recurrent suicidal attempts of other psychopathological and socio-demographic characteristics. Finally, we tested which specific borderline personality traits explain recurrent suicide attempts best.

Methods

Study sample

The Netherlands Study of Depression and Anxiety (NESDA) is designed as an ongoing longitudinal cohort study, to investigate the long-term course of depression and anxiety disorders. Full details on the background of this study and its methods have been described elsewhere (Penninx et al, 2008). In short, the baseline assessments of NESDA were conducted between 2004 and 2007 and included a face-to-face assessment of demographic and personal characteristics as well as a standardized diagnostic psychiatric interview. Additionally, self-report questionnaires were conducted, which measured among others the putative risk factors, which were used in our study. Initially, 2981 respondents were recruited. To represent depression and anxiety at different levels of severity and development, participants (age 18-65 years) were recruited from diverse settings: the community (19%), primary care (54%) and specialized outpatient mental health care facilities (27%). Exclusion criteria at baseline were a primary clinical diagnosis of bipolar disorder, obsessive-compulsive disorder, substance use disorder, psychotic disorder, or organic psychiatric disorder, as reported by the participants or their mental health practitioner. Also patients were excluded in case of insufficient command of the Dutch language. The research protocol was approved by the Ethical Committee of participating universities and all respondents provided written informed consent.

Follow-up assessments were conducted two years (n = 2596, 87%), and four years (n= 2402, 80.6%) after baseline, including the same face-to-face interview and questionnaires as the baseline assessment. However, an important addition in the light of our study was the assessment of personality disorders during the 4-year follow-up.

The present study made use of this 4-year data and had data from the previous assessments of each respondent at its disposal. Respondents with complete data at the Composite International Diagnostic Interview (CIDI) as well as the Beck Scale for Suicidal Ideation (SSI) at both the 2- and 4-year follow-ups were selected (n = 2306). Subsequently, respondents with lifetime depressive and / or anxiety disorder were selected. From these 2306 respondents, 1838 respondents had lifetime depressive (MDD or dysthymia) or anxiety disorders (panic disorder with or without agoraphobia, generalized anxiety disorder, or social phobia) and were included in the final sample. Of those respondents, 21% were derived from the community, 48% from primary care and 31 % from specialized mental health care. For answering the second research question, only those respondents were included who reported at least one suicide attempt lifetime at one of the assessments (n= 309).

Dependent variable

Suicide attempts

The Beck Scale for Suicidal Ideation (SSI) was used to measure suicidal ideation and suicide attempts (Beck et al, 1979;Beck et al, 1988a). At baseline and at two-year follow up lifetime attempted suicide was operationalized by asking respondents: 'Have you ever made a serious attempt to end your life, for instance by harming or poisoning yourself or by getting into an accident? no/yes'. If this question was answered positively, respondents were asked for the number of serious suicide attempts during lifetime. In 6.4% of the 1838 respondents there were inconsistencies between the answers given on the lifetime suicide question at 2-year follow-up compared to baseline. This was not caused by the first incident cases at 2-year follow-up, but probably due to recall bias (Eikelenboom et al, submitted). To assure that all respondents who reported that they ever conducted a suicide attempt were included, we used the broadest criterion, namely the highest reported number at baseline or 2-year follow up. These data were made complete with the incident cases of suicide attempts at the 4-year follow-up, where suicide attempts were assessed since the 2-year follow up interview.

The decision to use the highest reported number of suicide attempts may have led to an over-estimation. To check the impact of this decision on the results, all analyses were repeated with the strictest criterion possible, which was the lowest reported number of suicide attempts (n= 192).

Independent variables

(i) Characteristics of depression and anxiety

Depressive and anxiety disorders were assessed with the Composite International Diagnostic Interview (CIDI), which classifies diagnoses according to DSM-IV criteria (World Health Organization, 1998;American Psychiatric Association, 2001). The CIDI is frequently used worldwide and it has acceptable reliability and validity (Wittchen, 1994). Specially trained clinical staff conducted the CIDI interviews. Lifetime diagnoses of depressive disorders (major depression and dysthymia) and anxiety disorders (generalized anxiety disorder, social phobia, panic disorder, and agoraphobia) were established at baseline interview. At the 2- and 4-year follow-up assessments, diagnoses were established over the period since the last interview. Age of onset and the number of CIDI-diagnoses of depressive and/or anxiety disorders were assessed for each patient.

A life-chart interview (LCI) was used to measure the number of months with depressive or anxiety symptoms over a period of 7 years.

The Inventory of Depressive Symptomatology (IDS) was used to measure severity of depression (Rush et al, 1996). The IDS is a 28-item self-report scale (range 0-84), with higher scores indicating higher severity. Severity of the anxiety disorders was measured with the Beck Anxiety Inventory (BAI) (Beck et al, 1988b). The BAI is a 21-item self-report instrument that assesses the overall severity of anxiety by summing the ratings of the 21 items (range 0-63). The IDS and BAI were established at baseline, and 2- and 4-year follow-ups. To get an impression of the severity over years, the mean score over all assessments was calculated for both inventories.

(ii) Borderline Personality traits

Personality disorders (anti-social and BPD) were screened for the first time at 4-year follow-up, using the Personality Disorder Questionnaire (PDQ-4). The PDQ-4 showed high sensitivity and moderate specificity for most axis II disorders, including the borderline personality disorder (Hyler et al, 1990;Hyler et al, 1992). The cronbach's alpha of the PDQ4 in the total sample was .97, which indicated very high reliability. Ten items of the PDQ-4 are based on the DSM-IV criteria for borderline personality disorder and were formulated as statements at which respondents had to reply with 'true / not true'. The sum of the positively scored items was used (range 0-10) as a measure of total borderline personality traits. A score of 5 or higher is highly suggestive of BPD (Sansone et al, 2008).

(iii) Determinants of recurrent suicide attempts

Impulsivity was measured using the shortened version of the Sensation Seeking Scale (Roberti et al, 2003). This scale was used for the first time at 4-year follow-up to assess aspects of impulsivity. One of the four subscales is 'disinhibition' and represents the desire for social and sexual impulsivity (social drinking, party-

ing, and variety in sexual partners). This subscale consists of 8 items to be scored on a 5-points Likert scale (range 0-40). The sum score was used in our study as a measure of overall impulsivity.

Alcohol diagnoses were assessed with the CIDI Alcohol (American Psychiatric Association, 2001) of which we used the lifetime alcohol abuse and dependency diagnoses in the present study.

Childhood traumas and childhood life events were assessed retrospectively with the Childhood Trauma Interview as used in the Netherlands Mental Health Survey and Incidence Study (de Graaf et al, 2002). The section about childhood traumas consists of four questions about physical and sexual abuse, psychological abuse and emotional neglect (de Graaf et al, 2002). The sum of experienced childhood traumas was calculated and used as a childhood trauma index (range 0-4).

Hopelessness / suicidal ideation was measured with a subscale (4 items, range 0-20) of the Leiden Index of Depression Sensitivity – Revised (LEIDS-R), a self-report questionnaire with 17 items (Van der Does, 2002). This instrument measures reactivity of dysfunctional cognitions, such as hopelessness / suicidal ideation, acceptance, aggression, perfectionism, risk aversion and rumination. The four items which refer to hopelessness /suicidal ideation were: (1) When I feel down, I more often feel hopeless about everything; (2) When I feel sad, I feel as if I care less if I lived or died; (3) When I feel sad, I feel more that people would be better off if I were dead; (4) When I feel sad, more thoughts of dying or harming myself go through my mind. Scoring for each question ranges from 1 (not applicable) to 5 (very strongly applicable). The LEIDS-R was established at baseline, and at 2- and 4-year follow-up. To get an impression of the hopelessness / suicidal ideation over years, the mean score of measurements at the three time points was used.

Negative life events were measured with Brugha's list of Threatening Experiences (Brugha et al, 1985). At baseline respondents were asked whether twelve possible negative life events had occurred in the past year. At 2- and 4-year follow-up these same life events were assessed over the years since the last measurement. Examples of life events were divorce, severe illnesses, accidents, loss of family or closed-by friends, financial problems, etc. The sum of negative life events was calculated over all assessments.

Substance use

The total of different substance used during the month prior to the interview was assessed all time points. The mean of these three measurements was used as an indication of substance use over years.

(iv) Socio-demographic characteristics

Socio-demographic characteristics, which were examined as putative risk factors included age, sex, education (years), and living with a partner (yes/no).

Statistical analyses

The number of suicide attempts, as the dependent variable, was included in two ways: (1) as a categorical variable with three groups; no attempt, single attempt and more than one attempt and (2) as a continuous count variable. To describe the differences between the respondents with no suicide attempt, one attempt and those with more than one attempt (categorical variable), an overview was made of the psychopathological and socio-demographic characteristics (mean or percentages).

The first research objective, examining the association between suicide attempts and comorbid borderline personality traits, was answered by performing a univariable negative binomial regression analysis with the number of suicide attempts, including the no attempters, as dependent variable (n=1838). The skewness of the dependent count variable indicated a non-normal distribution. Both Poisson and negative binomial regression are appropriate analyses to model count variables. Since the Poisson distribution was overdispersed (mean variance > mean), negative binomial regression was used to model the possible predictors of the number of suicide attempts. The negative binomial distribution proved to fit better than the Poisson distribution, because the deviance/df and Pearson chi-square/df were closer to 1.0. Negative binomial regression provides a Rate Ratio (RR) with a 95% confidence interval. This RR is an estimator of the increase in suicide attempts per 1 unit increase in BPD traits. Additionally, a multivariable multinomial regression analysis was performed in which the categorical variable of suicide attempts was the dependent variable (no attempts as reference category) in order to examine the association between comorbid borderline personality traits and suicide attempts, adjusted for all other characteristics. Multinomial regression is a frequently used analysis to compare more than two groups. Here, it is used to examine whether comorbid BPD traits are independently associated with a single attempt or just with recurrent attempts.

For the second research objective, i.e. to examine the association of comorbid BPD traits with recurrent suicide attempts, the sample was reduced to the 309 respondents with at least one reported suicide attempt lifetime. Univariable negative binomial regression analyses were performed to examine which characteristics of the four different clusters were associated with recurrent suicide attempts. Subsequently, characteristics that showed a significant association in univariable negative binomial regression analyses were entered into multivariable analyses per cluster of characteristics. Finally, characteristics with a significant association in these multivariable analyses were entered into the final model. In the univariable and multivariable analyses a liberal cut-off of $p \leq .10$ was chosen to ensure all important risk factors were included in the final model. In the final model a $p \leq .05$ was considered significant.

Additionally, to identify which symptoms of the BPD explained recurrent suicide attempts best, the single items of the PDQ-4 were separately tested in univariable and multivariable regression models concerning their association with recurrent suicide attempts.

Analyses which referred to the second research objective were repeated with the strictest criterion, namely the lowest number of reported suicide attempts.

Data was analysed using SPSS 20.

Results

Sample characteristics

The sample consisted of 1838 respondents with a mean age of 46.1 (SD 12.7). Sixty-eight percent of the respondents was female (Table 1). Of those 1838 respondents 1529 (83.2%) did not report a suicide attempt in their lives, 176 (9.6%) reported one suicide attempt and 133 (7.2%) reported more than one suicide attempt in their lives. Based on the cut off point of 5 or higher, 13% of the respondents had elevated BPD scores (n= 238). As might be expected Table 1 shows that characteristics differ mostly between no versus reported suicide attempts, and less between one and more than one reported suicide attempts.

Association between comorbid borderline personality traits and suicide attempts

In the total sample (n=1838) the univariable negative binomial analysis showed an increase in the suicide attempts rate ratio of 33% for every unit increase in borderline personality traits (RR 1.33; 95% CI 1.24 – 1.42). To visualize the relationship between comorbid BPD traits and multiple suicide attempts, **Figure 1** shows the number of suicide attempts, presented as a categorical variable number, per number of borderline personality symptoms. Among respondents with no comorbid BPD symptoms (n=533), 4% reported recurrent suicide attempts, while among respondents with nine out of ten BPD symptoms (n=6), 50% reported recurrent attempts.

Multinomial regression analysis, adjusted for all other characteristics, provided a non-significant odds ratio for a single attempt versus no attempts (OR 1.02; 95% CI .92-1.13) and a significant odds ratio for recurrent attempts versus no attempt (OR 1.28; 95% CI 1.14-1.43) per 1 BPD trait increase (data not shown).

Table 1: Sample characteristics across suicide attempts

Characteristics	Total sample (n= 1838)
(i) Characteristics of depression and anxiety	
Lifetime index disorders	387 (21.1)
depressive disorder only	224 (12.2)
anxiety disorder only	1227(66.8)
depressive and anxiety disorder	19.72 (10.8)
Mean IDS score (mean, SD)	10.77 (7.9)
Mean BAI score (mean, SD)	2.72 (1.4)
Number of life-time CIDI diagnoses (mean, SD)	26.14 (24.7)
Number of months Anxiety symptoms (mean, SD)	18.61 (20.2)
Number of months Depressive symptoms (mean, SD)	22.20 (13.1)
Age of onset (mean, SD)	
(ii) Comorbid BPD traits (mean, SD)	2.01 (2.0)
(iii) Determinants of suicide attempts	
CIDI diagnosis Alcohol dependency (LT) (n, %)	366 (19.9)
CIDI diagnosis Alcohol abuse (LT) (n, %)	277 (15.1)
Childhood Trauma Index	.98 (1.14)
Impulsivity	16.16 (5.5)
Hopelessness / suicidal ideation	4.66 (3.67)
Negative life events	4.21 (2.8)
Polydrugs use	0.07 (.26)
(iv) Socio-demographic characteristics	
Age (mean, SD)	46.06 (12.7)
Female (%)	1250 (68)
Education level (years)	12.43 (3.3)
Partner (% yes)	821 (44.7)

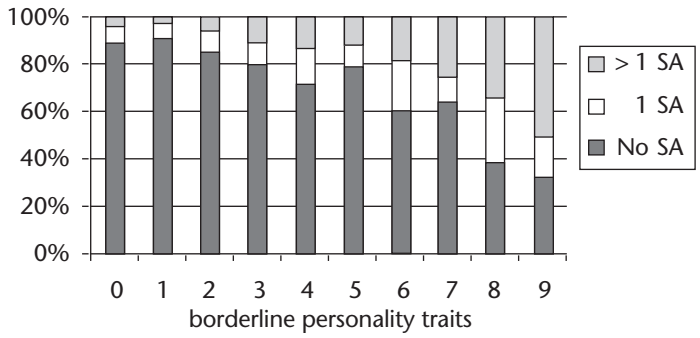
0 attempt (n= 1524)	1 attempt (n=176)	> 1 attempt (n= 133)
355 (23.2)	20 (11.4)	12 (9.0)
220 (14.4)	2 (1.1)	2 (1.5)
954 (62.4)	154 (87.5)	119 (89.5)
18.31 (10.0)	26.55 (11.7)	26.89 (12.1)
9.96 (7.4)	14.58 (9.0)	14.91 (9.4)
2.57 (1.4)	3.34 (1.3)	3.68 (1.31)
24.49 (24.3)	32.77 (24.8)	36.35 (25.8)
16.30 (18.9)	28.41 (22.5)	32.16 (22.8)
23.09 (13.2)	17.16(11.3)	18.75 (13.0)
1.80 (1.8)	2.72 (2.2)	3.40 (2.5)
283 (18.5)	43 (24.4)	40 (30.1)
238 (15.6)	21 (11.6)	18 (13.5)
0.84 (1.0)	1.66 (1.3)	1.72 (1.4)
16.31 (5.6)	15.34 (5.3)	15.50 (5.2)
4.17 (3.3)	6.82 (4.3)	7.68 (4.1)
4.01 (2.7)	5.06 (2.8)	5.40 (3.5)
0.067 (.25)	0.081 (.27)	0.12 (.33)
45.98 (12.8)	46.48 (11.9)	46.40 (12.7)
1030 (67.7)	129 (71.3)	91 (68.4)
12.65 (3.3)	11.59 (3.3)	11.10 (3.0)
683 (44.7)	81 (46)	57 (42.9)

Putative risk factors for recurrent suicide attempts

Cluster i: Characteristics of anxiety and depression

Concerning the sample of respondents with at least one reported suicide attempt lifetime (n=309), **Table 2** shows that in univariable analyses dysthymia, social phobia, mean IDS score, number of months with both depression and anxiety symptoms, and the number of depressive or anxiety disorders are significantly associated with recurrent suicide attempts. In the multivariable analysis only a diagnosis of lifetime dysthymia remained significant. The recurrent suicide attempt rate ratio for respondents with a lifetime dysthymia was 1.8 times the rate ratio of those with no lifetime dysthymia (RR 1.78; 95% CI 1.06-3.00).

Figure 1: The relationship between comorbid BPD traits and suicide attempts



Cluster ii: BPD traits

As can be seen from **Table 2**, in a univariable analysis the increase in the rate ratio of recurrent suicide attempts was 14% for every unit increase in BPD traits. This indicates that borderline personality traits were significantly associated with recurrent suicide attempts (RR 1.14; 95% CI 1.04-1.25).

Cluster iii: Determinants for recurrent suicide attempts

Of the known determinants of suicide attempts only hopelessness / suicidal ideation showed a p-value below .10 and was therefore included in the multivariable analyses **(Table 2)**. The increase in the RR of recurrent suicide attempts was 5% for every unit increase in hopelessness / suicidal ideation (RR 1.05; 95% CI .99-1.12).

Cluster iv: Socio-demographics

None of the socio-demographic characteristics showed significant RR's **(Table 2)**.

Final model

Of the characteristics which were significantly associated within their clusters, lifetime dysthymia, and comorbid BPD traits remained significantly associated with recurrent suicide attempts in the final model, as shown in Table 2. Hopelessness / suicidal ideation was not significantly associated with recurrent suicide attempts in the final model.

In the additional univariable analyses with the separate BPD symptoms, several symptoms were significantly associated with recurrent suicide attempts (Table 3). In the multivariable analysis parasuicidal behaviour was excluded, because of confounding with the dependent variable. After excluding parasuicidal behaviour, the symptoms fights, boredom / emptiness and anger remained significantly associated with recurrent suicide attempts. These symptoms were included in the additional final model. From Table 3 it can be seen that of the comorbid BPD traits, specifically the symptoms fights and anger explain recurrent suicide attempts best. Fights had a RR smaller than one (RR .25), indicating a protective factor, while anger had a RR above one (RR 2.05), indicating a risk factor.

Repeating the analyses with the lowest reported number of suicide attempts as outcome measure yielded similar results. However, due to the decreased sample size the separate BPD symptoms became non significant in the final model, although RRs were of similar magnitude as in the larger sample (data not shown).

Discussion

As was to be expected, borderline personality traits were strongly associated with suicide attempts within this large cohort of persons with lifetime depressive and anxiety disorders. The risk of suicide attempts increased by 33% for every unit increase in borderline personality traits (RR 1.33; 95% CI 1.24 – 1.42). However, this risk was unevenly distributed across the developmental history of suicidal behaviour. The contribution of borderline traits seems to increase with more suicide attempts. This may be due to selection bias or to a reciprocal reinforcing effect of suicidal behaviour and borderline traits on their mutual development. In a naturalistic study, such as the current study, these two effects cannot be disentangled. However, whatever the underlying process, the fact remains that borderline traits become progressively more important in patients with increasing numbers of suicide attempts. This is consistent with previous work (Soloff et al. 2000; Brodsky et al. 2006; Boisseau et al. 2012). The present study is unique in that it was able not only to consider depression, but also to include patients with anxiety disorders. Moreover, by using suicide attempts as a continuous count variable, we were able to analyze the additional risk of each subsequent attempt.

Of the different comorbid BPD traits, particularly the symptoms anger and fights were significantly and independently associated with recurrent suicide

Table 2: Putative risk factors for recurrent suicide attempts

	Univariable analyses		
	RR	95%- CI	p
Cluster i			
Life time MDD	1.644	.43-6.34	.471
Life time Dysthymia	**2.018**	1.28-3.19	**.003**
Life time Social Phobia	**1.730**	1.12-2.68	**.014**
Life time GAD	1.453	.90-2.35	.125
Life time Panic	1.105	.65-1.88	.714
Mean IDS	**1.017**	1.00-1.04	**.092**
Mean BAI	1.013	.99-1.03	.220
Mnts ANX symptoms	**1.011**	1.00-1.02	**.030**
Mnts DEP symptoms	**1.011**	1.00-1.02	**.069**
Number of ANX/DEP diagnoses	**1.288**	1.10-1.51	**.002**
Age of onset	.994	.98-1.01	.401
Cluster ii			
Comorbid BPD traits	**1.144**	1.04-1.25	**.004**
Cluster iii			
Alc dependency	.908	.59-1.41	.665
Alc abuse	.936	.51-1.72	.830
Childhood Trauma Index	.993	.86-1.15	.928
Impulsivity	.974	.93-1.02	.288
Hopelessness / suicidal ideation	**1.053**	.99-1.12	**.093**
Negative life events	1.043	.97-1.12	.256
Polydrugs use	1.297	.77-2.19	.332
Cluster iv			
Age	.994	.98-1.01	.508
Sex	1.213	.76-1.93	.414
Education	1.010	.92-1.10	.835
Living with a partner	1.284	.78-2.10	.321

Univariable and multivariable negative binomial regression analyses with recurrent suicide attempts as dependent variable (n=309). In univariable and multivariable analyses a cut-off of p ≤.10 was chosen to include characteristics in the final model.

Multivariable analyses			Final model		
RR	95%-CI	p	RR	95%-CI	p
1.780	1.06-3.00	**.030**	**1.808**	1.12-2.91	**.015**
1.300	.73-2.31	.372			
1.00	.97-1.03	.997			
1.009	1.00-1.02	.166			
.999	.98-1.02	.926			
.999	.74-1.36	.997			
			1.126	1.08-1.25	**.021**
			1.005	.95-1.07	.859

Table 3: The influence of the separate BPD symptoms on recurrent suicide attempts

	Univariable analyses		
	RR	95%- CI	p
Cluster i			
Life time MDD	1.644	.43-6.34	.471
Life time Dysthymia	**2.018**	1.28-3.19	**.003**
Life time Social Phobia	**1.730**	1.12-2.68	**.014**
Life time GAD	1.453	.90-2.35	.125
Life time Panic	1.105	.65-1.88	.714
Mean IDS	**1.017**	1.00-1.04	**.092**
Mean BAI	1.013	.99-1.03	.220
Mnts ANX symptoms	**1.011**	1.00-1.02	**.030**
Mnts DEP symptoms	**1.011**	1.00-1.02	**.069**
Number of ANX/DEP diagnoses	**1.288**	1.10-1.51	**.002**
Age of onset	.994	.98-1.01	.401
Cluster ii			
Separate BPD symptoms:			
Fear of abandonment	**1.540**	.92-2.57	**.099**
Love / hate	.958	.57-1.60	.871
Self identity	1.074	.63-1.82	.792
Parasuicidal behavior	**2.653**	1.60-4.39	**.000**
Fights	**.401**	.14-1.14	**.086**
Emotional instability	1.226	.72-2.08	447
Boredom / emptiness	**1.859**	1.05-3.28	**.032**
Anger	**1.966**	1.15-3.35	**.013**
Dissociation	**1.794**	.96-3.34	**.065**
Impulsivity	1.183	.73-1.92	.495
Cluster iii			
Alc dependency	.908	.59-1.41	.665
Alc abuse	.936	.51-1.72	.830
Childhood Trauma Index	.993	.86-1.15	.928
Impulsivity	.974	.93-1.02	.288
Hopelessness / suicidal ideation	**1.053**	.99-1.12	**.093**
Negative life events	1.043	.97-1.12	.256
Polydrugs use	1.297	.77-2.19	.332
Cluster iv			
Age	.994	.98-1.01	.508
Sex	1.213	.76-1.93	.414
Education	1.010	.92-1.10	.835
Living with a partner	1.284	.78-2.10	.321

	Multivariable analyses			Final model		
	RR	95%-CI	p	RR	95%-CI	p
	1.780	1.06-3.00	**.030**	**1.877**	**1.13-3.12**	**.015**
	1.300	.73-2.31	.372			
	1.00	.97-1.03	.997			
	1.009	1.00-1.02	.166			
	.999	.98-1.02	.926			
	.999	.74-1.36	.997			
	1.266	.78-1.93	.379			
Excluded[1]						
	.277	.11-.70	**.007**	**.247**	**.09-.67**	**.006**
	1.767	1.06-2.95	**.029**	1.599	.87-2.92	.127
	2.115	1.18-3.80	**.012**	**2.046**	**1.20-3.50**	**.009**
	1.016	.52-1.97	.962			
				1.005	.95-1.07	.859

Univariable and multivariable negative binomial regression analyses with recurrent suicide attempts as dependent variable (n=309). In univariable and multivariable analyses a cut-off of p ≤.10 was chosen to include characteristics in the additional final model.

[1] excluded because of confounding with the dependent variable.

attempts. The other characteristic that showed a significant and independent association with recurrent suicide attempts was a lifetime diagnosis of dysthymia. Although several severity measures of the depressive or anxiety disorders showed significant associations in univariable analyses, none of them remained significant in multivariable analyses. Remarkably, most of the known determinants of attempted suicide did not differ between those who conducted a single suicide attempt versus those who conducted recurrent attempts. In addition, the sociodemographic characteristics also failed to show significant associations.

Our findings that maltreatment in childhood, substance abuse and alcohol disorders are not associated with recurrent suicide attempts are consistent with the findings of Soloff and Chiapetta (2012). We add to the current knowledge that the comorbid BPD symptoms anger independently increased and fights independently decreased the risk of recurrent suicide attempts. In our study the symptom anger was defined as 'I have trouble to control my anger or tempers', with 25% of respondents answering positive. Fights was defined as 'I am more often involved in real fights than most other people', with only 3% positive answers. The contrasting associations with anger and fights might lie in the fact that the question on anger appears to focus more on the internalizing problems, whereas the question on fights more on the externalizing problems. Keeping the low positive response on fights in mind, this suggests that especially internalizing anger problems represent a risk factor for recurrent attempts.

In two recent prospective studies, contrasting findings with regard to impulsivity as predictor for suicide attempts were found (Boisseau et al 2012; Soloff and Chiapetta 2012). As suggested in previous research, impulsivity, hostility and aggressiveness are strongly associated (Keilp et al 2006; Brodsky et al 2006). However, after accounting for BPD, Keilp et al found that aggressiveness appeared to be the distinguishing feature of suicide attempts in patients with MDD.

Further, in contrast with previous studies (Soloff et al 2000; Berk et al 2007; Hawton et al 2003), we did not find a significant association between hopelessness and recurrent suicide attempts (after correcting for depression), despite the fact that it is generally assumed that elevated levels of hopelessness are a strong predictor of suicide attempts (Beck et al, 1985;Brown et al, 2000). However, this contrasting finding might be explained by recruitment setting of those studies. Soloff et al (2000) recruited patients in an inpatient setting and Hawton et al (2003) and Berk et al (2007) at emergency centres, representing a higher severity of illness which possibly corresponds with higher levels of hopelessness. Another explanation might be that in our study a lifetime diagnosis of dysthymia appeared to be a stronger and overlapping risk factor for recurrent suicide attempts.

To our knowledge, this is the first study in which the influence of borderline personality traits on recurrent suicide attempts in anxious and depressed patients

was examined in such detail. Other strengths of the study were that we examined the associations between recurrent suicide attempts and various characteristics in four clusters with both univariable and multivariable analyses. Finally, we had a large sample of respondents from different clinical settings, which represent depression and anxiety at different levels of severity and development. Several limitations of this study should also be mentioned. First, inconsistencies existed between the reported numbers of lifetime suicide attempts at 2-year follow-up compared to baseline. We used the highest reported number of lifetime suicide attempts, which may have led to an over-estimation. Analyses were repeated with the strictest criterion, which is the lowest reported number of suicide attempts. This resulted in similar findings when using the overall BPD traits. This implies that found associations were not due to specific suicide criteria justifying our decision to use the highest reported number of suicide attempts. However, findings referring to the separate BPD symptoms must be interpreted cautiously, because when using the strict criterion no significant association between fight and anger and recurrent suicide attempts was found. Second, the screening of personality disorders was added to the NESDA assessments at the 4-year follow up for the first time. That was a reason why it was impossible to examine the influence of comorbid BPD traits on incident suicide attempts. Additionally, the low incident rate of suicide attempts within the NESDA study precluded a prospective study. Therefore, lifetime suicide attempts instead of incident suicide attempts were analysed. Consequently, it was impossible to make statements about the chronological or causal order of events.

To conclude, the relative impact of borderline personality traits on the risk of suicide attempts in patients with anxiety or depression seems to increase in patients with more lifetime attempts. As this is the group at highest risk of committing suicide, including a thorough assessment of personality disorders and access to appropriate treatment seems increasingly important for patients with a history of suicide attempts.

REFERENCE LIST

American Psychiatric Association (2001) *Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR Fourth Edition (Text Revision)*. Washington D.C.: American Psychiatric Association.

Angst, J., Angst, F., and Stassen, H. H. (1999) Suicide risk in patients with major depressive disorder. J Clin Psychiatry, **60** Suppl 2, 57-62.

Beck, A. T., Kovacs, M., and Weissman, A. (1979) Assessment of suicidal intention: the Scale for Suicide Ideation. J Consult Clin Psychol., **47**, 343-352.

Beck, A. T., Steer, R. A., and Ranieri, W. F. (1988a) Scale for Suicide Ideation: psychometric properties of a self-report version. J Clin Psychol., **44**, 499-505.

Beck, A. T., Epstein, N., Brown, G., et al (1988b) An inventory for measuring clinical anxiety: psychometric properties. J.Consult Clin.Psychol., **56**, 893-897.

Beck, A. T., Steer, R. A., Kovacs, M., et al (1985) Hopelessness and eventual suicide: a 10-year prospective study of patients hospitalized with suicidal ideation. Am.J.Psychiatry, **142**, 559-563.

Berk, M. S., Jeglic, E., Brown, G. K., et al (2007) Characteristics of recent suicide attempters with and without Borderline Personality Disorder. Arch.Suicide Res., **11**, 91-104.

Boisseau, C. L., Yen, S., Markowitz, J. C., et al (2013) Individuals with single versus multiple suicide attempts over 10years of prospective follow-up. Compr.Psychiatry **54**, 243-255.

Brodsky, B. S., Groves, S. A., Oquendo, M. A., et al (2006) Interpersonal precipitants and suicide attempts in borderline personality disorder. Suicide Life Threat.Behav., **36**, 313-322.

Brown, G. K., Beck, A. T., Steer, R. A., et al (2000) Risk factors for suicide in psychiatric outpatients: a 20-year prospective study. J.Consult Clin.Psychol., **68**, 371-377.

Brugha, T., Bebbington, P., Tennant, C., et al (1985) The List of Threatening Experiences: a subset of 12 life event categories with considerable long-term contextual threat. Psychol.Med., **15**, 189-194.

de Graaf, R., Bijl, R. V., Smit, F., et al (2002) Risk factors for 12-month comorbidity of mood, anxiety, and substance use disorders: findings from the Netherlands Mental Health Survey and Incidence Study. Am.J.Psychiatry, **159**, 620-629.

Eikelenboom, M., Smit, J. H., Beekman, A. T. F., et al (submitted) Recall of Suicide Attempts: consistency and determinants in a large mental health study.

Forman, E. M., Berk, M. S., Henriques, G. R., et al (2004) History of multiple suicide attempts as a behavioral marker of severe psychopathology. Am.J.Psychiatry, **161**, 437-443.

Hawton, K., Houston, K., Haw, C., et al (2003) Comorbidity of axis I and axis II disorders in patients who attempted suicide. Am.J.Psychiatry, **160**, 1494-1500.

Hyler, S. E., Skodol, A. E., Kellman, H. D., et al (1990) Validity of the Personality Diagnostic Questionnaire--revised: comparison with two structured interviews. Am.J.Psychiatry, **147**, 1043-1048.

Hyler, S. E., Skodol, A. E., Oldham, J. M., et al (1992) Validity of the Personality Diagnostic Questionnaire-Revised: a replication in an outpatient sample. Compr.Psychiatry, **33**, 73-77.

Keilp, J. G., Gorlyn, M., Oquendo, M. A., et al (2006) Aggressiveness, not impulsiveness or hostility, distinguishes suicide attempters with major depression. Psychol.Med., **36**, 1779-1788.

Kessler, R. C., Berglund, P., Borges, G., et al (2005) Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990-1992 to 2001-2003. JAMA, **293**, 2487-2495.

Nock, M. K., Borges, G., Bromet, E. J., et al (2008) Suicide and suicidal behavior. Epidemiol.Rev., **30**, 133-154.

Paris, J. (2007) Managing suicidal crises in patients with severe personality disorders. In *Severe Personality Disorders. Everyday Issues in Clinical Practice.* (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

Penninx, B. W., Beekman, A. T., Smit, J. H., et al (2008) The Netherlands Study of Depression and Anxiety (NESDA): rationale, objectives and methods. Int J Methods Psychiatr.Res, **17**, 121-140.

Roberti, J. W., Storch, E. A., and Bravata, E. (2003) Further psychometric support for the Sensation Seeking Scale--Form V. J.Pers.Assess., **81**, 291-292.

Rush, A. J., Gullion, C. M., Basco, M. R., et al (1996) The Inventory of Depressive Symptomatology (IDS): psychometric properties. Psychol.Med., **26**, 477-486.

Sansone, R. A., McLean, J. S. & Wiederman, M. W. (2008) The prediction of healthcare utilization by three self-report measures for borderline personality, Int. J. Psychiatry Clin. Pract., **12**, 312-315.

Sareen, J., Cox, B. J., Afifi, T. O., et al (2005) Anxiety disorders and risk for suicidal ideation and suicide attempts: a population-based longitudinal study of adults. Arch.Gen.Psychiatry, **62**, 1249-1257.

Soloff, P. H., Lynch, K. G., Kelly, T. M., et al (2000) Characteristics of suicide attempts of patients with major depressive episode and borderline personality disorder: a comparative study. Am J Psychiatry, **157**, 601-608.

Soloff, P. H. and Chiappetta, L. (2012) Prospective predictors of suicidal behavior in borderline personality disorder at 6-year follow-up. Am.J.Psychiatry, **169**, 484-490.

Ten Have, M., de Graaf, R., van Dorsselaer, S., et al (2009) Incidence and course of suicidal ideation and suicide attempts in the general population. Can.J.Psychiatry, **54**, 824-833.

Van der Does, W. (2002) Cognitive reactivity to sad mood: structure and validity of a new measure.Behav.Res.Ther., **40**, 105-120.

Wittchen, H. U. (1994) Reliability and validity studies of the WHO--Composite International Diagnostic Interview (CIDI): a critical review. J Psychiatr.Res, **28**, 57-84.

World Health Organization (1998) *Composite International Diagnostic Interview (CIDI), version 2.1*. Geneva: WHO.

Zahl, D. L., and Hawton, K. (2004) Repetition of deliberate self-harm and subsequent suicide risk: long-term follow-up study of 11,583 patients. Br. J. Psychiatry, **185**, 70-75.

SUMMARY & GENERAL DISCUSSION

In the last chapter of this thesis the main findings will be summarized and discussed. We developed and tested a Collaborative Care Program (CCP) managed by (community) mental health care nurses with the aim to improve the quality of care for a population of patients with severe personality disorders. The management of recurrent suicidal behaviour is one of the most urgent and challenging issues among patients with personality disorders. In this regard, we aimed to increase our understanding of suicidal behaviour combined with borderline psychopathology by means of two epidemiological studies.

Initially, we will summarize the main findings of each chapter in this thesis. Subsequently, we will discuss our findings regarding outcomes and feasibility of CCP in relation to the specific characteristics of patients with severe personality disorders, organizational aspects of treatment and care, and characteristics of nurses. Finally, methodological considerations and recommendations for future research will be elucidated.

Summary of the main findings

Chapter 1 described the study protocol of our comparative multiple case study investigating the feasibility and preliminary results of a CCP for patients with severe personality disorders.

Chapter 2 elucidated the content of CCP in more detail. The CCP was elaborated in a manual for professionals and patients. It consists of several aligned structured interventions divided in three stages: preparation, treatment and evaluation. The preparation stage includes seven activities in order to provide a treatment frame. These activities are: introduction of CCP, forming of a Collaborative Care team, making a time line concerning the treatment history of the patient, explication of collaboration agreements, drafting a crisis card, need assessment and establishing the treatment plan. The treatment stage consisted of four main components: early recognition and intervention of problem behaviours, problem solving treatment, life orientation and psychoeducation. The goals, as described in the treatment plan, are evaluated every three months within the Collaborative Care team.

In **Chapter 3** we presented the preliminary results of the CCP compared to Care as Usual and investigated the factors within the CCP which were indicative for positive or negative results. We found a significant decrease in borderline symptoms in the CCP-group compared to Care as Usual. Several other process indicators showed clinically relevant effect sizes in favour of CCP: 'satisfaction with care' and 'quality of the therapeutic relationship' among patients; 'satisfaction with care' and 'perceived burden' among informal carers; and 'quality of the therapeutic relationship' among nurses. Three core elements of the CCP contributed to the positive

results: 1) improved goal orientation in the treatment process; 2) a stronger appeal to patients' self-management skills; and 3) improved skills in establishing and maintaining effective therapeutic relationships. Although far from 100% successfully implemented, our data suggest that not only patients, but also their informal carers and the nurses involved in the treatment benefited from CCP.

In **Chapter 4** we analyzed the process of execution of CCP, and identified hampering and fostering factors in this process. In 57% of the cases CCP was moderately to well applied as opposed to 43% of the cases in which CCP was poorly carried out. The execution of CCP was most successful in the preparation stage. Four interdependent factors were identified explaining the process of application. Factors were related to: 1) the context in which CCP was executed; 2) the patient population; 3) the CCP itself and 4) the individual application of CCP by the nurses. The key to successful execution appeared to be the individualized application of CCP by the nurses. At the same time, this step proved to be the most complex due to a more general unfamiliarity with working according to a protocol and problems in adjusting this specific protocol to the individual patient, poor agenda setting and the avoidance of core problems, e.g. discussing suicidal behaviour or lack of progress in treatment. In conclusion, although challenging, effective execution of CCP was achieved in a part of the nurses and preliminary results of CCP are encouraging. This indicates that CCP is feasible and might be beneficial to patients, their informal carers and nurses.

Chapter 5 described the perceived needs of care and health care utilization of persons with suicidal ideation compared to those without suicidal ideation in a large sample of patients with current depressive or anxiety disorders, derived from the NESDA study. We found that persons with suicidal ideation had higher odds for perceived unmet and met needs than persons without suicidal ideation. We also found that persons with suicidal ideation had more intensive contact with mental health care providers than persons without suicidal ideation. Our data also clearly showed that differences in perceived needs and health care utilization were largely explained by severity of the axis-I symptomatology.

In **Chapter 6** we studied the role of comorbid BPD traits in relation to recurrent suicide attempts in a large sample of patients with depression and/or anxiety disorders. In line with our expectations, borderline personality traits were strongly associated with recurrent suicide attempts within this large cohort of persons with lifetime depressive and anxiety disorders. Borderline traits become progressively more important in patients with increasing numbers of suicide attempts. Of the different BPD traits, particularly internalizing anger problems were significantly and

independently associated with recurrent suicide attempts. The other characteristic that showed a significant and independent association with recurrent suicide attempts was a lifetime diagnosis of dysthymia.

Discussion of the main findings

CCP as a promising treatment model for patients with severe personality disorders

Given the severely-ill patient group and the lack of treatment options we decided to develop a Collaborative Care Program for this target group, and next to conduct a comparative multiple case study as a first step to assess whether CCP may be an adequate treatment model for patients with (severe) personality disorders. It is striking that, even with a very small sample size (n=26), the CCP had a statistically significant effect on borderline symptomatology when compared with CAU. In combination with clinically relevant effect sizes regarding the variables 'satisfaction with care' and 'quality of the therapeutic relationship', we may conclude that CCP is a promising intervention in the treatment of patients with severe personality disorders. This is an encouraging message, since the subgroup of patients for whom CCP was developed occasionally falls into a void between psychotherapy and current alternative treatments of relatively poor quality.

The specific features, problems and needs of our target group of patients with severe personality disorders, require a systemic intervention, like Collaborative Care, with more emphasis on the care perspective than on the cure perspective. In the following sections, we will discuss our findings regarding outcomes and feasibility of CCP in relation to the specific patient characteristics, organizational aspects and characteristics of nurses.

CCP and specific patient characteristics

Collaborative Care was originally developed for the treatment of patients with chronic complex conditions, like anxiety, depressive and bipolar disorders. Our patient population with severe personality disorder and a mean treatment history of over 15 years fits within this comprehensive target group of patients with chronic and complex conditions. We have shown that acceptable execution of CCP was achieved in the majority of cases, and was most successful in the preparation stage. We have also shown that the results of CCP were promising. In the following we will discuss to which extent CCP appeared to be an adequate answer to the specific characteristics of patients with severe personality disorders.

The activities of the preparation stage were aimed at providing a shared treatment frame from which the treatment could start. Due to features of a borderline personality disorder, e.g. fear of abandonment and unstable interpersonal relationships, 'noise' in the communication easily arises, and consequently reduces continuity and effectiveness of care. Moreover, due to frequently present comor-

bidity and social problems regularly many care providers are involved. Therefore it was of importance to improve the collaboration with both stakeholders and informal carers because it might diminish the fragmented communication, clarify responsibilities and promote coordination of care. As it turned out, this increased collaboration as elaborated in CCP appeared to be an adequate answer, probably because of the exchange of information, unambiguous attitude of professionals and shared treatment objectives. The more intensive involvement of informal carers within the Collaborative Care team led to more mutual understanding and to a decline of the burden among informal carers.

Considering the long treatment history of patients and the associated elevated risk of suicide due to (unsuccessful) treatments, making a so-called timeline was considered especially helpful. In this timeline previous experiences about disease and treatment were summarized and discussed to identify helpful coping strategies, effective treatment-elements, and supportive therapeutic relationships. Based on this timeline the current therapeutic relationship with the nurse was evaluated and collaboration agreements were made. It helped patients to recognize recurrent patterns in ineffective coping strategies and to explicate expectations regarding collaboration towards the nurse. Because of the difficulties patients have with maintaining stable interpersonal relationships and their ambivalent care seeking behaviour, the importance of an adequate working alliance is evident. The way in which the establishment of a working alliance and treatment frame was elaborated in CCP appeared to be appropriate and feasible for almost all patients.

The different components of the treatment stage of CCP have appealed to the promotion of self management and problem solving skills of patients. However, occasionally, due to their ongoing dependency of mental health care, many patients identified themselves strongly with their patient role. As a result they seemed to have unlearnt skills necessary to take responsibility for their own lives and to cope with daily problems. Moreover, patients showed ambivalence towards the appeal to self management skills, which were challenged during e.g. problem solving treatment. They realized that the key to recovery was partly into their own hands, while they simultaneously showed resistance against the use of self-management and they expected that the nurse would solve their problems. They reported fear of failure and fear for new disappointments when their plans would not work as a result of which they did not try to execute the plans made. In some cases, nurses assumed that patients did not dare to change their situation out of fear that the treatment would stop when they would be doing better. With regard to the element of life orientation as elaborated in CCP, patients have regularly mentioned that making plans for the future was on bad terms with their daily struggle for life as a result of chronic suicidal feelings. Despite these ambivalences, the appeal to their responsibility and self management was valued positively.

The increased attention to the evaluation of treatment objectives and increased goal orientation during treatment made patients more aware about why and with which objectives they received care. At the end of the research period several patients concluded that they were capable to survive without treatment and to go on with their lives on their own.

Our findings regarding ambivalences of patients with severe personality disorders seem consistent with the findings from the first NESDA study regarding perceived needs of suicidal patients. Suicidal patients report more met and unmet needs than non-suicidal patients, despite frequent health care utilization (Stringer et al, 2013). Meeting the needs of suicidal patients appears to be difficult due to patients' prototypical cognitions of being untreatable, being too worthless to be treated, being incapable of profiting from any help, fear of stigma, etc. (Bruffaerts et al, 2011). In our second NESDA study we have clearly shown that borderline traits are associated with recurrent suicide attempts (Stringer et al, 2013). This implies that borderline related chronic suicidal behaviour exists, which contributes to the risk of demoralization and limits the possibility of future-oriented thinking (Paris, 2004;MacLeod et al, 2004). Professionals are at risk of being contaminated by this demoralization. In our CCP study we have explicitly addressed this recurrent suicidal behaviour: the 'therapeutic road trip' has made patients as well as nurses responsible for a safe 'journey'; suicidal behaviour has been routinely monitored and subsequent attention has been paid to crisis management and early recognition and intervention of suicidal behaviour. Although we did not find significant results on the outcome measures referring to suicidal behaviour, difference scores at both follow ups were in favour of CCP. In addition, we found medium effect sizes for 'satisfaction with care' and 'quality of the therapeutic relationship' which might imply that patients appreciated the increased attention to their suicidal feelings. Among nurses, the quantitative data regarding the effects on attitudes towards suicidal and self harm behaviour did not change spectacularly, but the quality of the therapeutic relationship was assessed more positively. In the qualitative interviews nurses reported increased confidence and skills to discuss suicidal behaviour, partially explained by the support of supervision where nurses were encouraged to raise the subject.

Finally, as recent research indicates, many patients with a personality disorder suffer from long-term functional and social impairments, despite several treatments. These functional and social impairments seem to be less responsive to change (Zanarini et al, 2010;Gunderson et al, 2011;Bateman, 2012). Several patients in our CCP study confirmed this limited responsiveness to change regarding their impairments.

Moreover, despite our effort to develop an easily-accessible intervention program, it appeared that some patients of our target population even had dif-

ficulties with the appeal to self management as elaborated in CCP, especially those with a low IQ, severe cognitive problems and those who suffer from very poor ego-strength. In those cases it appeared to be difficult to offer CCP in such an individualized way that it matches each patient's needs and capabilities. Maybe a very small proportion of patients is vulnerable to such an extent that a supportive holding environment is the highest attainable. Professionals and especially nurses should then be focussed on and supported in handling and limiting the destructive and disruptive behaviours of these patients and in preventing demoralization.

To resolve ambivalence, prototypical cognitions, dependency and functional and social impairments requires huge efforts, dedication and specialized expertise of the involved professionals. Our CCP provides a partial response to the perceived problems of patients with severe personality disorders. While occasionally patients are ambivalent towards the benefits of CCP, simultaneously they confirm that the program stimulates their autonomy and self management. It promotes taking more control of their lives.

Taking into account our experiences regarding the appropriateness of CCP for patients with severe personality disorders, an important question which has to be answered is how efficiency could be increased by allocating patients to the best suitable treatment. Allocating patients to the best suitable treatment reduces the risk of unfinished treatments and drop out. Subsequently, efficiency and adequate use of scarce financial sources will be increased (Barnicot et al, 2011). For example, psychotherapy contributes to higher quality of life, reduced psychopathology and destructive behaviour, and sustainable changes in personality, but the diverse models differ in the amount of support they offer and the degree in which confrontational techniques are used. The choice for a specific model should be attuned to the patient characteristics present, e.g. ego-adaptive capacities, motivation and abilities to establish and maintain a working alliance to increase the chance for success (van Manen et al, 2012;Barnicot et al, 2012).

The patients of our target population have characteristics which make them even more vulnerable, in particular regarding these ego-adaptive capacities, motivation and abilities to establish and maintain a working alliance. Combined with (axis I) symptom severity, problems in the social context, and socio-demographic features, e.g. limited social support, unemployment, financial problems and lower education level, they may not be eligible to any of the available psychotherapies in advance (McMurran et al, 2010;Barnicot et al, 2011;van Manen et al, 2012). Psychotherapy occasionally even causes iatrogenic harm, because the strong emphasis in psychotherapy on self-reflection, autonomy and motivation underestimates the enormous deficits of many borderline patients (van Luyn, 2007). It could be more efficient and perhaps even advisable to directly refer these patients to alternative

treatments. These treatments should aim at improving quality of life, promoting rehabilitation and recovery and controlling risks in order to prevent unsuccessful experiences and avoidable high costs. These alternatives to psychotherapy are to some extent available: our CCP, (F)ACT with integrated psychotherapy, or Interpersonal Community Psychiatric Treatment (Horvitz-Lennon et al, 2009;Koekkoek et al, 2012;Knapen, 2013).

Concerning the patients for whom even CCP was too hard to accomplish, it is good to realize that there is no such thing as a quick fix which fits all. As Bateman suggests, based on all current knowledge and experiences of the past decades concerning the treatment of patients with personality disorders, there is still an urgent need to generate an increasingly coherent theory of the borderline personality disorder, underpinned by an understanding of mechanisms of behavioural change. Especially the functional and social impairments which appear to be less responsive to change need to be better understood in order to find solutions to resolve these impairments. This improved theory should then be translated into carefully crafted therapeutic packages (Bateman, 2012).

In conclusion, with our CCP we expand the supply of available treatments for patients with (severe) personality disorders, but modesty is warranted given the severe and complex problems of these patients.

CCP and the organization of (Community) Mental Health Care

One of the objectives of Collaborative Care is to optimize the continuity and coordination of care. The intended collaboration with stakeholders required pro-active communication and collaboration across partitions of different health care organizations, e.g. addiction health care services, supervised independent living facilities and family practitioners. Although nurses occasionally had difficulties to fulfil the role of Collaborative Care manager, collaboration with stakeholders increased and consequently continuity and coordination of care improved, according to the nurses. The forming of a Collaborative Care team, including the patient, his/her informal carer, the nurse and the psychiatrist contributed to the improved continuity and coordination of care. New information or views upon the patients' problems came up from informal carers or stakeholders, and collaboration agreements were more easily fulfilled because everybody was involved in making these agreements and thus commitment regarding the treatment plan improved. This also contributed to increased goal orientation.

However, some remarks have to be made in relation to the positioning of CCP within the CMHC setting. As we have stated in the general introduction, the patients of our target population do not easily fit within illness-oriented treatment programs due to the severity of their illness and their multiple comorbidities. Therefore, CCP has been positioned within a CMHC setting. This seemed appropriate

because of its perspective on care instead of cure, outreaching possibilities and the fact that nurses within this setting are responsible for the main part of treatment. This made the positioning of the nurse as Collaborative Care manager uncomplicated. The CCP offered the previously missing structure in the treatment of these patients. However, based on our findings and experience during this research project there are also several arguments why the positioning of CCP within a CMHC setting might be subject of debate.

A first counter-argument for positioning CCP within CMHC is the main focus of treatment. The focus of CMHC is predominantly on the treatment of patients with axis I disorders, such as schizophrenia, other psychotic disorders, bipolar and depressive disorders. The treatment of patients with axis I disorders requires a different therapeutic approach than patients with severe personality disorders. The nurses have repeatedly mentioned shifting between these approaches as difficult. Moreover, one of the findings of chapter 5 was that the treatment of patients with severe personality disorders within a CMHC setting requires a different organizational policy: policy regarding degree of outreach, intensive outpatient treatment and short admissions, and criteria for in- and outflow have to be adapted in such a way that they are suitable for the population of patients with severe personality disorders. This finding is consistent with previous findings regarding the psychiatric management of patients with severe personality disorders (Horvitz-Lennon et al, 2009;Koekkoek et al, 2009a;Fiselier et al, 2010). Especially the management of recurrent suicidal behaviour, specific to patients with severe borderline personality disorder, requires adequate risk assessment which differs from the risk assessment of suicidal behaviour as part of axis I disorders. Patients with BPD have a chronically elevated risk for suicide, but on top of this chronic risk an acute risk can occur in relation to a major depressive episode, substance abuse, recent negative life events or discharge (Links and Kolla, 2005;Gunderson, 2008). To disentangle the suicidal presentations of patients with BPD requires advanced skills and experience (Paris, 2007). To manage the suicidal risk organizational preconditions and policies are required (Jobes, 2006;Paris, 2007).

Accordingly and as a second counter-argument, nurses experienced limited support of academically trained specialists in the treatment of personality disorders during the application of CCP. More support is advisable concerning specific expertise regarding maintaining effective therapeutic relationships and dealing with the accompanying countertransference feelings, risk assessment and associated decisions about (involuntary) admissions because of suicidal threats. Due to the organizational structure of CMHC this support is indeed insufficiently available. Only towards the end of the research period, psychologists and incidentally the psychiatrist attended the supervision sessions. Continuous supervision concerning the treatment of axis II psychopathology was considered as a precondition for adequate treatment

of patients with severe personality disorders. Supervisors with sufficient specific expertise and experience are generally not close at hand within a CMHC setting.

The best possible positioning of CCP within mental health care partially depends on local organizational differences. But it mainly depends on how one categorizes this patient population: do they belong to the population of patients with (severe) personality disorders or do they belong to the severe mental illness (SMI) population with several distinctive features? The recent initiatives to develop treatments which would better suit this patient population have followed this same dichotomy. Integration of psychotherapeutic models with (F)ACT is based on the assumption that as many patients as possible should be offered psychotherapy and that existing barriers should be eliminated. Our CCP and e.g. Interpersonal Community Psychiatric Treatment are based on the assumption that these patients belong to the SMI population and that a psychotherapeutic-oriented treatment may overburden these patients and cause iatrogenic harm to them. Irrespective of the organizational positioning or principles of treatments for patients with severe personality disorders, several preconditions are required: a certain critical mass of patients in order to enable professionals to build up experience in the necessary skills and attitude; easy access to inter- and supervision; possibilities to easily upgrade the intensity of (outreaching) care (van Luyn, 2007;Gunderson, 2008;de Bie et al, 2009;Fiselier et al, 2010).

In conclusion, the results of the CCP project indicate improved continuity and coordination of care, because of increased collaboration with stakeholders and informal carers. To optimize the chances for success of CCP the aforementioned skills and expertise must be available in a sufficient degree and organizational policy and back-up must be guaranteed to be able to approach this target group adequately within a CHMC setting.

CCP and characteristics of nurses

Nurses have a prominent position in Collaborative Care models as they often function as Collaborative Care managers, who are responsible for both an optimal organization of treatment and a proper implementation (Katon et al, 2001). Initially, the nurses included in the study were eager to improve their skills regarding the treatment of patients with severe personality disorders. We have seen that several nurses were capable to implement CCP effectively, especially those with an affinity for personality disorders, a higher education level and an eclectic working style. We have also shown that execution was most successful in the preparation stage of CCP, the stage in which a shared treatment frame is established. Several preparatory interventions of the CCP were highly valued by both nurses and patients. Nurses held the opinion that the CCP helped them by providing necessary structure in taking care of this specific patient group.

Our positive effects of a shared theoretical framework for treatment, improved attention to the therapeutic relationship, and supervision are consistent with findings of previous research (Kerr et al, 2007;Thompson et al, 2008;Amianto et al, 2011;Koekkoek et al, 2012) and to some extent remain valid independent of full implementation of CCP. Another explaining factor for positive results appeared to be the increased goal orientation and subsequently an improved management of the treatment process. This management of the treatment process replaced the unstructured care and took place independently of the strict application of CCP. Managing the treatment process was a recurrent theme during the supervision sessions. The importance of managing the treatment process has been confirmed as a key factor in the treatment of patients with personality disorders (Bateman, 2012;Kaasenbrood and van Meekeren, 2012).

We have argued that nurses need to be capable to apply composite intervention programs, in order to meet the specific problems and needs of the patient population. Many of these problems and needs belong (at least partially) to the nursing intervention domain, as they are related to living with the consequences of a chronic psychiatric illness: a combination of (mostly reduced) psychopathological symptoms and severe social and interpersonal problems. With an eye to the future we may be optimistic about the capacities of nurses applying composite intervention programs, because the tasks mentioned in the new nursing profiles bear close resemblance with the core elements of Collaborative Care (Lambregts and Grotendorst, 2012). Future education programs should train nurses thoroughly in the required skills and attitude necessary for applying composite intervention programs, e.g. Collaborative Care and (F)ACT models. Besides general knowledge regarding diverse psychopathologies, this training should include organizational skills, skills regarding methodical execution of protocolized interventions and skills regarding clinical reasoning and eclectic working. Prejudices towards patients with BPD need to be addressed in education programs (Bodner et al, 2011;McGrath and Dowling, 2012). The ambition of the Dutch government to increase the quality of bachelor nursing education programs might support this development.

Nevertheless, we have also seen that several nurses had substantial difficulties carrying out CCP with the patients of our target population. There are several explanations for these difficulties. Partially they can be attributed to three main system flaws. Firstly, due to the current lack of distinction in tasks and responsibilities between nurses with a vocational education level and those with a bachelor education, the bachelor competencies have been neglected by nurses themselves, as well as by managers. Bachelor-educated nurses have not been encouraged (or (financially) rewarded) to use their competencies effectively. Secondly, the current bachelor education programs do not offer nurses adequate knowledge and skills regarding the specific patient population or skills regarding the application of com-

posite intervention programs. As a result the current nurses are disadvantaged with respect to up-to-date knowledge and skills. Thirdly, until recently standards were scarce to determine the desired level of professional functioning. Since several composite intervention programs are now available to nurses, it also becomes possible to set these standards for professional functioning. Educational institutions know which levels should be attained and managers know what to demand from bachelor-educated nurses. Apart from these system flaws and more widespread than only the findings of our CCP study, under the guise of professional autonomy or high work pressure, nurses occasionally exhibit non-commitment towards their responsibility to work according to protocols and guidelines (Goossens et al, 2008;Koekkoek et al, 2009a;Koekkoek et al, 2009b).

To date, CCPs have predominantly been tested for effectiveness among patients with anxiety, depressive or bipolar disorders and mainly in primary care settings (Thota et al, 2012;Woltmann et al, 2012). Nurses have shown to be capable to effectively fulfil their role as collaborative care managers in those CCPs (IJff et al, 2007; van Orden et al, 2009;Huijbregts et al, 2012). However, compared to CCPs for those disorders, the application of CCP to patients with severe personality disorder might overburden nurses with only the current bachelor education. The persistent threat of suicide (attempts) and accompanying risk assessment concerning safety issues, the feelings of countertransference specific to borderline psychopathology, multiple comorbidities and ambivalent care seeking behaviour require enhanced capacities compared to other psychopathology. In the same way as psychotherapy often pushes patients to their limits, one could argue that nurses are being pushed to their limits by the task of carrying out the CCP for this specific patient population. The question is, however, whether the borders should be extended by raising the expectations towards bachelor-educated nurses or whether we should accept these borders by writing off bachelor-educated nurses with respect to this specific patient population in favour of clinical nurse specialists? In line with the new professional profiles it is justified to pose that future bachelor-educated nurses should be competent to execute composite intervention programs irrespective of the target population. In line with the new professional profiles in which two levels of nursing are distinguished, clinical nurse specialists could coach nurses on the job in the application of CCPs (Lambregts and Grotendorst, 2012).

In conclusion, several nurses were capable to implement CCP effectively to patients with severe personality disorders. To enhance effective implementation of CCP, nurses should be well educated and facilitated by means of supplementary training, access to inter- and supervision, and sufficient support of other disciplines and managers. According to the objective to professionalize the nursing profession, we may then expect adequate professional responsibility and we need no longer accept non-commitment

Methodological considerations

The combination of a clinical intervention study with epidemiological studies has shown to be a good choice to achieve our research objectives because of their complementary nature. The epidemiological studies confirmed a number of aspects related to the understanding of suicidal behaviour of which we could make good use in the development of the CCP and which helped in the interpretation of our results. In particular, the increased awareness and knowledge of the complexity regarding meeting the needs of suicidal patients, and the importance of borderline traits regarding the risk of recurrent suicide attempts. Even in a sample of patients with anxiety and depression where initially borderline psychopathology was one of the exclusion criteria, apparently more than ten percent had comorbid borderline traits. These comorbid borderline traits were one of the main independent and statistically significant predictors of recurrent suicide attempts.

With respect to the clinical intervention study the following remarks should be made. To our best knowledge this is the first CCP for patients with borderline personality disorder or NOS personality disorder. In this stage of intervention development and testing, insight in both the feasibility and the preliminary effects of this type of intervention is needed. Therefore, we chose to conduct a comparative multiple case study as a first step in the assessment of feasibility and preliminary results of the CCP for patients with severe personality disorders. A comparative multiple case study is suitable when testing a new intervention, implemented in complex patient situations, in order to obtain a profound insight into its value (Stake, 2006). A comparative multiple case study combines qualitative and quantitative data. The most important strength of this design is that it provides descriptive and explanatory data regarding both the process of implementation and preliminary outcomes of the intervention program. By means of method and data triangulation, the connection between the application and the preliminary outcomes of the CCP were explained in comparison with Care as Usual. With a stepped analysis plan we were able to reveal the 'black box' of the application of the intervention program in order to understand which characteristics and influencing factors are indicative for positive or negative outcomes.

In contrast with a randomised clinical trial, patients in this comparative multiple case study were not randomly assigned to CCP or CAU. Two existing CMHC teams were recruited, nurses of one of which were trained to conduct CCP. Within both conditions caseloads of the participating nurses were screened for eligible patients. These patients were approached in random order for participation in the study. Characteristics of patients, nurses and teams were highly comparable on most characteristics measured, but bias due to unmeasured confounders cannot be ruled out.

A second limitation is that we deliberately included a small number of patients in the study, which reduces the power of statistical tests comparing the effects of CCP with CAU. However, the advantage of this small sample was that we were able to provide a profound insight in the cases at individual as well as at group level. Unfortunately, the intended 32 patients were not attainable due to limited participation of control patients: patients gave no informed consent and nurses were reluctant to allow their patients to participate in research, because they expected no benefits when participating in the control condition.

A third limitation is the involvement of the primary investigator: she developed the manuals, served as the supervisor of the supervision sessions, interviewed the patients and was leading in all analyses. However, to warrant the quality of research the following precautions were made: assigning the interview with nurses to an independent co-author, peer reviewing of all analyses with this co-author, peer reviewing findings within the research group, assessing the inter-rater reliability of the classification of application, and member checking.

A fourth limitation, of a slightly different order, is the establishment of diagnoses necessary for inclusion. In our study we intended to conduct SCID-II interviews for establishing axis II diagnoses, but it appeared to be unattainable due to high burden among patients and time-consuming interviews. Instead we derived the primary and secondary DSM diagnoses from the electronic health records and asked the primary clinician to confirm the accuracy of these diagnoses. The Borderline Personality Disorder Severity Index (BPDSI) was used as an additional assessment. Patients had to score a minimum of 15 points to be eligible for inclusion in the study. The mean BPDSI score at baseline was 25.5 (SD 7.4). This same BPDSI score was also one of the main outcome indicators as it represents a measure of severity of BPD manifestations. The CCP of concern in this thesis was developed for patients with severe (borderline or NOS) personality disorders. However, one could discuss about the definition of severity in respect to personality disorders. Our cut off score of 15 for inclusion was 5 points lower than in the trials of Giesen-Bloo et al (2006) and Nadort et al (2009), suggesting on the one hand that we may have included a less severe population than these trials. On the other hand, however, our sample had a mean treatment history of over fifteen years and a mean baseline score on the Global Assessment of Functioning of 52 (range 20-70), indicating serious symptoms and impairments. Despite this long treatment history, they still did not achieve recovery, indicating difficult-to-treat chronic complex conditions and thus implying high levels of severity.

A final remark should be made about the generalizability of the results of this study. Although a relatively small number of patients was included in this study, these patients were rather representative for the broad range of chronic complex conditions among patients with severe personality disorders. Moreover, we did not

find significant differences between patient characteristics of the experimental and control conditions. Generally, patients with personality disorders receiving CMHC are rather comparable regarding symptoms and severity level, comorbidity and treatment history. So, although preliminary, our results might be generalized to the population of patients with severe personality disorders currently receiving CMHC.

Recommendations for future research

In addition to research aimed at an improved understanding of the borderline personality disorder, research might focus on more detailed qualitative and quantitative research into those patients who (still) do not benefit from available treatments. Do the deficits have a progressive character in time, are these deficits a result of iatrogenesis or are they present at onset? Depending on the answers to these questions, possible solutions could be designed. Patient and professional characteristics as well as context variables should be taken into account. Interesting subsequent questions will be how to prevent patient role identification and how to stimulate self-management and recovery in its broadest sense among patients with limited ego-strength, perceived problems with autonomy and dependency and severe cognitive problems.

Research should also focus on competence development of nurses. The future of mental health nursing will be dominated increasingly by using composite intervention programs. Which skills are necessary to effectively carry out such programs and how should these skills be trained? How could professional responsibility be acquired and enlarged by means of which education tools or incentives? The proposals for competencies of the aforementioned professional profiles should be integrated in this research (Lambregts and Grotendorst, 2012).

Conclusions

In this thesis we drew attention to some critical challenges for the nursing profession in implementing a Collaborative Care Program in a population of patients with severe personality disorders. We added a feasible intervention program, which provides necessary structure to nurses in taking care of this patient group. Patients, informal carers and nurses seemed to benefit from this CCP. The used innovative design of a comparative multiple case study appeared to be a valuable design to generate structured pilot data. Following the recommendations for more effective implementation, effectiveness of CCP might be increased and tested in a future RCT.

REFERENCE LIST

Amianto, F., Ferrero, A., Piero, A., et al (2011) Supervised team management, with or without structured psychotherapy, in heavy users of a mental health service with borderline personality disorder: a two-year follow-up preliminary randomized study. BMC.Psychiatry, **11**, 181.

Barnicot, K., Katsakou, C., Bhatti, N., et al (2012) Factors predicting the outcome of psychotherapy for borderline personality disorder: a systematic review. Clin.Psychol.Rev., **32**, 400-412.

Barnicot, K., Katsakou, C., Marougka, S., et al (2011) Treatment completion in psychotherapy for borderline personality disorder: a systematic review and meta-analysis. Acta Psychiatr.Scand., **123**, 327-338.

Bateman, A. W. (2012) Treating borderline personality disorder in clinical practice. Am.J.Psychiatry, **169**, 560-563.

Bodner, E., Cohen-Fridel, S., and Iancu, I. (2011) Staff attitudes toward patients with borderline personality disorder. Compr.Psychiatry, **52**, 548-555.

Bruffaerts, R., Demyttenaere, K., Hwang, I., et al (2011) Treatment of suicidal people around the world. Br.J.Psychiatry, **199**, 64-70.

de Bie, A., Kaasenbrood, A., Fiselier, J., et al (2009) Randvoorwaarden voor de sociaal-psychiatrische begeleiding van patiënten met ernstige persoonlijkheidsstoornissen [Preconditions for the community psychiatric treatment of patients with severe personality disorders]. MGv, 39-52.

Fiselier, J., Kaasenbrood, A., de Bie, A., et al (2010) Verminder de ruis [Diminish the 'noise']. MGv, 696-709.

Giesen-Bloo, J., Dyck van, R., Spinhoven, P., et al (2006) Outpatient psychotherapy for borderline personality disorder: randomized trial of schema-focused therapy vs transference-focused psychotherapy. Arch Gen Psychiatry, **63**, 649-658.

Goossens, P. J., Beentjes, T. A., de Leeuw, J. A., et al (2008) The nursing of outpatients with a bipolar disorder: what nurses actually do. Arch Psychiatr.Nurs, **22**, 3-11.

Gunderson, J. G. (2008) Borderline Personality Disorder. A Clinical Guide. Second Edition. Arlington: American Psychiatric Publishing, Inc.

Gunderson, J. G., Stout, R. L., McGlashan, T. H., et al (2011) Ten-year course of borderline personality disorder: psychopathology and function from the Collaborative Longitudinal Personality Disorders study. Arch.Gen.Psychiatry, **68**, 827-837.

Horvitz-Lennon, M., Reynolds, S., Wolbert, R., et al (2009) The Role of Assertive Community Treatment in the Treatment of People with Borderline Personality Disorder. Am.J.Psychiatr.Rehabil., **12**, 261-277.

Huijbregts, K. M., de Jong, F. J., van Marwijk, H. W., et al (2012) A target-driven collaborative care model for Major Depressive Disorder is effective in primary care in the Netherlands. A randomized clinical trial from the depression initiative. J.Affect.Disord.

IJff, M. A., Huijbregts, K. M., van Marwijk, H. W., et al (2007) Cost-effectiveness of collaborative care including PST and an antidepressant treatment algorithm for the treatment of major depressive disorder in primary care; a randomised clinical trial. BMC Health Serv.Res, **7**, 34.

Jobes, D. A. (2006) Managing Suicidal Risk. A Collaborative Approach. New York: The Guilford Press.

Kaasenbrood, A., van Meekeren, E. (2012) Van richtlijn naar zorg, van aanbeveling naar samenhang [From guideline to care, from recommendation to coherence]. In *Handboek Borderline persoonlijkheids-stoornis [Manual Borderline personality disorder]* (eds T. Ingenhoven, A. van Reekum, B. van Luyn, & P. Luyten), pp. 41-52. Utrecht: De Tijdstroom.

Katon, W., von Korff, M., Lin, E., et al (2001) Rethinking practitioner roles in chronic illness: the specialist, primary care physician, and the practice nurse. Gen.Hosp.Psychiatry, **23**, 138-144.

Kerr, I. B., Dent-Brown, K., and Parry, G. D. (2007) Psychotherapy and mental health teams. Int.Rev.Psychiatry, **19**, 63-80.

Knapen, S. (2013) FACT voor ernstige persoonlijkheidsstoornissen - Ervaringen met de combinatie met Mentalization Based Treatment [FACT for patients with severe personality disorders - experiences with the combination with Mentalization Based Treatment]. MGv, **68**, 20-28.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009a) Clinical problems in community mental health care for patients with severe borderline personality disorder. Community Ment.Health J, **45**, 508-516.

Koekkoek, B., van Meijel, B., Schene, A., et al (2009b) Community psychiatric nursing in the Netherlands: a survey of a thriving but threatened profession. J Psychiatr.Ment.Health Nurs, **16**, 822-828.

Koekkoek, B., van Meijel, B., Schene, A., et al (2012) Interpersonal community psychiatric treatment for non-psychotic chronic patients and nurses in outpatient mental health care: a controlled pilot study on feasibility and effects. Int.J.Nurs.Stud., **49**, 549-559.

Lambregts, J., Grotendorst, A. (2012) V&VN 2020. Deel 1 Leren van de toekomst. [V&VN 2020. Part 1 Learning from the future]. Utrecht: V&VN.

Links, P. S., Kolla, N. (2005) Assessing and managing suicide risk. In *The American Psychiatric PublishingTextbook of Personality Disorders* (eds J. Oldham, A. E. Skodol, & D. S. Bender), pp. 449-462. Washington DC: American Psychiatric Publishing.

MacLeod, A. K., Tata, P., Tyrer, P., et al (2004) Personality disorder and future-directed thinking in parasuicide. J Pers.Disord, **18**, 459-466.

McGrath, B. and Dowling, M. (2012) Exploring Registered Psychiatric Nurses' Responses towards Service Users with a Diagnosis of Borderline Personality Disorder. Nurs.Res.Pract., **2012**, 601918.

McMurran, M., Huband, N., and Overton, E. (2010) Non-completion of personality disorder treatments: a systematic review of correlates, consequences, and interventions. Clin.Psychol.Rev., **30**, 277-287.

Nadort, M., Arntz, A., Smit, J. H., et al (2009) Implementation of outpatient schema therapy for borderline personality disorder with versus without crisis support by the therapist outside office hours: A randomized trial. Behav.Res.Ther., **47**, 961-973.

Paris, J. (2004) Half in love with easeful death: the meaning of chronic suicidality in borderline personality disorder. Harv.Rev.Psychiatry, **12**, 42-48.

Paris, J. (2007) Managing suicidal crises in patients with severe personality disorders. In *Severe Personality Disorders. Everyday Issues in Clinical Practice*. (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

Stake, R. E. (2006) Multiple Case Study Analysis. New York: The Guilford Press.

Stringer, B., van Meijel, B., Eikelenboom, M., et al (2013) Perceived Need for Care and Health Care Utilization Among Depressed and Anxious Patients With and Without Suicidal Ideation. Crisis, **34**, 192-199.

Stringer, B., van Meijel, B., Eikelenboom, M., et al (2013) Recurrent suicide attempts in patients with depressive and anxiety disorders: The role of borderline personality traits. J.Affect.Disord. DOI10.1016/j.jad.2013.02.038

Thompson, A. R., Donnison, J., Warnock-Parkes, E., et al (2008) Multidisciplinary community mental health team staff's experience of a 'skills level' training course in cognitive analytic therapy. Int.J.Ment.Health Nurs., **17**, 131-137.

Thota, A. B., Sipe, T. A., Byard, G. J., et al (2012) Collaborative care to improve the management of depressive disorders: a community guide systematic review and meta-analysis. Am.J.Prev.Med., **42**, 525-538.

van Luyn, B. (2007) Severe cases: management of the refractory borderline patient. In *Severe Personality Disorders. Everyday Issues in Clinical Practice.* (eds B. van Luyn, S. Akhtar, & W. J. Livesley), Cambridge: Cambridge University Press.

van Manen, J. G., Kamphuis, J. H., Goossensen, A., et al (2012) In search of patient characteristics that may guide empirically based treatment selection for personality disorder patients-a concept map approach. J.Pers.Disord., **26**, 481-497.

van Orden, M., Hoffman, T., Haffmans, J., et al (2009) Collaborative mental health care versus care as usual in a primary care setting: a randomized controlled trial. Psychiatr.Serv., **60,** 74-79.

Woltmann, E., Grogan-Kaylor, A., Perron, B., et al (2012) Comparative effectiveness of collaborative chronic care models for mental health conditions across primary, specialty, and behavioral health care settings: systematic review and meta-analysis. Am.J.Psychiatry, **169**, 790-804.

Zanarini, M. C., Frankenburg, F. R., Reich, D. B., et al (2010) The 10-year course of psychosocial functioning among patients with borderline personality disorder and axis II comparison subjects. Acta Psychiatr.Scand., **122**, 103-109.

SAMENVATTING

Collaborative Care voor patiënten met ernstige persoonlijkheidsstoornissen.

Uitdagingen voor de verpleegkundige professie.

Introductie

Het Collaborative Care Programma dat in dit proefschrift besproken wordt, is ontwikkeld voor patiënten met een ernstige borderline persoonlijkheidsstoornis (BPS) of een persoonlijkheidsstoornis niet anderszins omschreven (PS NAO). Er zijn verschillende redenen waarom we dit Collaborative Care Programma (CCP) hebben ontwikkeld. Psychotherapie is de behandeling van eerste keus volgens (inter)nationale multidisciplinaire richtlijnen. Uit onderzoek blijkt echter dat slechts 25% van de patiënten deze psychotherapie ook daadwerkelijk krijgt, deels vanwege strikte indicatie criteria en deels vanwege onvoldoende beschikbaarheid van geschoolde (psycho)therapeuten. Daarbij varieert het percentage dat voortijdig afhaakt bij deze vormen van psychotherapie tussen de 25 en 37%. Naast beschikbaarheidproblemen en zogenoemde drop out profiteren veel patiënten onvoldoende van psychotherapie. In sommige gevallen kan het zelfs iatrogene schade veroorzaken, omdat ernstige borderline patiënten behandeling krijgen aangeboden die hen ernstig overvraagt. De nadruk die in psychotherapie gelegd wordt op zelfreflectie, autonomie en motivatie onderschat de ernstige beperkingen van veel borderline patiënten. Voor al deze patiënten die momenteel geen adequate zorg ontvangen aansluitend bij hun specifieke behoeften en rekening houdend met hun mogelijkheden, hebben wij het CCP ontwikkeld.

We hebben drie onderling samenhangende factoren beschreven die bijdragen aan het risico om inadequate zorg te ontvangen. De eerste factor is gerelateerd aan specifieke patiëntkarakteristieken, die verklaren waarom zij niet goed passen binnen het huidige aanbod van geestelijke gezondheidszorg (GGZ) voorzieningen. Deze patiënten hebben bijvoorbeeld naast hun persoonlijkheidsstoornis vaak last van chronisch suïcidale gevoelens, comorbiditeit met voornamelijk angst en depressie en veel sociale en interpersoonlijke problemen. Daarbij vertonen ze ook vaak ambivalentie ten opzichte van hun behoefte aan zorg. De tweede factor heeft te maken met de organisatie van de (ambulante) GGZ. Er lijkt een kloof te bestaan tussen zowel het huidige aanbod als de organisatie van de GGZ enerzijds en de specifieke behoeften, problemen en mogelijkheden van een bepaalde groep patiënten met ernstige persoonlijkheidsstoornissen anderzijds. Deze groep patiënten wordt nu vaak behandeld door ambulante teams voor langdurende zorg, waar verpleegkundigen verantwoordelijk zijn voor het grootste deel van de behandeling. Het probleem is alleen dat de zorg aan patiënten met ernstige persoonlijkheidsstoornissen zoals die geleverd wordt door dit soort ambulante teams vaak weinig gestructureerd en gestandaardiseerd is. De derde factor is mede daarom gerelateerd aan kenmerken van professionals werkzaam binnen deze ambulante teams, en dan in het bijzonder kenmerken van verpleegkundigen. Verpleegkundigen blijken namelijk niet altijd voldoende toegerust om hun professionele verantwoordelijkheid met betrekking tot de behandeling van patiënten met ernstige persoonlijkheidsstoornissen goed te kunnen vervullen.

In deze samenvatting zullen we bevindingen van het CCP project met betrekking tot de haalbaarheid en de resultaten bespreken in relatie tot de genoemde drie factoren. We zullen samenvattend laten zien waarom een Collaborative Care Programma een (gedeeltelijk) passend antwoord blijkt te zijn op de geconstateerde tekortkomingen in de huidige behandeling voor patiënten met een ernstige persoonlijkheidstoornis. Vervolgens zullen we aandacht besteden aan de implicaties van ons onderzoek voor de klinische praktijk. Als laatste bespreken we een aantal methodologische overwegingen ten aanzien van ons onderzoek.

Samenvatting

De belangrijkste reden om dit onderzoek te starten was onze constatering dat methodieken of interventies voor de behandeling van patiënten met ernstige persoonlijkheidsstoornissen, die in behandeling zijn bij ambulante teams voor langdurende zorg, ontbreken. De kwaliteit van de huidige zorg voor deze subgroep van patiënten is daardoor soms onvoldoende en verpleegkundigen ervaren veelal een grote handelingsverlegenheid ten aanzien van deze patiënten. De lijdensdruk van patiënten is hoog vanwege terugkerend suïcidaal of destructief gedrag, complexe sociale en interpersoonlijke problemen en een lange behandelvoorgeschiedenis met veelal onvoldoende resultaat. Als gevolg daarvan ervaren ze een lage kwaliteit van leven.

Collaborative Care is oorspronkelijk ontwikkeld in de somatische gezondheidszorg voor de behandeling van chronisch complexe klachten. De onderliggende principes van Collaborative Care Programma's (CCP) zijn gezamenlijke besluitvorming, het creëren van effectieve samenwerkingsrelaties met alle betrokken partijen en het vergroten van zelfmanagement en probleemoplossende vaardigheden. De kracht van Collaborative Care modellen is dat ze organisatorische interventies combineren met evidence-based interventies. Een ander aantrekkelijk aspect van Collaborative Care Programma's vanuit verpleegkundigen bezien, is dat verpleegkundigen een prominente rol toebedeeld krijgen, omdat zij vaak degene zijn die als Collaborative Care manager optreden. Zij zijn daarmee verantwoordelijk voor zowel een goede organisatie van zorg als voor adequate uitvoering van de behandeling. Collaborative Care Programma's zijn de laatste decennia effectief bevonden voor diverse psychiatrische stoornissen in verschillende settings, voornamelijk in de eerste lijn bij angst- en depressieve stoornissen.

We veronderstelden dat een CCP een geschikte methode zou kunnen zijn voor behandeling van deze doelgroep. In dit proefschrift staan daarom de volgende onderzoeksdoelstellingen centraal:

1. Het ontwikkelen van een Collaborative Care Programma (CCP) voor patiënten met een ernstige borderline persoonlijkheidsstoornis (BPS) of

een persoonlijkheidsstoornis Niet Anderszins Omschreven (PS NAO), aangepast aan de specifieke kenmerken en behoeften van de doelpopulatie;
2. Het beschrijven van het proces van uitvoering van het CCP bij patiënten met een BPS of een PS NAO in vergelijking met Care as Usual (CAU, gebruikelijke zorg);
3. Het onderzoeken van de voorlopige resultaten van het CCP in vergelijking met CAU;
4. Het onderzoeken welke kenmerken van het CCP verklarend zijn voor de gevonden positieve of negatieve uitkomsten in vergelijking met CAU;
5. Het beschrijven van factoren welke de uitvoering van CCP bevorderen of belemmeren;
6. Het exploreren van mogelijke consequenties voor het verpleegkundig vak met betrekking tot de uitvoering van een CCP bij patiënten met ernstige persoonlijkheidsstoornissen.

In **hoofdstuk 1** van dit proefschrift wordt het onderzoeksprotocol toegelicht en uitgewerkt, ontworpen om het CCP te kunnen testen op resultaten en haalbaarheid. Voor zover wij konden overzien is dit de eerste keer dat een CCP wordt ingezet voor patiënten met persoonlijkheidsstoornissen. Daarom is informatie nodig over zowel de bruikbaarheid als de uitkomsten van de interventie. Om deze informatie te genereren hebben we een vergelijkende multiple case studie uitgevoerd. Binnen deze studie hebben we 26 patiënten geïncludeerd met een BPS of een PS NAO uit twee vergelijkbare ambulante teams voor langdurende zorg: 16 in een experimentele conditie waar negen verpleegkundigen het CCP uitvoerden tegenover 10 in een controleconditie waar vijf verpleegkundigen de gebruikelijke zorg aanboden (Care as Usual). Ook participeerden er naasten in het onderzoek: negen in de experimentele conditie en zeven in de controle conditie.

Dit vergelijkende multiple case studie design is bij uitstek geschikt om complexe samengestelde interventies zoals ons CCP, te testen in de praktijk bij een relatief klein aantal patiënten. Door proces en uitkomsten in hun onderlinge samenhang te onderzoeken wordt een diepgaand inzicht verkregen in de condities waaronder deze interventie effectief aan patiënten kan worden aangeboden. In een vergelijkende multiple case studie worden kwalitatieve en kwantitatieve onderzoeksgegevens gecombineerd. Kwantitatieve data is in deze studie verzameld bij patiënten, hun naasten en verpleegkundigen bij aanvang van de studie, na vijf en na negen maanden follow-up. De belangrijkste kwantitatieve uitkomstmaten waren aanwezigheid van borderline symptomen, gemeten met de Borderline Personality Disorder Severity Index, en kwaliteit van leven, gemeten met de Manchester Short Appraisal. Daarnaast zijn kwalitatieve interviews gehouden met zowel

patiënten als verpleegkundigen na afloop van de laatste follow-up meting. Ook de transcripten van de supervisiebijeenkomsten zijn gebruikt als onderzoeksdata.

Karakteristiek voor een multiple case studie is dat data wordt geanalyseerd op verschillende niveaus, eerst op het niveau van elke individuele casus, vervolgens op groepsniveau van elke onderzoeksconditie afzonderlijk en als laatste op groepsniveau, waarbij de twee onderzoekscondities met elkaar worden vergeleken. Door middel van dit getrapte analyseplan kan de 'black box' van de uitvoering van het CCP worden geopend om zo te kunnen begrijpen welke kenmerken en beïnvloedende factoren de uitkomsten verklaren binnen en tussen de twee onderzoekscondities.

Het CCP, zoals dat in deze studie werd uitgevoerd, wordt in **hoofdstuk 2** in meer detail beschreven. Het CCP bestond uit vijf samenhangende onderdelen, onderverdeeld in drie fasen: een voorbereidende fase, een behandelfase en een evaluatiefase. De voorbereidende fase omvatte zeven activiteiten die moesten leiden tot een gezamenlijk behandelkader: 1) het introduceren van het CCP, 2) het samenstellen van het Collaborative Care team, waarin in ieder geval de patiënt, diens naaste, de verpleegkundige en een psychiater zitting hebben, 3) het maken van een tijdsbalk, waarmee een overzicht wordt gemaakt van voorgaande behandelingen en belangrijke levensgebeurtenissen in het leven van de patiënt, 4) het maken van duidelijke samenwerkingsafspraken met alle betrokken partijen, 5) het opstellen van een crisiskaart, 6) het inventariseren van zorgbehoeften en 7) het opstellen van een behandelplan waarin de informatie van alle voorgaande activiteiten werd meegenomen. De behandelfase bevatte vier interventies: het aandacht besteden aan vroegsignalering en vroege interventie van risicovol gedrag en het maken van een bijbehorend signaleringsplan, probleemoplossende behandeling, levensoriëntatie en psycho-educatie. Tijdens de evaluatie fase werden de doelen, zoals die waren overeengekomen in het behandelplan elke drie maanden geëvalueerd binnen het Collaborative Care team.

Het CCP is uitgewerkt in een werkboek voor patiënten en een bijbehorende instructiehandleiding voor verpleegkundigen. Participerende verpleegkundigen kregen voor aanvang van de studie een driedaagse training, waarin de benodigde vaardigheden werden aangeleerd. Gedurende de looptijd van de studie werd er supervisie aangeboden aan de verpleegkundigen onder voorzitterschap van de hoofdonderzoeker.

In **hoofdstuk 3** presenteren we de eerste resultaten van het CCP in vergelijking met CAU en laten we zien welke factoren van het CCP verklarend zijn voor positieve of negatieve uitkomsten. We vonden een significante afname van borderline symptomen in de groep die het CCP kreeg aangeboden in vergelijking tot

CAU. Verschillende andere uitkomst- en proces indicatoren lieten klinisch relevante effect-groottes zien in het voordeel van CCP: de tevredenheid met de behandeling verbeterde bij zowel patiënten als hun naasten en de kwaliteit van de therapeutische relatie werd positiever beoordeeld door patiënten en verpleegkundigen. Drie generieke aspecten van het CCP bleken verklarend voor positieve uitkomsten: 1) een verbeterde doelgerichtheid in de behandeling, 2) een groter beroep op de zelfmanagementvaardigheden van patiënten en 3) toegenomen vaardigheden in het aangaan en onderhouden van effectieve therapeutische relaties. Ondanks het feit dat het CCP lang niet in alle gevallen volledig uitgevoerd is, suggereren onze bevindingen dat patiënten, hun naasten en verpleegkundigen baat hebben bij het CCP.

In **hoofdstuk 4** analyseerden we het proces van toepassing van het CCP en onderzochten we bevorderende en belemmerende factoren in dit proces. In 57% van de casussen werd het CCP goed tot matig uitgevoerd, in tegenstelling tot 43% van de casussen waarin het CCP onvoldoende was uitgevoerd. De uitvoering van het CCP was het meest succesvol in de voorbereidingsfase van het CCP. We vonden vier onderling samenhangende factoren die het proces van uitvoering verklaarden. Deze factoren hadden betrekking op: 1) de context waarbinnen het CCP werd uitgevoerd, 2) de patiëntenpopulatie, 3) het CCP zelf en 4) de geïndividualiseerde toepassing van het CCP door verpleegkundigen. De sleutel tot succesvolle uitvoering bleek de geïndividualiseerde toepassing van het CCP door de verpleegkundigen te zijn. Het bleek ook dat deze stap de meeste complicaties met zich meebracht vanwege meer algemene onwennigheid bij verpleegkundigen om volgens een protocol te werken en vanwege problemen in het aanpassen van dit protocol voor iedere individuele patiënt. Daarnaast vonden verpleegkundigen het lastig om de agenda van elk gesprek te bepalen en vooral te bewaken. Een laatste complicerende factor was dat verpleegkundigen regelmatig de neiging hadden om kernproblemen van patiënten te vermijden, zoals het bespreken van suïcidaal of ander destructief gedrag of het gebrek aan voortgang in de behandeling. Supervisie was nodig om verpleegkundigen aan te moedigen de kernproblemen toch ter sprake te brengen ondanks hun aanvankelijke terughoudendheid ingegeven door angst of onzekerheid. Concluderend kan gesteld worden dat effectieve uitvoering van het CCP bereikt werd door sommige van de verpleegkundigen en dat de eerste resultaten veelbelovend zijn. Dit impliceert dat het CCP haalbaar is en gunstige resultaten op lijkt te leveren voor patiënten, hun naasten en verpleegkundigen.

Zoals we in de algemene introductie beschreven hebben, komen conflicterende prioriteiten in ervaren zorgbehoeften en in de daarmee samenhangende behandeldoelen veelvuldig voor in onze doelpopulatie. Daarbij is het zo dat de kloof

tussen zorgbehoeften en geschikt aanbod van GGZ-voorzieningen nog steeds groot is, in het bijzonder voor patiënten met suïcidaal gedrag. Om deze kloof te kunnen overbruggen is het van belang om mogelijke hiaten tussen ervaren zorgbehoeften en zorgaanbod voor suïcidale patiënten te onderzoeken.

Daarom worden in **hoofdstuk 5** de ervaren zorgbehoeften en zorgconsumptie van personen met suïcidale ideatie vergeleken met die van personen zonder suïcidale ideatie in een groot cohort van patiënten met huidige angst- of depressieve stoornissen. De gebruikte data komen van de Nederlandse Studie naar Depressie en Angst (NESDA), een longitudinale cohort studie naar het ontstaan en het beloop van deze angst en depressie klachten. We vonden bij personen met suïcidale ideatie een verhoogd risico op onvervulde en vervulde zorgbehoeften vergeleken met diegenen zonder suïcidale ideatie. Daarbij vonden we dat mensen met suïcidale ideatie intensiever contact hadden met GGZ-aanbieders dan diegenen zonder suïcidale ideatie. Onze bevindingen toonden ook aan dat de verschillen in ervaren zorgbehoeften en zorgconsumptie grotendeels verklaard werden door de ernst van de as-I symptomatologie.

Hoofdstuk 6 betreft een studie naar de rol van comorbide borderline trekken in relatie tot meervoudige suïcidepogingen in een groot cohort patiënten met depressie en/of angststoornissen. Ook in deze studie werd gebruikt gemaakt van NESDA data. In overeenstemming met onze hypothese waren comorbide borderline trekken sterk geassocieerd met suïcidepogingen. Borderline trekken werden daarbij toenemend belangrijk bij patiënten met een groter aantal suïcidepogingen. Van de borderline trekken bleek in het bijzonder het hebben van problemen met het internaliseren van woede c.q. agressie significant en onafhankelijk geassocieerd met meervoudige suïcidepogingen. Het andere kenmerk dat een significante en onafhankelijke associatie liet zien met meervoudige suïcidepogingen was een lifetime diagnose dysthymie.

Discussie van de belangrijkste bevindingen

We hebben deze vergelijkende multipele case studie uitgevoerd als een eerste stap in de beoordeling of het CCP een adequaat behandelmodel zou kunnen zijn voor patiënten met (ernstige) persoonlijkheidsstoornissen. Het is opvallend dat het CCP, zelfs met een zeer kleine steekproef (n=26), een statistisch significant effect had op de afname van borderline symptomen in vergelijking met CAU. In combinatie met bevredigende effect-groottes voor de ervaren tevredenheid met zorg en kwaliteit van de behandelrelatie en een acceptabel haalbaarheidspercentage kunnen we concluderen dat het CCP een veelbelovende interventie is

in de behandeling van patiënten met ernstige persoonlijkheidsstoornissen. Dit is een bemoedigende boodschap omdat deze patiënten regelmatig buiten de boot vallen bij de reguliere psychotherapieën of overgeleverd zijn aan begeleiding van soms matige kwaliteit. Met ons CCP voegen we een laagdrempelig interventieprogramma toe aan het bestaande aanbod van behandelingen dat de noodzakelijke structuur biedt aan verpleegkundigen om deze patiënten adequaat te kunnen begeleiden.

Het CCP en de specifieke patiëntkarakteristieken

Verschillende aspecten van het CCP bleken een passend antwoord te bieden op de specifieke kenmerken van patiënten met ernstige persoonlijkheidsstoornissen. We zullen de belangrijkste voorbeelden hiervan beschrijven. Een van de doelen van Collaborative Care is het optimaliseren van de communicatie, continuiteit en coördinatie van zorg. Als gevolg van bepaalde kenmerken van patiënten met een BPS, in het bijzonder verlatingsangst en vaak instabiele interpersoonlijke relaties, ontstaat er gemakkelijk 'ruis' in de communicatie met als gevolg dat de continuïteit en effectiviteit van zorg in gevaar komen. Daarbij zijn er als gevolg van de veelvuldig bestaande comorbiditeit en sociale problemen regelmatig veel verschillende hulpverleners betrokken bij deze patiënten. Daarom was het van belang om samenwerking te zoeken met de belangrijkste stakeholders en met naasten om daarmee de ruis in de communicatie te verminderen, verantwoordelijkheden te verhelderen en coördinatie van zorg te bevorderen. Het is gebleken dat deze verbeterde samenwerking binnen het CCP positief uitviel, vermoedelijk vanwege de uitwisseling van informatie, eenduidige bejegening van professionals en gedeelde behandeldoelen.

Een andere waardevolle interventie binnen het CCP was het maken van een zogeheten tijdsbalk. Gezien de lange behandelvoorgeschiedenis van deze patiënten en het daarmee geassocieerde verhoogde risico op suïcide, bleek het bijzonder helpend te zijn om de voorgeschiedenis grondig in kaart te brengen. Hierbij werd expliciet op zoek gegaan naar eerdere succesvolle coping-strategieën, helpende elementen uit voorgaande behandelingen en uit voorgaande therapeutische relaties. Op basis van deze tijdsbalk werd de huidige samenwerkingsrelatie met de verpleegkundige geëvalueerd en werden nieuwe samenwerkingsafspraken gemaakt. Het bespreken van de tijdsbalk hielp patiënten terugkerende patronen van ineffectieve coping-strategieën te herkennen en verwachtingen ten aanzien van de samenwerking te expliciteren. Juist vanwege de moeilijkheden die patiënten hebben met het onderhouden van stabiele interpersoonlijke relaties en hun ambivalentie ten opzichte van de behoefte aan zorg is het creëren van een adequate therapeutische relatie van evident belang. De manier waarop dit binnen het CCP was uitgewerkt bleek voor bijna alle patiënten haalbaar.

Een laatste voorbeeld is kenmerkend voor deze groep patiënten. De verschillende behandelonderdelen van het CCP beoogden de zelfmanagement- en probleemoplossende vaardigheden van patiënten te vergroten. Hoewel patiënten zich realiseerden dat ze zelf de sleutel tot herstel in handen hadden, vertoonden ze tegelijkertijd weerstand tegen het beroep dat gedaan werd op hun eigen verantwoordelijkheid ten aanzien van het oplossen van problemen. Vanwege hun langdurende afhankelijkheid van zorg verwachtten ze dat verpleegkundigen hun problemen zouden oplossen en waren ze deels ook verleerd om te vertrouwen op hun eigen vaardigheden. Daarbij gaven patiënten aan dat het meer bezig 'moeten' zijn met de toekomst, zoals de bedoeling in het onderdeel levensoriëntatie, op gespannen voet stond met hun vaak chronisch suïcidale gevoelens.

Het CCP biedt dus gedeeltelijk een antwoord op de ervaren problemen van patiënten met ernstige persoonlijkheidstoornissen. Hoewel deze patiënten kwetsbaar blijven en enige ambivalentie vertonen ten aanzien van de voordelen, bevestigen ze dat het CCP hun autonomie en zelfmanagement stimuleerde en dat het CCP het nemen van meer regie over hun leven bevorderde. De relatief milde confrontatie met bestaande probleemgedragingen en de op acceptatie gerichte attitude zoals die gebruikt werden binnen het CCP hebben daaraan vermoedelijk bijgedragen.

Het CCP en de organisatie van de (ambulante) GGZ

Een van de doelstelling van Collaborative Care is het optimaliseren van de continuïteit en coördinatie van zorg. De beoogde samenwerking met stakeholders vereiste proactieve communicatie en samenwerking over de schotten van verschillende gezondheidsinstellingen heen, bijvoorbeeld verslavingszorg, beschermde woonvormen en huisartsen. Hoewel verpleegkundigen het soms moeilijk vonden om hun rol als Collaborative Care manager goed te vervullen, nam de samenwerking met stakeholders toe en daarmee verbeterde de continuïteit en coördinatie van zorg, volgens de verpleegkundigen. Het vormen van een Collaborative Care team droeg daaraan bij: nieuwe informatie kwam naar voren met betrekking tot de problemen van patiënten en samenwerkingsafspraken kwam makkelijker tot stand door de grotere betrokkenheid. De betrokkenheid en verantwoordelijkheid voor het behandelplan nam hierdoor toe, wat de doelgerichtheid van de behandeling ten goede kwam.

Met betrekking tot de optimale positionering van CCP binnen het veld van de GGZ zijn een aantal kanttekeningen te maken. We hebben gesteld dat patiënten van onze doelpopulatie niet goed passen binnen de stoornisspecifieke behandelprogramma's vanwege de ernst en complexiteit van hun problemen. Daarom hebben we het CCP uitgevoerd binnen ambulante teams voor langdurende zorg. Dit leek passend vanwege het zorgende perspectief in plaats van een

perspectief gericht op genezing in engere zin. Ook de mogelijkheden voor het doen van huisbezoeken en het grote aandeel van verpleegkundigen in de behandeling deden ons kiezen voor positionering binnen de langdurende ambulante zorg. Het CCP bood (deels) de voorheen missende structuur om de behandeling voor deze patiënten beter vorm te kunnen geven. Toch zijn er op basis van onze bevindingen en ervaringen opgedaan gedurende het onderzoek ook tegenargumenten te bedenken waarom deze positionering binnen de langdurend ambulante zorg niet optimaal was.

Een eerste tegenargument is de primaire focus van behandeling binnen langdurend ambulante teams. Deze focus is primair gericht op de behandeling van patiënten met as I stoornissen, zoals schizofrenie, andere psychotische stoornissen, bipolaire of depressieve stoornissen. De behandeling van patiënten met as I stoornissen vraagt een andere therapeutische benadering dan bij patiënten met ernstige persoonlijkheidsstoornissen. Verpleegkundigen gaven veelvuldig aan dat het steeds moeten wisselen tussen deze benaderingen lastig was. Daarbij was een van de bevindingen dat de behandeling van patiënten met ernstige persoonlijkheidsstoornissen ander organisatorisch beleid vereiste: beleid met betrekking tot huisbezoeken, criteria voor opschaling van zorgintensiteit, eventuele opnames en in- en uitstroomcriteria moeten passend worden gemaakt voor deze doelgroep. Zeker het omgaan met terugkerend suïcidaal gedrag, specifiek voor patiënten met ernstige borderline problematiek, vraagt om een adequate risico-inschatting die anders is dan de risico-inschatting in het kader van as-I psychopathologie. Om de suïcidale presentaties van patiënten met ernstige persoonlijkheidsstoornissen goed te kunnen ontrafelen zijn aanzienlijke vaardigheden en ervaring vereist. Ook zijn organisatorische randvoorwaarden en beleid nodig om deze risico's goed te managen.

Een tweede tegenargument is dat verpleegkundigen aangaven zich onvoldoende gesteund te voelen door (academisch) opgeleide specialisten bij de uitvoering van het CCP. Gezien de organisatiestructuur van de langdurende ambulante zorg is deze ondersteuning ook beperkt beschikbaar. Inter- en/of supervisie werd gezien als een essentiële voorwaarde om deze patiënten goed te kunnen behandelen. Supervisoren met voldoende expertise en ervaring in de behandeling van patiënten met ernstige persoonlijkheidsstoornissen zijn binnen de langdurende ambulante zorg vaak niet zomaar voorhanden.

De best mogelijke positionering van CCP binnen de GGZ zal deels afhangen van lokale organisatorische verschillen. Maar het hangt voornamelijk af van hoe men deze patiëntenpopulatie categoriseert: Behoren zij primair tot de populatie van patiënten met (ernstige) persoonlijkheidsstoornissen of behoren zij tot de populatie van patiënten met ernstige psychiatrische aandoeningen (EPA) met bepaalde specifieke kenmerken? De initiatieven die recentelijk zijn ontplooid volgen

deze tweedeling. Integratie van psychotherapie met (F)ACT gaat uit van de veronderstelling dat zoveel mogelijk patiënten psychotherapie moet worden aangeboden en dat eventuele belemmeringen daarvoor moeten worden weggenomen. Ons CCP en bijvoorbeeld de Interpersoonlijke Sociaal Psychiatrische Begeleiding zoals ontwikkeld door Koekkoek e.a. gaan uit van de veronderstelling dat deze patiënten behoren tot de EPA populatie en dat een psychotherapeutisch georiënteerde behandeling deze patiënten overvraagt en wellicht zelfs iatrogene schade berokkent. Ongeacht de exacte organisatorische positionering of onderliggende uitgangspunten is er een aantal randvoorwaarden aan te wijzen voor de behandeling van deze doelgroep: er is een zekere kritische massa van patiënten nodig om professionals in de gelegenheid te stellen voldoende ervaring op te doen, zowel qua vaardigheden als attitude; laagdrempelige toegang tot inter- of supervisie; mogelijkheden om de zorgintensiteit eenvoudig op te schalen.

Concluderend kan gesteld worden dat de resultaten van het CCP project erop wijzen dat de coördinatie en continuïteit van zorg verbeterden, vermoedelijk vanwege de toegenomen samenwerking met stakeholders en naasten. Om de kans voor succesvolle uitvoering van CCP binnen de langdurende ambulante zorg te vergroten moeten de genoemde ervaring en vaardigheden in voldoende mate beschikbaar zijn en moeten organisatorische randvoorwaarden gegarandeerd zijn.

Het CCP en de positie van verpleegkundigen

We hebben gezien dat meerdere verpleegkundigen in staat waren om het CCP effectief uit te voeren, in het bijzonder die verpleegkundigen met affiniteit met persoonlijkheidsstoornissen, een hoger opleidingsniveau en een eclectische manier van werken. We hebben ook gezien dat de uitvoering het meest succesvol was in de voorbereidingsfase van het CCP. Verschillende van de voorbereidende activiteiten werden hoog gewaardeerd door verpleegkundigen en patiënten. Bovendien zijn de door ons gevonden generieke aspecten van het CCP, die verklarend waren voor positieve uitkomsten, consistent met bevindingen uit eerder onderzoek. Aspecten als een gedeeld theoretisch raamwerk, toegenomen aandacht voor de werkrelatie en supervisie hebben blijkbaar los van volledige uitvoering al een positief effect.

Echter, sommige verpleegkundigen vonden het uitvoeren van CCP uiterst lastig. Dit kan deels worden verklaard door de relatief nieuwe positie van verpleegkundigen binnen dit soort samengestelde interventieprogramma's. Dit brengt nieuwe uitdagingen met zich mee voor verpleegkundigen om ervoor te zorgen dat het adequaat uitvoeren van dit soort programma's mogelijk wordt. De huidige verpleegkunde opleidingen vertonen nog teveel hiaten in het bieden van specifieke expertise betreffende de behandeling van persoonlijkheidsstoornissen. Daarbij wordt ook onvoldoende aandacht besteed aan de benodigde vaardighe-

den om volgens protocollen en richtlijnen te kunnen werken, met inbegrip van de vereiste organisatievaardigheden en professionele verantwoordelijkheid. Het huidige gebrek aan onderscheid tussen MBO en HBO verpleegkundigen heeft er daarbij toe bijgedragen dat HBO competenties veronachtzaamd zijn door zowel verpleegkundigen zelf als door managers. HBO-verpleegkundigen zijn lang niet uitgedaagd (of (financieel) beloond) om hun competenties effectief in te zetten in de klinische praktijk. Tot voor kort was het ook nauwelijks mogelijk om normen voor professioneel functioneren vast te stellen. Met de komst van samengestelde complexe verpleegkundige interventies wordt het ook mogelijk om deze normen te stellen. Opleidingen weten naar welke eindtermen ze moeten opleiden en managers weten wat ze mogen verwachten van HBO-opgeleide verpleegkundigen.

Naast dit soort systeemfouten en breder dan enkel de bevindingen uit onze studie, zien we in de praktijk soms dat verpleegkundigen onder het mom van professionele autonomie of werkdruk een zekere vrijblijvendheid vertonen ten opzichte van hun verantwoordelijkheid om te werken volgens protocollen of richtlijnen. Tegelijkertijd zou je kunnen stellen dat we verpleegkundigen wellicht overvragen door te verwachten dat ze een complexe samengestelde interventie zoals het CCP adequaat kunnen toepassen bij patiënten met ernstige persoonlijkheidsstoornissen.

Toch zouden HBO-verpleegkundigen in staat moeten worden geacht om dit soort samengestelde interventieprogramma's adequaat uit te voeren om zo tegemoet te komen aan de specifieke problemen en behoeften van verschillende patiëntenpopulaties. Veel van de ervaren problemen behoren immers (in ieder geval deels) tot het verpleegkundig domein. Bovendien benadrukt de huidige organisatiestructuur van de langdurend ambulante zorg met zijn beperkte beschikbaarheid van psychiaters en psychotherapeuten, welke zijn ingegeven door bezuinigingen en taakverschuiving, het belang dat verpleegkundigen goed zijn toegerust om hun professionele verantwoordelijkheid te kunnen vervullen. Met een blik op de toekomst mogen we optimistisch zijn over de capaciteiten van verpleegkundigen om het CCP en vergelijkbare interventieprogramma's uit te voeren. Met de twee niveaus van verpleegkundigen, zoals voorgesteld in de nieuw ontwikkelde beroepsprofielen, worden nieuw op te leiden verpleegkundigen hopelijk beter toegerust. Zeker wanneer in de nabije toekomst de opleidingen de vereiste competenties zoals beschreven in de beroepsprofielen gaan weerspiegelen. Het voornemen van de Nederlandse regering om een kwaliteitsimpuls te geven aan MBO en HBO opleidingsinstituten kan dit streven wellicht nog verder ondersteunen. Wat verder nodig is, is een adequate positionering van de GGZ verpleegkundig specialist om hen in staat te stellen verpleegkundigen te coachen bij het uitvoeren van interventieprogramma's.

Sterke en zwakke punten van het onderzoek

De combinatie van een klinische interventiestudie met epidemiologische studies bleek een geschikte manier om onze onderzoeksdoelstellingen te bereiken vanwege hun complementaire karakter. De epidemiologische studies bevestigden een aantal aspecten met betrekken tot het begrip van suïcidaal gedrag waarmee we ons voordeel konden doen bij het ontwikkelen van het CCP en bij de interpretatie van de resultaten. In het bijzonder de complexiteit van het tegemoet komen aan ervaren zorgbehoeften bij suïcidale patiënten en de grote invloed van borderline trekken op het risico voor herhaalde suïcidepogingen waren van groot belang. In een steekproef van patiënten met angst en depressie, waar op voorhand borderline psychopathologie gold als een exclusiecriterium, bleek ongeveer tien procent van de patiënten een comorbide borderline stoornis te hebben. Deze comorbide borderline trekken bleken een van de belangrijkste onafhankelijke en statistisch significante voorspellers te zijn voor herhaalde suïcidepogingen.

Met betrekking tot de interventiestudie zijn de volgende kanttekeningen te plaatsen. De belangrijkste kracht van een vergelijkende multiple case studie is dat het beschrijvende en verklarende gegevens oplevert met betrekking tot het proces van uitvoering en de voorlopige resultaten van het interventieprogramma. Door middel van methode en data triangulatie wordt de relatie tussen de uitvoering en resultaten van het CCP verklaard in vergelijking met Care as Usual.

Er is echter ook een aantal beperkingen dat vermeld dient te worden. Ten eerste zijn patiënten niet gerandomiseerd toegewezen aan de experimentele respectievelijk de controle conditie. Hoewel de kenmerken van beide condities geen significante verschillen lieten zien kan enige mate van vertekening door niet gemeten confounders zijn opgetreden. Ten tweede is bewust een beperkt aantal patiënten geïncludeerd, waardoor de zeggingskracht van de statistische toetsen beperkt werd. Het voordeel van deze relatief kleine steekproef was echter dat we in staat waren om een diepgaand inzicht te bieden op zowel het niveau van elke individuele casus als op groepsniveau. Een derde mogelijke beperkende factor was de grote betrokkenheid van de hoofdonderzoeker. Zij ontwierp de interventie en maakte de werkboeken, ze gaf supervisie en had een leidende rol in alle analyses. Om de kwaliteit van het onderzoek te kunnen waarborgen zijn de volgende maatregelen genomen: het toewijzen van de interviews met verpleegkundigen aan een onafhankelijke coauteur, het doorspreken en checken van alle analyses met deze coauteur, het bespreken van de bevindingen in de onderzoeksgroep, het beoordelen van de interbeoordelaarsbetrouwbaarheid van de classificatie van de uitvoering en member checking, d.w.z. het voorleggen van de belangrijkste bevindingen uit elk interview aan de geïnterviewde. Een laatste beperkende factor was het vaststellen van de diagnoses, nodig voor inclusie. De intentie was om een diagnostisch SCID-II interview af te nemen bij alle patiënten om geschiktheid voor

de studie te bepalen. Deze interviews bleken echter te intensief voor veel patiënten en zeer tijdrovend. Om die reden zijn de diagnoses overgenomen uit het elektronisch patiëntendossier en is de accuraatheid van deze diagnoses gecheckt door de hoofdbehandelaar.

Verder onderzoek in de toekomst

Interessant vervolgonderzoek zou zich kunnen richten op meer diepgaand kwalitatief en kwantitatief onderzoek naar kenmerken van die patiënten die (nog steeds) niet profiteren van het behandelaanbod voor patiënten met (ernstige) persoonlijkheidsstoornissen. Zijn de geconstateerde beperkingen bij patiënten het gevolg van een progressief karakter van de ziekte door de tijd, zijn ze het resultaat van iatrogene schade door behandeling of zijn ze al aanwezig op het moment dat de ziekte voor het eerst gediagnosticeerd wordt? Afhankelijk van de antwoorden op deze vragen, kunnen mogelijke oplossingen worden bedacht. Professionele, patiënten- en context variabelen zullen hierin meegenomen moeten worden. Interessante vragen zijn dan vervolgens hoe we kunnen voorkomen dat patiënten zich teveel gaan identificeren met hun patiëntenrol, hoe we het zelfmanagement en herstel van patiënten kunnen stimuleren bij patiënten met beperkte ik-sterkte, problemen met autonomie en afhankelijkheid en ernstige cognitieve problemen.

Onderzoek zou zich ook moeten richten op competentie ontwikkeling bij verpleegkundigen. Hoe wordt professionele verantwoordelijkheid verworven en hoe kan dit versterkt worden? Welke onderwijsmethoden en prikkels zijn er te bedenken om dit proces te bespoedigen? De beschreven competenties uit de nieuwe beroepsprofielen zouden ook in dit onderzoek meegenomen moeten worden.

Conclusies

In dit proefschrift hebben we aandacht besteed aan een aantal uitdagingen waarmee verpleegkundigen geconfronteerd worden bij het uitvoeren van een complexe interventie bij een populatie van patiënten met ernstige persoonlijkheidstoornissen. We hebben een haalbare toegankelijke interventie ontwikkeld welke de nodige structuur biedt aan verpleegkundigen bij het behandelen van patiënten met ernstige persoonlijkheidsstoornissen. Patiënten, hun naasten en verpleegkundigen lijken te profiteren van dit Collaborative Care Programma. Het gebruikte onderzoeksdesign, namelijk een vergelijkende multiple case studie, bleek een waardevol design om gestructureerde pilot data te kunnen genereren. Wanneer de aanbevelingen voor meer effectieve uitvoering worden opgevolgd, kan de effectiviteit van CCP wellicht nog worden vergroot en in een toekomstige grootschaliger gerandomiseerde experimentele studie worden getest.

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In april 2009 begon ik aan dit promotietraject zonder precies te weten waar ik 'ja' tegen had gezegd. Ruim vier jaar later op zondag 12 mei 2013, Moederdag en Dag van de Verpleging, stuurde ik het eindproduct door naar mijn begeleidingscommissie. Vier jaar later weet ik ook waar tegen en tegen wie ik ja, en later in het traject overigens ook steeds vaker nee, zei. Velen van hen ben ik veel dank verschuldigd.

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CURRICULUM VITAE

Barbara Stringer was born on November 18, 1973 in Haarlem, The Netherlands. After her graduation from high school at the Stedelijk Gymnasium in Haarlem, in 1992 she started to study Social Sciences at the University of Utrecht. She continued with Social and Institutional Economics, but did not finish her bachelor.

She switched to nursing and finished her bachelor in Nursing at HAN University of Applied Sciences in Nijmegen in 2000. The last two years of her bachelor education she worked as a nursing student at Psychiatric Center Nijmegen. In October 2001, after a year of traveling she started to work at De Geestgronden, currently called GGZ inGeest, at an acute closed ward. From 2002-2007 she followed a master Nursing Science at the University of Utrecht. In 2004 she became a member of the research group Mental Health Nursing of Inholland University of Applied Sciences. From 2004 she worked for the research department and management support department and initiated and chaired an innovation platform for nurses. In 2007-2008 she worked as project-leader of a project aimed at reducing seclusion and restraint. In April 2009 she started as a PhD student at GGZ inGeest, department of Psychiatry and the EMGO+ at the VU University Medical Center in Amsterdam in collaboration with Inholland University.

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PUBLICATION LIST

Publications

Stringer, B., van Meijel, B., Karman, P., Koekkoek, B., Hoogendoorn, A., Kerkhof, A., Beekman, A. (submitted)
Feasibility and preliminary results of a Collaborative Care program for patients with severe personality disorder: A comparative multiple case study.

Stringer, B., van Meijel, B., Karman, P. Koekkoek, B., Hoogendoorn, A., Kerkhof, A., Beekman, A. (submitted)
A Collaborative Care program for patients with severe personality disorders: Analyzing the feasibility of a complex intervention for complex nursing situations

Stringer, B., van Meijel, B., Eikelenboom, M., Koekkoek, B., Verhaak, P., Kerkhof, A., Penninx, B., Beekman, A. (2013)
Perceived Need for Care and Health Care Utilization Among Depressed and Anxious Patients With and Without Suicidal Ideation.
Crisis, **34**, 192-199.

Stringer, B., van Meijel, B., Eikelenboom, M., Koekkoek, B., Licht, C. Kerkhof,A., Penninx, B., Beekman, A. (2013)
Recurrent suicide attempts in patients with depressive and anxiety disorders: The role of borderline personality traits.
J.Affect.Disord. *DOI*: 10.1016/j.jad.2013.02.038.

Stringer, B., van Meijel, B., Koekkoek, B., Kerkhof, A., Beekman, A. (2011)
Collaborative Care for patients with severe borderline and NOS personality disorders: a comparative multiple case study on processes and outcomes. BMC.Psychiatry, **11**, 102.

Stringer B., van Meijel B., de Vree W., van der Bijl J. (2008)
User involvement in mental health care: the role of nurses.
Journal of Psychiatric and Mental Health Nursing **15**, 678-683.

Publications in Dutch

Stringer, B., van Meijel, B., Koekkoek, B., Kerkhof, A., Beekman, A., (ingediend bij MGv)
Collaborative Care voor patiënten met ernstige persoonlijkheids-stoornissen: een vergelijkende multiple case studie.

Kool N., Stringer B., van Hemert A.M. (2013)
Diagnostiek van suïcidaal gedrag vanuit verpleegkundig perspectief. SP, **104**, 7-14.

van Hemert, A. M., Kerkhof, A. F. M., de Keijser, Verweij, B., van Boven, C., Hummelen, J. W., de Groot, M. H., Lucassen, P., Meerdinkveldboom, J., Steendam, M., Stringer, B., Verlinde, A. A. (2012)
Multidisciplinaire richtlijn Diagnostiek en Behandeling van Suicidaal Gedrag. Utrecht: De Tijdstroom.

Koekkoek, B. & Stringer, B. (2012)
Hoofdstuk 6.1. Verpleegkundige zorg. In: *Handboek Borderline persoonlijkheidsstoornis*. Ingenhoven T, Reekum A van, Luyn B van, Luyten P (red.). Utrecht: de Tijdstroom.

Welleman, R., Stringer, B., Landeweer, E., Gijsbers-van Wijk, C. (2011)
De eerste vijf minuten in de verlenging. Implementatie en borging van best practices dwangreductie (2008-2011). Amsterdam, GGZ inGeest

van Meijel B., Stringer B., Meerwijk E., Koekkoek, B. (2010)
Verpleegkundige zorg voor suïcidale patiënten. In: *Suïcidepreventie in de praktijk*. Kerkhof A. & Luyn B. van (red.). Houten: Bohn Stafleu en van Loghum.

Stringer B., Welleman R., Berkheij E., Keppel, P., Kleve, J. (2009)
De eerste vijf minuten: het halve werk. Eindverslag van het project Vermindering dwangtoepassingen. Amsterdam, GGZ inGeest.

Stringer B., van Meijel B., de Vree W., van der Bijl, J. (2007)
Patiëntenparticipatie in de GGZ. Een literatuuronderzoek naar de mogelijkheden van verpleegkundigen. MGv, 4, 290-302.

DISSERTATION SERIES

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