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Collaborative Care for Patients With Severe Personality Disorders: Preliminary Results and Active Ingredients From a Pilot Study (Part I)

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Author contributions
BS, BM, and BK: conception and design of the study, interpretation of the data, revising the article critically for important intellectual content. BS: collection and analyses of data, drafting and revision of the article. PK: collection and peer review of the qualitative data, revision of the article. AH: assisted with statistical analyses. AK and AB: interpretation of the data; revising the article critically for important intellectual content. All authors have given final approval of this version to be published.

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PURPOSE: To test if a collaborative care program (CCP) with nurses in a coordinating position is beneficial for patients with severe personality disorders.
DESIGN AND METHODS: A pilot study with a comparative multiple case study design using mixed methods investigating active ingredients and preliminary results.
FINDINGS: Most patients, their informal caregivers, and nurses value (parts of) the CCP positively; preliminary results show a significant decrease in severity of borderline symptoms.
PRACTICE IMPLICATIONS: With the CCP, we may expand the supply of available treatments for patients with (severe) personality disorders, but a larger randomized controlled trial is warranted to confirm our preliminary results.

Psychotherapy is considered as the preferred treatment for personality disorders according to clinical guidelines (Stoffers et al., 2012; Verheul & Herbrink, 2007). Next to these protocolized psychotherapies, there exist several other treatment options, like good psychiatric management, structured clinical management, and integrated treatment (Bateman, 2012; Livesley, 2012; McMain, Guimond, Streiner, Cardish, & Links, 2012). All these therapies are proven effective, but unfortunately that does not mean that they are effective in all patients, or that they are fully effective. All in all, there are large groups of patients with severe personality disorders who do not have access or benefit from (change-oriented) psychotherapy (Barnicot, Katsakou, Marougka, & Priebe, 2011; Hermens, Van Splunteren, Van den Bosch, & Verheul, 2011; McMurran, Huband, & Overton, 2010). It is with these patients in mind that we have developed a collaborative care program (CCP) for patients with severe personality disorders.

The development of this CCP was based on three main factors that contribute to the risk of receiving inadequate care. These risk factors are mutually dependent. The first factor is related to specific patient characteristics, which explain why they do not easily fit within the current mental healthcare provisions. In addition to their personality disorders, these patients commonly suffer from comorbid psychiatric disorders, and multiple social and interpersonal problems. Moreover, most of them exhibit ambivalence toward their need for care. The second factor is associated with the organization of (community) mental health care. 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, Van Meijel, & Hutschemaekers, 2010; Koekkoek, Van Meijel, Schene, & Hutschemaekers, 2009). Accordingly, the third factor is related to characteristics of the professionals working within these CMHC settings, and in particular to characteristics of nurses. As research suggests, the treatment of patients with severe personality disorders is considered as highly stressful for all care providers, but in particular for nurses (Bodner, Cohen-Fridel, & Iancu, 2011; Gunderson, 2008; McGrath & Dowling, 2012; Newton-Howes, Weaver, & Tyrer, 2008). These factors may lead to suboptimal quality and effectiveness of care.

A promising response to the shortcomings in the treatment of patients with chronic complex conditions, like our target population, is the development of CCPs. CCPs aim to increase shared decision-making and enhancement of self-management skills of chronically ill patients, as well as to optimize continuity and coordination of care (Von Korff, 1997; Woltmann et al., 2012). 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 personality disorder not otherwise specified (NOS). In this stage of intervention development and testing, insight in both the preliminary effects and the feasibility are needed. Therefore, we combined quantitative and qualitative methods in a comparative multiple case study. In this first study (Part I), we focus on the preliminary results and active ingredients of the CCP. In an accompanying article (Part II), we concentrate on the actual execution of CCP and factors that impede or facilitate execution in order to gain a more profound insight in the feasibility of the CCP. The following research objectives for the present article were formulated:

1. To describe the preliminary outcomes of a CCP for patients with a severe borderline or NOS personality disorder in comparison with care as usual (CAU).
2. To identify active ingredients of the CCP determining positive outcomes.

Material and Methods

Design

For this pilot study, we used a comparative multiple case study design. This 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 active ingredients, outcomes, and, in an accompanying article (Part II), the execution of the intervention program. By making use of a control group, we were able to systematically compare the CCP with CAU. 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, secondly at group level, and thirdly at the level of the comparison of the two conditions. For a detailed description of the design, we refer to the study protocol (Stringer, Van Meijel, Koekkoek, Kerkhof, & Beekman, 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 CMHC teams of a large mental health organization in the Netherlands. In this study, two treatment conditions were compared: an experimental

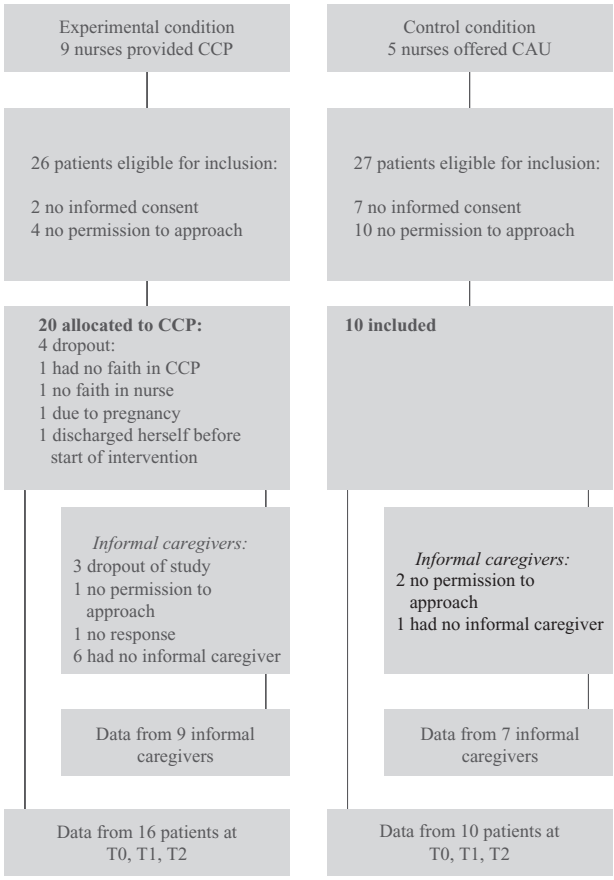

Figure 1. Flowchart of Included Patients and Informal Caregivers

condition in which one CMHC team provided the CCP, and a control condition in which the other CMHC team offered 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.

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, Wachters, Schouten, & Arntz, 2010), and who mostly had received (unfinished) specialized treatments before for at least 2 years. Participants were required to speak and read Dutch sufficiently well to fill in questionnaires. We aimed to include 32 (2×16) patients. Fifty-three patients were eligible for inclusion (see Figure 1). The final sample consisted of 26 patients: 16 in the experimental condition and 10 in the control condition. 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 caregivers* to participate in the study. In the experimental condition, nine informal caregivers participated (56%), as opposed to seven in the control condition (70%) (Figure 1).

Ten *nurses* from the experimental condition and five nurses from the control condition were included in the study. Participation was on a voluntary basis. Nurses who participated in the experimental condition received a 3-day training in providing the CCP.

The CCP

The CCP consisted of several integrated components, divided in a preparation, a treatment, and an evaluation stage:

1. The seven preparatory activities provide a treatment frame, which is recommended in (inter)national treatment guidelines for personality disorders. These activities aimed to optimize collaboration and coordination between the main partners: patients, their informal caregivers, psychiatrists, and nurses. The activities are

a. *Introduction* of the principles of collaborative care to the patient and informal caregivers.
b. Forming of a *collaborative care team* (CCT) consisting of the above-mentioned partners.
c. Evaluation of treatment history and coping skills with life events by means of a *timeline*.
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 is the navigator (Jobes, 2006). Driver and navigator travel together, but it is the driver who has a decisive vote in where to go and how to get there (safely).
e. *Crisis management* by drafting a crisis response card.
f. Systematic *assessment of needs* by means of the Camberwell Assessment of Need (CAN).
g. Formulation of a *treatment plan*.

The treatment stage consists of several interventions aiming to promote self-management and problem-solving skills:

2. *Early recognition of destructive behaviors* (i.e., suicidal, self-harm, aggressive or addictive behaviors) *followed by early interventions* using a relapse prevention plan.
3. Application of *problem-solving treatment* (PST).
4. Application of elements of solution-focused treatment to gain a more positive *life orientation*.
5. Provision of *psycho-education* (PE).

In the evaluation stage, the goals, as described in the treatment plan, were evaluated every 3 months within the CCT.

The activities of the preparation stage were required, while the different components of the treatment stage could be applied in a flexible order, dependent on the priorities in unmet needs, the preferences of the patient, and previous experiences. The assumption was that good results could also be possible when single treatment interventions had been executed during the 9 months of the research period.

Care as Usual

The CMHC team of the control condition had a comparable patient population and a comparable multidisciplinary team. Within common CMHC, both axis I and II disorders are treated with mostly generic techniques: supportive techniques, case management, and crisis management. Formal or protocolized interventions are scarcely available. Evaluation of treatment is commonly executed once a year in the presence of the patient, the (community) mental health nurse, and a psychiatrist.

Data Collection

For this pilot study, mixed research methods were used:

1. To answer the first research question, quantitative data were collected at three time points: at baseline (T0), and at five (T1) and nine (T2) months. Data were collected among patients, their informal caregivers, and nurses. A detailed overview can be found in the study protocol (Stringer et al., 2011). Here we present a summary.

a. Self-report questionnaires and a diagnostic interview were completed, representing outcome and process indicators. The main outcomes were quality of life, measured with the Manchester Short Appraisal (MANSA) (Priebe, Huxley, Knight, & Evans, 1999), and current severity and frequency of the borderline manifestations, measured with the 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 to 90. A cutoff score of 15 was found to distinguish patients with BPD from healthy controls (Giesen-Bloo et al., 2006). The BPDSI interviews were conducted by three psychologists and the first author, who were all trained to administer this interview.

b. Nurses from both conditions filled out process forms in which the number and content of contacts were registered. 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 actual content of treatment.

c. Mental healthcare 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. To answer the second research question, qualitative data were gathered by individual semi-structured interviews with nurses and patients examining the active ingredients of (parts of) the CCP. The interviews with the nurses ($n = 14$) were conducted by a research assistant (PK) after the last measurement (9 months after baseline). They were interviewed about one of their patients who participated in the study. These patients, except one who was lost to follow-up, were interviewed as well by the first author (BS) ($n = 13$). This distribution of interviews was motivated by the fact that the first author was too closely involved with the nurses. All interviews were audiotaped and transcribed verbatim. For all interviews, a topic list was used, referring to the underlying, neutrally formulated principles of the CCP, that is, quality of the therapeutic relationship, problem solving, coping with destructive behavior, and self-management. For both conditions, the same topic lists were used; however, the questions were adapted in line with the different treatment contexts in the two conditions. Initially, in the interviews, both patients and nurses were asked to reflect on the individual quantitative outcomes. Subsequently, the underlying principles of the CCP were discussed. Finally, the participants were asked to identify active ingredients of the CCP or CAU, respectively, which were indicative for positive outcomes.

Analyses

To describe and compare the characteristics of patients, nurses, and informal caregivers of the experimental and control conditions, a comparison was made of sociodemographic and, in case of the patients, psychopathological characteristics (t test for continuous variables and χ^2 test for categorical variables).

To answer the first research question, examining the preliminary results, longitudinal analysis by means of random intercept models was performed for all variables (Twisk, 2003). Because the BPDSI was measured only at two measurement points, a paired t test was performed. Quantitative data were analyzed using SPSS 20 (IBM Corp., Armonk, NY, USA).

To answer the second research question, examining the active ingredients, firstly we made single-case descriptions. To make these single-case descriptions, a content analysis was performed for all qualitative interviews with nurses and patients. Factors were identified which referred to the explaining factors for the effectiveness of (parts of) the program. The explanatory factors were also related to the actual level of execution based on the process forms and information derived

from the electronic patient records. Secondly, the explanatory factors at individual case level were compared and analyzed at group level. Finally, the aggregated data were used to explain which ingredients of the CCP were indicative for positive outcomes, compared to CAU. The data were analyzed using ATLAS-TI qualitative text analysis software. The credibility and dependability of the data were ensured by peer debriefing and member checking (Polit & Beck, 2003).

Results

Sample Characteristics

Sample characteristics are summarized in Table 1. The data show that the CCP and CAU groups were comparable on all variables, except sex: female patients were overrepresented in the experimental condition. No significant differences were found in the outcome indicators at baseline (data not shown).

Preliminary Results of CCP vs. CAU

As shown in Table 2, the BPDSI decreased significantly more in the experimental group compared to the control group, $t(23) = -2.31$, p .03). In the experimental condition, in 50% of the cases, the BPDSI score dropped below the cutoff of 15 points. This compares favorably with patients in the control condition, where no BPDSI scores dropped below the cutoff point. No other significant improvements were found.

With regard to use of mental health care, a significant difference was found between the experimental and control conditions in the mean number of contacts (78 vs. 23, $p = .024$), which can largely be explained by two cases (289 and 161 contacts, respectively). In these two cases, frequent crisis contacts were registered, both face-to-face and by telephone with the CMHC team as well as with the crisis service for outside office hours.

Active Ingredients

Following the three stages of the CCP, we will explain which ingredients of the CCP were indicative for positive outcomes compared to CAU.

Preparatory Stage. 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

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
Sex (*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%)	
Comorbid axis I disorder(s) (*n*, %)	16 (100%)	10 (100%)	
Comorbid 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 caregivers n = 17			
Age	52.4 (15.5)	53.3 (21.0)	.922
Sex (*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
Education level (*n*, %)			
General psychiatric nursing degree	8 (89%)	1 (20%)	
CMHC nursing degree		4 (80%)	
Clinical nurse specialist trainee	1 (11%)		

BPD, borderline personality disorder; CMHC, community mental health care; MHC, mental health care; PD NOS, personality disorder not otherwise specified.

Table 2. Preliminary Results of Outcome and Process Indicators

		Experimental condition[b]	Control condition[b]	Test statistic[c]	*p* value
Patients n = 26					
Quality of life (MANSA)	T0	40.1 (9.9)	46.1 (6.7)	$t(44.4) = 1.01$	.316
	T1	45.1 (10.6)	48.1 (7.0)		
	T2	44.9 (13.0)	48.0 (7.3)		
BPD severity (BPDSI)	T0	27.4 (8.1)	22.5 (5.3)	$t(23) = -2.31$	.030
	T2	19.6 (11.7)	22.4 (4.2)		
Suicidal behavior (BSS)	T0	21.8 (7.9)	16.6 (6.5)	$t(26.1) = -0.81$	
	T1	21.0 (8.2)	18.8 (7.5)		.428
	T2	18.2 (10.1)	14.9 (9.0)		
Psychosocial symptoms (BSI)	T0	111.3 (29.6)	124.0 (34.5)	$t(44.3) = -0.85$	.402
	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
	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
	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
	T1	38.5 (6.8)	38.9 (4.3)		
	T2	38.8 (6.5)	37.4 (4.7)		
Number of MHC contacts[a]		78.1 (70.4)	22.5 (20.0)	$t(23) = 2.42$	.024
Informal caregivers n = 17					
Satisfaction (CQ index)	T0	5.9 (2.0)	7.2 (0.8)	$t(37.0) = 1.06$	.294
	T1	6.8 (1.0)	6.8 (0.8)		
	T2	6.3 (1.0)	6.7 (0.5)		
Involvement/social support (IEQ)	T0	21.2 (13.0)	8.4 (4.0)	$t(26.4) = -1.09$	.286
	T1	18.6 (8.3)	15.3 (7.1)		
	T2	17.8 (12.7)	12.3 (7.7)		
Nurses n = 14					
Quality of therapeutic relation (STAR)	T0	35.8 (3.1)	36.8 (4.1)	$t(46.8) = 0.85$	.398
	T1	34.9 (3.3)	37.3 (4.4)		
	T2	37.7 (4.7)	37.1 (4.3)		
Attitudes toward suicidal behavior (SBAQ)	T0	41.8 (5.0)	42.8 (7.4)	$t(24.1) = -0.45$	.685
	T1	40.6 (5.1)	40.8 (3.1)		
	T2	40.7 (6.5)	43.0 (6.8)		
Attitudes toward self-harm behavior (ADSHQ)	T0	91.5 (7.2)	96.7 (5.4)	$t(21.7) = -0.73$	.476
	T1	100.5 (7.6)	95.6 (4.5)		
	T2	97.0 (6.1)	101.7 (6.2)		

[a]Number of mental healthcare contacts during the research period at individual case level, including face-to-face and telephonic contacts with CMHC team and (24-hr) crisis facilities. [b]Mean, *SD*. [c]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.

autonomy and self-management, although several patients mentioned 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 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 eight cases (50%), the forming of a CCT had succeeded. Patients' experiences with the intensified collaboration were predominantly positive: bringing all stakeholders together increased mutual understanding and diminished the burden among informal caregivers because they were better understood, informed, and involved. Nurses mentioned that continuity and coordination of care improved. Collaboration with other stakeholders increased, including healthcare providers from addiction services, home care, and supervised independent living facilities. Nurses also reported positive effects of the CCT: new information or views upon the patients' problems came up

from informal caregivers, 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 timeline. Nurses mentioned that a good introduction and a clear objective of the timeline were required because looking back at (sometimes traumatic) life events by the patient could bring up strong emotions. However, working with the timeline provided profound insight in the illness and treatment history of the patient, as well as successful and unsuccessful coping strategies applied. These insights enhanced understanding and empathy among the nurses, enabling the establishment and maintenance of more effective therapeutic relationships.

Fourthly, based on the constructed timeline, collaboration agreements were made. For the cases in which this was successfully applied ($n = 10$; 63%), patients and nurses stated that it improved the quality of the therapeutic relationship and continuity of care. The clarification of mutual expectations and openly discussing the quality of collaboration enhanced trust and diminished miscommunication. Based on statements from the interviews, it prevented dropout of treatment in three cases. Reasons for not making explicit collaboration agreements were that, in three cases, patients and nurses thought this was not necessary as their collaboration was fine as it was. In three other cases, the nurses perceived the collaboration as too complex and they avoided bringing up the quality of their collaboration.

The fifth component of the preparation stage was making a crisis response card. In the four cases (25%) where a crisis response card was made, patients mentioned increased awareness of their own capacities to manage a crisis. In two cases, patients were too unstable to discuss crisis management properly; in five cases, patients and nurses did not expect that a crisis would occur, while in five other cases only agreement about short admissions was made.

The sixth component was the structured assessment of needs by means of the CAN and the translation of unmet needs into treatment objectives. Most patients valued their increased involvement in establishing treatment objectives by means of the CAN. Nurses perceived the use of the CAN as easy to attain and helpful ($n = 12$; 75%). Assessing all domains of potential needs increased insight in the difficulties that 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.

The last component was drafting a treatment plan, in which all information from previous activities was combined. This succeeded in 15 cases (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 CAU 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. In the following section, we will describe the characteristics indicative for positive 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 behaviors and investigating triggers and early signs of risk behaviors. Several patients had difficulties to reflect on their risk behaviors and recognize early signs and triggers. But if they succeeded, it increased insight in the emergence of their risk behaviors, which led to diminished impulsive or ineffective reactions during crisis. In three cases, patient and nurse agreed that a relapse plan was not necessary because no crisis behaviors occurred since the last recent years. Some nurses felt that discussing suicidal behaviors triggered (suicidal) crisis and therefore avoided further discussion. Further, nurses did not always feel competent to discuss and manage suicidal behavior adequately. In the control condition, managing risk behaviors was unstructured and a relapse prevention plan was made only in one case.

Problem Solving

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. Three patients reported ambivalence toward the appeal to self-management skills as challenged with PST. They realized that the key to recovery was partly in 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 made plans. In two cases, nurses reported that patients seemed not to dare change their situation out of fear that the treatment would stop when it would go better with them.

Two of the three nurses responsible for the four cases where PST has been executed had prior experience with the intervention PST 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. Two patients mentioned that making plans for the future was on bad terms with their daily struggle for life as a result of chronic suicidal feelings, and therefore this intervention was not executed. Both patients and nurses mentioned that attention was paid to strengths and creating and validating positive experiences, but no contrast was found with CAU.

Psycho-education

Four nurses provided PE and two of them used the information from the workbook for this purpose. In the two other cases, PE was specifically focused on alcohol addiction and morbid overweight in combination with depression. In six cases, nurses reported not feeling competent enough to provide PE 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 3 months. This was in contrast with CAU with its standard evaluation of once a year. The 3-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 pilot data concerning the preliminary results and active ingredients of a CCP for patients with severe personality disorders.

We found a significant decrease of borderline symptoms in the experimental condition when compared with the control condition. No other significant differences were found. Mental healthcare 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 could be interesting to investigate if these efforts will be repaid over time by diminishing crisis interventions.

In explaining the effects of CCP using largely qualitative data, we identified three active ingredients of CCP: (a) improved goal orientation in treatment, (b) a stronger appeal to self-management skills of patients, and (c) improved skills in establishing and maintaining effective therapeutic relationships for all those involved. Our positive effects of a shared theoretical framework for treatment and improved attention to the therapeutic relationship are consistent with findings of previous research (Amianto et al., 2011; Kerr, Dent-Brown, & Parry, 2007; Koekkoek et al., 2012; Thompson et al., 2008), and to some extent remain valid independent of full execution of CCP. Another explaining factor for positive results appeared to be the increased goal orientation and subsequent improved management of the treatment process. This management of the treatment process replaced the unstructured care and took place independent of the strict application of CCP. 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 & Van Meekeren, 2012). During the 9 months of the research period, not all nurses were able to execute the full CCP. Not executing parts of the treatment stage of CCP can partly be assigned to shared decisions based on priorities and preferences. Another part can be assigned to insufficient skills or confidence among nurses to execute the interventions. In our accompanying article (Part II), we will elucidate these factors in more detail, examining impeding and facilitating factors for effective implementation of the CCP.

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 execution and outcomes of CCP using both qualitative and quantitative data. The comparative multiple case design also has a number of limitations that should be recognized. 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 which one was 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. A larger randomized controlled trial is warranted to test our

preliminary results and investigate cost-effectiveness of collaborative care for severe personality disorders.

Implications for Nursing Practice

Although execution appeared to be more complex than expected, our mostly qualitative data suggest that nurses and patients consider CCP as a useful and helpful intervention. Furthermore, a significant reduction was found in borderline symptoms. With our CCP, we may 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.

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