

The background of the entire page is an abstract, high-contrast artwork. It features a dense network of thin, black, hand-drawn lines that crisscross the entire surface. Overlaid on these lines are various splatters and blotches of color. A prominent feature is a large, irregular area of bright red in the lower-left quadrant. Other areas of white and light grey are scattered throughout, particularly in the upper and central portions. The overall effect is one of chaotic energy and visual complexity.

The effects of Crisis Plans for Patients with Psychotic and Bipolar disorders

Asia Ruchlewska-Winius

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The effects of Crisis Plans for Patients with Psychotic and Bipolar disorders

**Effecten van het crisisplan voor patiënten met
psychotische en bipolaire stoornissen**

Proefschrift

ter verkrijging van de graad van doctor aan de
Erasmus Universiteit Rotterdam
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PROMOTOREN:

Prof.dr. C.L. Mulder

Prof.dr. M. van der Gaag

OVERIGE LEDEN:

Prof.dr. H.J.C. van Marle

Prof.dr. J.J. van Busschbach

Prof.dr. J.J.M. Dekker

CO-PROMOTOR:

Dr. A.M. Kamperman

"It doesn't make much difference how the paint is put on as long as something has been said. Technique is just a means of arriving at a statement." Jackson Pollock

Aan Pieter, Thomas en Louisa

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Chapter 1

General introduction

BACKGROUND

Psychiatric advance statements allow patients to express their preferences for the psychiatric treatment they would receive in a future crisis situation, when their capacity for decision-making might be compromised. There are different kinds of advance statement, each determined by its context, such as its independent facilitation by a mental health professional or a peer specialist, its legislative status, or the involvement of a mental-health provider.

Henderson et al. (1) compared the six types of advance statement. The first, a psychiatric advance directive, provides legal instructions for future treatment preferences and refusals. For this type to be completed (i.e. drawn up), the patient must be competent, and a lawyer must be consulted. The second type is a facilitated advance directive, whose completion is facilitated by an independent social worker or a health educator. The third type, a crisis card, is a self-advocacy tool for crisis situations, whose completion does not necessarily involve the mental health provider. The fourth is a treatment plan, which is routinely made by the team, with or without patient's agreement. If the patient agrees to its content, it may then function as an advance agreement. The fifth type, the wellness recovery action plan (WRAP) (2) is a self-monitoring instrument that helps the patient to identify and cope with the early signs of a relapse. Once again, the mental health provider is not necessarily involved in its production. The sixth type is the joint crisis plan, a type of advance statement that represents an advance agreement between a patient and his or her treatment team. Its completion is facilitated by an independent psychiatrist who is not a member of patient's treatment team.

Correspondingly, in the Netherlands, there are various forms of advance statement. One such statement is the relapse prevention plan, a clinical instrument to help the patient cope with the early signs of relapse (3, 4, 5). Another is the self-binding directive, a legal instruction for future treatment preferences and refusals that was introduced in 2008 (6).

In the present study we evaluated a crisis plan which was developed in 1998 as a self-help initiative by the Amsterdam Patient and Consumer Advocacy Group. It comprises two aspects of an advance statement: crisis prevention and the provision of practical information for future psychiatric emergency care. The practical information is summarized on a small card, the 'crisis card', which users carry with them at all times. This type of crisis plan is a non-legally binding advance agreement between patient and mental health provider.

The origins of the crisis plan in the Netherlands

According to the patient advocacy group, psychiatric treatment does not properly address the wider context of a patients' life. They argue that the main focus of patients' treatment is on medication and that a patient is not seen as a whole person, but merely as a patient.

The reasons for the development of the crisis plan in the Netherlands lay in the results of a survey of the quality of psychiatric emergency care performed by the Amsterdam Patient and Consumer Advocacy Group. These showed that emergency care was difficult to obtain. Patients who attended the emergency care department were dissatisfied with the clinicians' conduct toward them, and also with the information that clinicians gave them. The results also showed that the mental health workers were poorly accessible, especially after hours. Patients had little or no say in their emergency care treatment.

A real-life example

This box describes the real-life crisis situation of a patient who experienced more than one involuntary admission.

One day, unexpectedly and to his great disbelief, Mr. J was surprised by police in his back garden, who seized him, handcuffed him, and took him to a psychiatric hospital. On the way, the police car drove fast over a speed bump: as he was lying on the floor of the car, his wrists were hurt.

When he arrived at the acute inpatient ward, he was given something to drink. He did not know it contained medication the clinicians had added because they believed what the police had told them: that Mr. J was dangerous. "It's because you're dangerous," they told him, "that we have to treat you like this."

No one asked what Mr. J's perception of this situation was. After a day or two, when the crisis was over, there was no evaluation of what had happened. The psychiatrist prescribed a depot medication. When Mr. J returned home, he found out his cat had died, probably due to dehydration. He had no friends, and had had no contact with his sister for ten years. He began to drink again. After a few weeks, he was readmitted to a psychiatric hospital.

What might have happened to Mr. J if he had had a crisis plan?

If Mr. J had had a crisis plan describing the likely early warning signs of a crisis, how to provide proper help, and any items of practical importance, the situation described above might have gone as follows.

When they arrived at Mr. J's house, the police found a crisis card in his wallet. This stated "When I'm in crisis, I wear sunglasses, because it's only then that people

cannot steal my thoughts. I'm tall, so I may look dangerous. But please do not touch me: I'm aggressive verbally, but not physically. Please do not take off my glasses: I feel more comfortable with them on. During transportation to the psychiatric hospital, I'd like to sit down, not lie, as I then feel safer and more in control. Please give me olanzapine, but not haloperidol, due to its side effects. And please give my neighbor the key to my apartment, as he will take care of my cat. As soon as I'm approachable, help me to understand why I was admitted involuntarily, and ask what my perception is of this crisis."

The police honored Mr. J's wishes and transported him to the psychiatric hospital. As he had a history of involuntary admissions, the clinicians could read the content of his crisis plan in the electronic record. When Mr. J arrived at home again, his cat was alive. His neighbor sometimes visited him. His next admission was on a voluntary basis.

Interpretation of the crisis plan

To interpret a crisis plan correctly, mental health providers and the patient advocacy movement do not always speak the same language. Though crisis plans were originally a form of 'psychiatric will' (7), their meaning can be altered by institutionalization. But neither can they be viewed independently of an institution, as they were originally a reaction to institutional conduct. In contrast, patient advocates believe that a crisis plan can only be created outside the medical setting. In their view, facilitation by a patient advocate is an important contribution to the effectiveness of the plan: if a crisis plan is created only with a clinician, it will lead to a power imbalance between patient and clinician, and a crisis plan may reflect the concerns of clinician, not the patient. Involving a patient advocate may therefore help the patient to better express his wishes in times of crisis.

On the other hand, however, questions remain about the effectiveness and practicalities of involving a patient advocate in the process. If clinicians were not involved in its formulation, they may not take the crisis plan seriously during a crisis situation. Alternatively, it is also possible that drawing up a crisis plan together with the mental health provider becomes an instrument for repairing the working relationship between patients and the treatment team. As in the story of Mr. J, by helping a person to reflect on their situation, the creation of a crisis plan may give them more influence during a crisis.

Definition of the crisis plan

The crisis plan describes a potential future crisis situation in a way that makes it more likely that other people will recognize the individual signs in the person risking a crisis. It also indicates a person's daily functioning (such as their hobbies and social activities),

their preferences regarding the type of care they receive during a crisis, such as the hospitals to which they prefer to be admitted or prefer *not* to be admitted; their medication preferences, or how they wish to be treated by clinicians. Crisis plans also provide practical information for use in times of crisis, such as who must be called, or what to do with household pets. They provide specified medical information, including current medication and pharmacy information; and all relevant contact information on people involved in the crisis plan, including friends, relatives, and clinicians.

While crisis plans are made on a strictly voluntary basis, each signature on them is of significant importance, as it symbolizes the agreement between the parties who signed it. Crisis plans are included in the patients' records and in the electronic records at the emergency psychiatric services with which the patient might come into contact during a crisis.

The working mechanisms underlying advance statements

Any effects of advance statements are likely to be underlain by four main working mechanisms. The first of these was shown by a study on 'psychiatric advance directives', in which people who were helped to complete the document showed a significantly greater improvement in their working alliance with clinicians and were more satisfied with their treatment than patients in the control group (8). The second is that the process of developing an advance statement may also influence a patient's insight into illness and their coping style during times of crisis. Thirdly, advance statements may increase treatment self-efficacy and help patients and their clinicians to identify the early signs of a crisis. Finally, these mechanisms may empower patients, thereby increasing treatment adherence (9, 10). We examined these possible working mechanisms by assessing the variables referred to above in the context of the trial described in this thesis.

Effectiveness of advance statements

Only four studies to date have investigated the effects of different types of advance statement. Henderson et al. (11) studied the effects of joint crisis plans in adult outpatients with a psychotic or bipolar disorder who had had at least one admission in the previous two years. Each plan was developed by the patient and his or her outpatient treatment team. The process was facilitated by a psychiatrist professional who was not a member of the treatment team. In the group of patients with whom a joint crisis plan had been developed, significantly fewer patients were admitted compulsorily than in those without such a plan (the control group): 13 versus 27%. However, the economic evaluation of this study showed no significant cost reduction in the intervention group (12). This effect of the reduction of compulsory admissions, was not confirmed in a multicentre replication study (13) in a similar group of patients with psychotic disorder, due possibly to the lower

engagement of the participating clinicians in the joint crisis plan process: nearly fifty per cent of joint crisis plans had been formulated during the usual treatment meetings, and clinicians had been present in only one third of specific crisis-planning meetings (13).

While an economic evaluation of this study (13) also showed no decrease in total costs in the joint crisis plan condition relative to the control group, results in the intervention group showed that the joint crisis plan was cost-effective for a Black ethnic minority group (14). The authors speculated that due to lower levels of trust and more anticipated discrimination in this ethnic group at baseline, the joint crisis planning may have generated more feelings of respect and understanding.

The results of another study with the joint crisis plan in patients with borderline personality disorder showed at 6-month follow-up that participants in the intervention condition had a greater sense of control and a better working relationship with their clinicians (15). However, there were no differences in self-harming behaviour, depression, anxiety, engagement and satisfaction with services, quality of life, well-being and cost-effectiveness.

The fourth study (16), which used a different type of advance statement, showed no effects on the number and type of admissions in psychotic disorder patients. Unlike the joint crisis plan, the intervention in this study consisted of a statement of the patient's preferences for care which had been written during their involuntary hospitalization, without the involvement of the mental health provider. This advance statement was not effective, possibly due to these factors.

These fact that the effects of advance statements are equivocal may be due to the differences regarding the advance statement types the timing of their development, the involvement of a mental health provider and independent facilitation, and differences in patient populations.

Other possible reasons for the inconsistency of the findings may have lain in problems with the implementation of such interventions in the mental health care organizations. Conceivably, some clinicians doubted the need for these documents (17), and out of a belief that psychotic patients make unrealistic treatment choices, were reluctant to share decisions with their patients (18, 19). However, one study showed that patients with psychotic disorders were able to make reasonable advance statements if they were helped by an independent facilitator to finish them (20). Another study found that independent facilitation of advance statements may be important to the completion of such documents, and may also improve the therapeutic relationship (8).

Table 1 provides an overview of these RCTs on the effects of advance statements.

TABLE 1 Description of RCT studies on the effects of advance statements

1 st Author (date)	Papageorgiou (2002)	Henderson (2004)	Thornicroft (2013)	Borschmann (2013)	Swanson (2006)
Statement type and features	Advance Directives: Not legally binding statement of patient's preferences for care. Do not involve the mental health provider	Joint Crisis Plan: Not legally binding. Is an independently facilitated advance agreement between patient and mental health provider	Joint Crisis Plan: Not legally binding. Is an independently facilitated advance agreement between patient and mental health provider	Joint Crisis Plan: Not legally binding. Is an independently facilitated advance agreement between patient and mental health provider	Psychiatric advance directives: Legally binding, facilitated statement of patient's preferences for care
Participants (n)	In-patients with mental illness receiving compulsory treatment (156)	Outpatients with psychotic and bipolar disorders (160)	Outpatients with psychotic disorder (569)	Outpatients with borderline personality disorder (88)	Patients with severe mental illness (469)
Follow-up length	12 months	15 months	18 months	6 months	1 month
Key findings	No reduction in compulsory readmissions	Reduction in compulsory admissions	No reduction in compulsory readmissions. Improved therapeutic alliance	Greater sense of control, improved relationship with clinicians, no significant difference of self-harm, no significant cost effectiveness	Facilitation significantly affected completion of PADs. Working alliance improved after 1 month
Remark	Inpatients may not be able to understand the directives; no facilitation	Independent facilitation of joint crisis plan meeting	No replication of earlier results of the study by Henderson et al (2004)	No evidence of clinical efficacy	

THE ADVANCE STATEMENTS USED IN THIS THESIS

According to the advocacy groups, facilitation by a patient advocate is a prerequisite for the effectiveness of a plan: if the crisis plan is created together with the clinician, advocacy groups believe there may be a power imbalance between patient and clinician. Involving a patient advocate may thus help the patient to better express his or her wishes about what to do in a time of crisis.

In this study, we therefore evaluated two types of advance statement. The first was a Patient Advocate Crisis Plan (PACP), which was created largely with a patient advocate. After its completion, clinicians were informed of its content. The second was a Clinician-facilitated Crisis Plan (CCP), a crisis plan that was made together with the clinician without the involvement of a patient advocate. This thesis examined whether PACP or a CCP could reduce the number of voluntary admissions, involuntary admissions and emergency visits.

These advance statements differed from the Joint Crisis Plans used in the study of Henderson et al (11), which, unlike the PACP and the CCP, were facilitated by an independent psychiatrist. The PACP and CCP were developed voluntarily. As such plans are not legally binding in the Netherlands, actual treatment during times of crisis may have diverged from the preferences or refusals stated in the plan.

AIMS AND RESEARCH QUESTIONS

To evaluate and understand the effects of the crisis plans, several research questions were tested. First, as chapter 3 describes, we compared the effects of crisis plans with those of care as usual on the number of voluntary and involuntary admissions and emergency outpatient visits.

As the completion of advance statements had been problematic in earlier studies (8,14) our trial studied the completion process, and identified the variables – including patient and clinician characteristics – that were associated with successfully drawing up a full crisis plan. We also established how often a crisis plan was actually used in a crisis situation (chapter 4).

As we were interested not only in the implementation of the crisis plans, but also in their quality, we compared the quality of the crisis plans that had been made with the help of a patient advocate (PACP) with those of plans made with the patient's clinician (CCP) (chapter 5).

Finally, to study several aspects of working alliance, we examined the influence of insight, psychosocial functioning, social support and locus of control on the working alliance seen from patient's and clinician's perspectives (chapter 6). For the same reason, we examined whether discrepancies between patients' and clinicians' evaluations of the working alliance were associated with crisis sensitivity, i.e. the occurrence of outpatient emergency visits, voluntary and involuntary admissions (chapter 7).

The general discussion (chapter 8) summarizes and discusses the results of the research papers. After discussing the findings, it presents methodological considerations and examines the strengths and limitations of the research. An outline of the implications of our findings for daily practice culminates in its implications for future research.

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Chapter 2

Study protocol

The effects of crisis plans for patients with psychotic and bipolar disorders: a randomized controlled trial

Ruchlewska A, Mulder CL, Smulders R,
Roosenschoon BJ, Koopmans G, Wierdsma A.

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ABSTRACT

Background Crises, voluntary and involuntary have a strong impact on patients and their caregivers. In some countries, including the Netherlands, the number of crises, voluntary and involuntary admissions have increased in the last years. There is also a lack of effective interventions to prevent their occurrence. Previous research has shown that a form of psychiatric advance statement - joint crisis plan - may prevent involuntary admissions, but another study showed no significant results for another form. The question remains which form of psychiatric advance statement may help to prevent crisis situations. This study examines the effects of two other psychiatric advance statements. The first is created by the patient with help from a patient's advocate (Patient Advocate Crisis Plan: PACP) and the second with the help of a clinician only (Clinician facilitated Crisis Plan: CCP). We investigate whether patients with a PACP or CCP show fewer emergency visits and (involuntary) admissions as compared to patients without a psychiatric advance statement. Furthermore, this study seeks to identify possible mechanisms responsible for the effects of a PACP or a CCP.

Methods/Design This study is a randomised controlled trial with two intervention groups and one control condition. Both interventions consist of a crisis plan, facilitated through the patient's advocate or the clinician respectively.

Outpatients with psychotic or bipolar disorders, who experienced at least one psychiatric crisis during the previous two years, are randomly allocated to one of the three groups. Primary outcomes are the number of emergency (after hour) visits, (involuntary) admissions and the length of stay in hospital. Secondary outcomes include psychosocial functioning and treatment satisfaction. The possible mediator variables of the effects of the crisis plans are investigated by assessing the patient's involvement in the creation of the crisis plan, working alliance, insight into illness, recovery style, social support, locus of control, service engagement and coping with crises situations. The interviews take place before randomisation, nine months later and finally eighteen months after randomisation.

Discussion This study examines the effects of two types of crisis plans. In addition, the results offer an understanding of the way these advance statements work and whether it is more effective to include a patient's advocate in the process of creating a psychiatric advance statement. These statements may be an intervention to prevent crises and the use of compulsion in mental health care. The strength and limitations of this study are discussed.

BACKGROUND

Crises, voluntary and involuntary admissions have a strong impact on patients and their relatives (1). Approximately 50% of patients experience involuntary admission as traumatic (2). Over the years 2000-2003 the number of outpatient emergency service visits in the Netherlands has increased 106%, the number of admissions 162% and involuntary admissions 17%. This increase continued after 2003 (3).

Possible explanations for the aforementioned increases include a shift from inpatient to outpatient services, a tendency to intervene earlier in the crisis situation and to remove homeless people from the street [3]. Another explanation is a lack of suitable outpatient services and early recognition of future crisis situations (4). Advance statements such as crisis plans are rarely used in mental health practices in the Netherlands. In the UK, according to an unpublished report of Nagaiah and Szmukler (5), crisis plans belonging to the treatment plans are seldom described, or are very brief and rarely contain good quality information.

There are different kinds of advance statements. The context, such as the involvement of a mental health provider, independent facilitation, or a legislative status defines the statement type. An "Advance directives" is a legally binding document which describes the preferences for and refusals of treatment in advance. An "Advance agreement" is a plan that is jointly agreed upon between patient and mental health provider, for instance a joint crisis plan (5). Some advance statements are created independently from the mental health provider, such as the so-called 'crisis card'. These are often created with the help of a self-advocacy group.

The effects of advance statements to prevent crises, voluntary and involuntary admissions have scarcely been studied (6). Two studies examined the effects of two different advance statements. In the first study the so-called joint crisis plan was developed by the patient and his or her outpatient treatment team. The process was facilitated by a mental health professional who was not a member of the treatment team. In the group of patients with whom the 'joint crisis plan' was developed, significantly less patients were compulsorily admitted as compared to the control group without such a plan: 13 and 27%, respectively (7). The second study didn't find any significant effect of a different statement (8). The intervention consisted of a 'booklet' containing seven statements about future treatment preferences. The patient wrote his or her preferences independently from the outpatient mental health team during involuntary inpatient stay. The advance directives were kept in the patient's records. The explanation for the lack of a result may be that the outpatient clinicians were unaware of the existence of

the booklets after the patient's discharge from the hospital. The positive results in the 'Joint Crisis Plan' study suggest that the involvement of an independent facilitator and the outpatient mental health team are essential for preventing involuntary admissions.

Little is known about the mechanisms that cause the possible effects of advance statements. In a study on 'psychiatric advance directives' (9), people who received help to complete the document showed a significantly greater improvement in their working alliance with clinicians and were more satisfied with their treatment than patients in the control group. The process of developing an advance statement may influence coping style and one's insight into illness. Advance statements can enhance treatment self-efficacy and help identifying early signs of a crisis, both by the patients and their clinicians. These mechanisms might empower patients and lead to more treatment adherence (10, 11).

In the Netherlands, different forms of advance statements exist. The so-called 'crisis plan' was developed by the Amsterdam Patient and Consumer Advocacy Group in 1999, and can be described as an instruction for mental health emergencies. In this crisis plan two aspects are addressed: crisis prevention and provisioning of practical information for future psychiatric emergency care. The practical information is summarized on a small card, the 'crisis card', which the user carries with him or her at all times. The crisis plan is developed independently from the mental health provider with the help of a patient's advocate; the clinician signs the final document afterwards. According to the advocacy groups, the facilitation by a patient's advocate is an important contribution to the effectiveness of the plan, since a power imbalance occurs between patient and clinician when the crisis plan is created together with the clinician only. The crisis plan may end up being in the interest of the professional instead of the patient's concerns. Involving a patient's advocate may help the patient to better express his wishes in times of crisis. However, questions remain about the effectiveness and practicalities of involving a patient's advocate in the process. It may be equally effective to develop a crisis plan together with the clinician, without the facilitation of a patient advocate.

In summary: The numbers of emergency visits, voluntary and involuntary admissions have increased in the Netherlands. Effective interventions are required to prevent a further increase. Advance statements such as crisis plans may be an effective way to prevent emergency visits and admissions. This study examines whether a crisis plan, facilitated respectively through the patient's advocate or the clinician, can reduce the number of emergency visits and admissions. Furthermore, this study seeks to identify possible mediating mechanisms for the effects of these two forms of crisis plans.

Research aims

This study has three aims. Firstly, to investigate whether there is a differential effect of a crisis plan facilitated through the patient advocate, or through the clinician, on the number of psychiatric emergency visits and admissions as compared to a control group without a crisis plan. Secondly, to investigate the differential effects of the two different crisis plans on the patient's locus of control in a time of crisis and in social and psychological functioning. The third aim is to identify the mediating mechanisms responsible for the possible effects of the crisis plans, including the quality of the therapeutic alliance with the clinician, the patient's recovery style, social support, therapy adherence, self-efficacy and insight into illness.

Hypotheses

Regarding the first aim, it is hypothesized that both the crisis plan facilitated through the patient's advocate and by the clinician can reduce the number of psychiatric emergency visits voluntary and involuntary admissions as compared to the control group without a crisis plan. In addition, we expect a greater effect when the crisis plan is facilitated through the patient's advocate as compared to the crisis plan developed with the clinician only. Furthermore, we expect greater effects on the patient's satisfaction with treatment and psychological functioning when the crisis plan is facilitated through the patient's advocate as compared to the crisis plan developed with the clinician only. Another aim of this study is to investigate the mediating mechanisms of the crisis plan. The expectation is that after creating the crisis plan, patients will show improvements in working alliance, insight into illness, self-efficacy, therapy adherence, acceptance of the illness and social support (see figure 1).

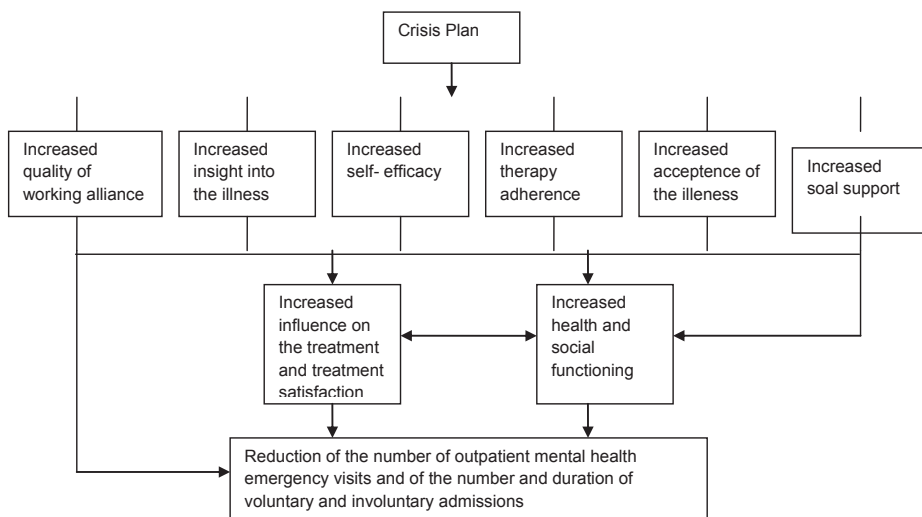


FIGURE 1 Figure of the mediator variables of the effects of the crisis plan.

METHODS/DESIGN

The trial is funded by the Dutch Organization for Health Research and Development (ZonMw) and the mental health care organisation BavoEuropoort in Rotterdam, The Netherlands.

Design

This is a randomised controlled trial using two intervention groups and one control group. Group one consists of patients who create a crisis plan with a patient's advocate. The patients in the second group create a crisis plan with their clinician only. The third group is the control group in which the patients do not create a crisis plan. The main outcome measures are the number of the mental health emergency visits, the number of voluntary and involuntary admissions and the length of stay in hospital.

Participants/Setting

Participants in the study are adult outpatients, between 18 and 65 years of age, with a psychotic or bipolar disorder, and who are at risk of psychiatric crises. Participants are recruited from eighteen community mental health teams in three mental health institutions in Rotterdam, the Netherlands. These teams are located throughout the city centre, the northern, eastern and southern part of Rotterdam and its vicinity.

Inclusion criteria are: having a diagnosis of a psychotic or bipolar disorder, treatment on an outpatient basis and having had at least one crisis contact with mental health services or (compulsory) admission during the previous two years.

Exclusion criteria are: having a somatic disease causing a psychotic disorder, the inability to give informed consent because of mental incapacity, insufficient command of the Dutch language, and already having a 'relapse prevention plan' or a 'crisis plan'.

Recruitment/procedure

Candidate participants are selected from the clinicians' caseloads by the clinician and the researcher. The selected patients receive an information letter about the study from their clinicians, who request the patient's permission to be contacted by an independent researcher. The researcher explains the research goals and randomisation procedure. After providing written informed consent, the baseline interview follows.

The second interview with the patient is scheduled nine months later, and the last interview eighteen months after the baseline measurement.

Definition of the intervention

The research intervention includes two forms of crisis plans. The first type of psychiatric advance statement is created by the patient with the help of a patient's advocate (Patient Advocate Crisis Plan: PACP) and the second with the help of a clinician only (Clinician facilitated Crisis Plan: CCP). Both crisis plans describe how to recognize early signs of a crisis and how to provide adequate help. The plans are summarized on a small card the size of a credit card and folded into a plastic wallet that the user carries at all times. The card contains practical information to be used in times of crisis, for example who must be called, or what to do with pets.

The CCP is an advance agreement because the clinician and the patient formulate the content of the crisis plan together. The plan is based upon the principles of the 'shared decision making model' (12). The PACP is a type of advance statement. In this case the clinician is less involved in the process of formulating the plan and therefore the PACP represents the "autonomy model" (12).

Naturally, crisis plans are constructed on a purely voluntary basis. It can only be formulated if both clinician and patient are willing to cooperate in this process (CCP), or when the patient desires to formulate it with his or her advocate (PACP). The plan is not legally binding, because a clinician may deviate from the content of the plan in times of crises if strictly necessary for the treatment of the patient.

Chosen type of advance statement

Henderson and colleagues have made a typology of advance statements (5). Although advance statements in our study (PACP and CCP) show much similarity with advance statements described by Henderson (5), they differ from the described types in certain features. One important difference is the facilitation through a patient's advocate. The patient's advocate formulates the plan with input from the clinician. The two participating patient's advocates in our study are experienced social workers. One of them is a consumer peer specialist. The CCP does not use a patient's advocate to help make the plan. Both the PACP and CCP are disseminated in the mental health administration system.

Intervention procedure

Before the start of the study, all participating community mental health teams were informed about it during a two hour team meeting with the members of the advocacy group and the researcher.

PATIENT ADVOCATE CRISIS PLAN: PACP

The procedure in the PACP group is as follows. After the patient has been randomized to this condition, the patient's advocate makes an appointment. During the first meeting, the advocate discusses the procedure with the patient and collects information for the crisis plan. Crises-precipitating factors are discussed and strategies for preventing crises are developed. After this meeting, the advocate prepares the first concept of the plan. The patient, supported by the advocate, negotiates with his or her clinician about what to do when the first signs of a crisis develop and what his or her wishes are about what to do in times of crisis. When the plan is ready, it is signed by the patient's psychiatrist, the clinician (most likely a psychiatric nurse) and other people (e.g. the partner, friends or family) involved in the crisis plan. The final step is to summarize the plan on a crisis card, which is then handed to the patient. The content of the crisis plan is to be evaluated annually or more frequently if necessary. The time period needed to complete the plan and the number of contacts with the patient's advocate and the clinician will be registered during the study.

CLINICIAN FACILITATED CRISIS PLAN: CCP

After randomisation to the CCP condition, the clinician is provided with the CCP protocol and the researcher explains the structure of the intervention in more detail. As in the PACP condition, crises-precipitating factors are discussed and strategies are developed for preventing them. The patient and his or her clinician formulate the content of the crisis plan together. The procedure contains several stages: the preparation and formulation of the crisis plan, an informed discussion, and the collection of signatures of everyone involved in the development process (e.g. the partner, friends or family). The content of the crisis plan is to be evaluated annually, or more frequently if necessary. The final step is to summarize the plan on a crisis card, which is then handed to the patient. The time period needed to complete the CCP and the number of contacts with the clinician for making the CCP will be registered during the study.

Structured monitoring

Every three weeks the researcher inquires with the patient's advocate (in the PACP condition) or the clinician (in the CCP condition) regarding the progress and possible problems involved in making the crisis plan. Supervision meetings are organized for the clinicians in the CCP group. During these meetings clinicians have an informed discussion and learn from each other's experience with crisis plans.

A checklist is developed to examine the quality of the finished crisis plans. This checklist refers to the 10 items of the crisis plan and is scored from 0 'vague/no description' to 4 'complete /concrete description'. Two independent research assistants assess the quality of the plans using this checklist.

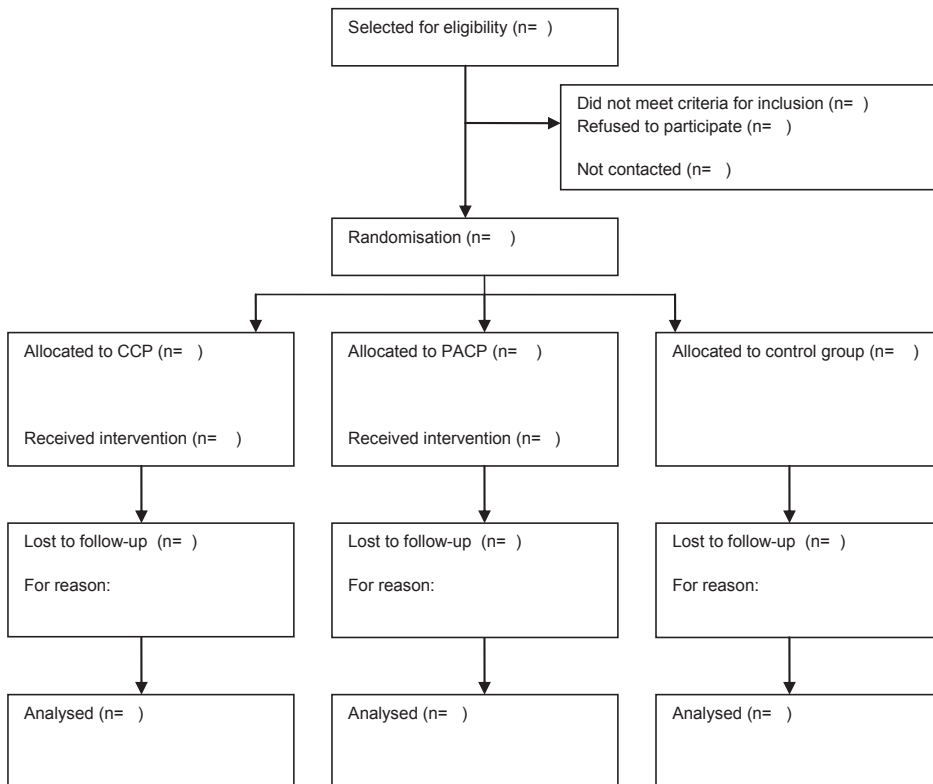


FIGURE 2 Participant flowchart. PACP: Patient Advocate facilitated Crisis Plan, CCP: Clinician facilitated Crisis Plan.

DISSEMINATION METHOD

All crisis plans are included in the patients' records and in the electronic records of all emergency psychiatric services that the patient may come into contact with during a crisis (i.e. crisis centre, crisis teams, and admissions wards).

INSTRUMENTS

Baseline variables

Demographic variables, psychiatric history and diagnoses are collected from the patient's records.

Primary outcome measure

Primary outcome measures are the number of the crisis contacts with the clinician or after-hours emergency services, the number of voluntary and involuntary admissions and the length of stay in hospital. The data are collected from the patient administration system and the emergency services' electronic system.

Secondary outcome measures

Secondary outcome measures include health and social functioning, the patient's influence on crises situations and treatment satisfaction.

HEALTH AND SOCIAL FUNCTIONING

This is assessed by an independent interviewer using the Dutch version of the Health of the Nation Outcome Scales (13, 14). The HoNOS form is completed by the researcher after a structured interview to quantify the health and social problems during the previous two weeks. Twelve items refer to behavioural problems, impairment, symptoms and social (dis)functioning. Three HoNOS-addendum items refer to manic symptoms, treatment motivation and compliance with medication. The items are rated from 0 (no problem) to 4 (severe to very severe problem)

EVALUATION OF CRISIS PLAN (ECP)

The patient's opinion regarding the quality of the crisis plan's creation process will be assessed using a newly developed 13-item self-report *Evaluation of Crisis Plan* questionnaire. Specifically, the patient is asked whether he or she feels that the crisis plan reflects his or her wishes about what to do during a crisis. The items are rated on a 5 point scale, from 0 'no, I strongly disagree' to 4 'yes, I strongly agree'.

MENTAL HEALTH CARE THERMOMETER (MHC-T)

Treatment satisfaction is measured according to the *Mental Health Care Thermometer* (15, 16). The 16 items on this scale consist of “yes” or “no” categories that refer to the patient’s satisfaction regarding the treatment information received, the patient’s involvement in the treatment planning, the patient’s impression of the clinician and of the treatment quality.

Mediator variables

Possible mediator variables include working alliance, insight into illness, recovery style, social support, locus of control, service engagement and coping with (advance) crises situations.

Working alliance

The quality of the working alliance is measured by the Dutch version of the Working Alliance Inventory (WAI) (17, 18). This questionnaire is measured from both the patient’s and the clinician’s perspective. The 33 items are rated on a 5 point scale, from 0 ‘no, I strongly disagree’ to 4 ‘yes, I strongly agree’. The reliability of the scale is adequate.

Illness insight (PI)

This self-report scale measures the insight into psychosis (19). There are eight statements to which the participant may respond in one of three ways: agree, disagree and unsure. Three subscales refer to the relabeling of symptoms, awareness of illness and the perceived need for treatment. The English version of the scale has strong psychometric properties.

Coping with crisis (CC)

The patient’s ability to cope with crisis situations (self- efficacy) is measured with a newly developed 21-item self-report questionnaire. Answers are rated on a 5 point scale from 1 ‘strongly disagree’ to 4 ‘strongly agree’. The items refer to five dimensions: 1) control of one’s own treatment, 2) how to prevent a crisis, 3) how to recognise a crisis, 4) knowing what to do in case of an advance crisis and 5) knowing what to do in a crisis situation.

Locus of control (MASTERY)

The patient’s personal feeling of control over the forces that impact their own life is measured with a 7-item scale (20). Each item is a statement regarding the respondent’s perception of self. Four responses are rated from 1 ‘strongly disagree’ to 4 ‘strongly agree’. The psychometric properties of this scale are adequate.

Service engagement (SES)

The Service Engagement Scale is used from the clinician's perspective (21, 22). The 14 items are rated on a 4 point scale, from 0 'not at all or rarely' to 3 'most of the time'. The three subscales refer to availability, collaboration, help seeking and treatment adherence. The English version of the scale has good psychometric properties.

Recovery style (RSQ)

The *Recovery Style Questionnaire* measures the extent to which the patient accepts or denies his or her illness (23). The 39 items have 'agree' and 'disagree' answer categories.

The English version of the *Recovery Style Questionnaire* has an adequate reliability.

Social support (ASR)

Social support is measured with the *Adult Social Report* scale (24, 25). This self-report scale includes fourteen items. Each item is rated on a five point scale from 'no help at all' to 'very much help'. The scale's reliability is good.

Randomisation

Randomisation is stratified by team. To ensure the even distribution of the patient groups within each team, envelopes with 12 lots per team are used. After completing the baseline interview, the interviewer requests allocation by email. The principal investigator allocates participants into one of the three groups (PACP, CCP and control group).

Power

The difference for the primary outcome variable between the intervention groups and the control group is based on a power of 0.90 and an alpha of 0.05. To detect an effect size of 0.6, each condition requires a minimum of 50 subjects. We have decided to use 80 subjects in each group to make up for those that we anticipate will be lost in the follow-ups.

Statistical analyses

Analysis will be performed according to the *intention-to-treat* principle. Group difference will be investigated by chi-square tests and an(c)ova.

A patient is an study completer when he or she has completed all three interviews. After the intention to treat analyses, we will also analyse the effects in those patients who have completed the crisis plan. The missing data of secondary and mediating variables will be replaced by the data of the last available measurement using the principle of *last observation carried forward*.

TABLE 1: Instruments at three research contacts

	M1 Baseline	M2 9 months	M3 18 months
WAI	X	X	X
PI	X	X	X
CC	X	X	X
MHC-T	X	X	X
ECP		X	
RSQ	X	X	X
MASTERY	X	X	X
SERVES	X	X	X
ASR	X	X	X
HoNOS	X	X	X

WAI: *Working Alliance Inventory*, PI: *Psychosis Insight*, CC: *Coping with Crisis*, MHC-T: *Mental Health Care Thermometer*, ECP: *Evaluation of Crisis Plan*, RSQ: *Recovery Style Questionnaire*, MASTERY: *Control of one's life events*, SERVES: *Service Engagement Scale*, ASR: *Adult Social Report*, HoNOS: *Health of the Nation Outcome Scale*.

Ethical principles

The study protocol, information brochure and informed consent form were approved by the Dutch Union of Medical-Ethic Trial Committees for mental health organizations (registration number 7.109, CCMO-nr NL 16818.097.07)

The effects of a crisis plan are unknown at this moment and therefore we think it is justified to allocate the participants randomly over the three conditions.

The clinician informs the patient about the research. After permission is granted, the interviewer informs the patient of the research aims and randomisation method and asks for his or her written informed consent. The patient is free to refuse participation at any time during the research period, without having to disclose any reason why.

Participants allocated in the control group receive care according to standard practice, without the creation of a crisis plan. In case patients in the control group wish to create a crisis plan, this will be honoured at any time during the research period.

The collected patient data are treated according to the Medical Confidentiality Rules, and are kept in locked files cabinets. Access is limited to members of the research group and the medical ethical committee.

DISCUSSION

The central research question in this study is whether either of the two crisis plan types can reduce the use of psychiatric emergency services, as well as the number and duration of voluntary and involuntary admissions. The secondary research question is whether the intervention improves psycho-social functioning. The identification of the possible intervention mediating mechanisms offers a tool for use in the development of future preventive interventions. The comparison between the two crisis plan types provides insight into the question whether a crisis plan facilitated through the patient's advocate is more effective than a crisis plan facilitated through the clinician only. The study has several limitations and strengths.

Limitations

Firstly, no structured diagnostic interview is used to confirm the DSM-IV diagnosis. We decided to use the clinical diagnosis as derived from the medical records because of the extensive nature of the interview, and because a structured diagnostic interview-derived DSM-IV diagnosis is of limited importance in the present study. The second limitation is the possible recruitment bias. Because of the ethical consideration the clinician is the first person who informs the patient of the study. Some clinicians may have preferences for some patients to participate in the study. There is some risk that it will not be possible to generalise the results based on the expected response of about forty percent of the participants [7, 8]. People who don't want to participate may have experienced a compulsory admission in the past and feel demoralized and disempowered.

Strengths

Important strengths are the clinical relevance and design of this study. Although crisis plans are formally part of the treatment plans, in practice clinicians rarely use advance statements. The structure and supervision provided by this study will help participating clinicians to switch their working method into a more structured and preventive approach.

The participants are not screened for their ability to make a crisis plan and therefore represent a more general population of patients with psychotic and bipolar disorders than a selected group of patients. Besides that, the multisite character of this study may also increase the generalization of the results. Internal validity is protected by the structured protocol monitoring and supervision of the clinicians.

This study is jointly developed and conducted with the patient's advocacy group and, to our knowledge, is therefore the first randomised controlled trial which examines such an intervention.

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Chapter 3

Effect of crisis plans on admissions and emergency visits: a randomized controlled trial

Ruchlewska A, Wierdsma AI, Kamperman AM, van der Gaag M, Smulders R,
Roosenschoon BJ, Mulder CL.

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ABSTRACT

Objective To establish whether patients with a crisis plan had fewer voluntary or involuntary admissions, or fewer outpatient emergency visits, than patients without such a plan.

Design Multicenter randomized controlled trial with two intervention conditions and one control condition.

Participants Adult outpatients diagnosed with psychotic or bipolar disorder who had experienced at least one psychiatric crisis in the previous two years.

Intervention Two types of advance statement were used: (1) a crisis plan formulated by the patient with the help of a patient advocate (Patient Advocate Crisis Plan: PACP); and (2) a crisis plan developed together with the clinician (Clinician-facilitated Crisis Plan: CCP).

Outcome The percentages of patients admitted voluntarily or involuntarily (on an emergency basis or by court order), and the percentage who made outpatient emergency visits over an 18-month follow-up period.

Results A total of 212 patients were included: 69 in the PACP condition, 70 in the CCP condition, and 73 in the control condition. No effects of the two interventions were found on the numbers of voluntary admissions, involuntary admissions and emergency visits. Regarding involuntary admissions, there was no significant effect on emergency admissions, which were 17% (12/69) in the PACP condition, 10% (7/70) in the CCP condition, and 19% (14/73) in the control condition. There was a significant effect on planned court-ordered admissions, with 16% (11/69) in the PACP condition, 10% (7/70) in the CCP condition, and 26% (19/73) in the control condition. Finally, the interventions had no effect on outpatient emergency visits, with 32% (22/69) in the PACP group, 31% (22/70) in the CCP group, and 34% (25/73) in the control group.

Conclusions Crisis plans may be an effective intervention for reducing court-ordered admissions in patients with psychotic and bipolar disorders.

INTRODUCTION

Voluntary and involuntary admissions have a strong impact on patients and their relatives (1; 2). In some countries, including the Netherlands, the numbers of admissions have increased over recent years (3).

Psychiatric advance statements may prevent involuntary admissions. However, only few studies investigated the effects of advance statements: Henderson et al. (4) showed that involuntary admissions may be prevented by joint crisis plans, a form of psychiatric advance statement. However, a multicentre study using the same type of advance statement could not replicate this result (5). Another study (6) used a different form of advance statement and also showed no effects on the number and type of admissions.

Advance statements aim to increase patients' self-determination at times when they are incapable of specifying their treatment preferences, which sometimes happens during involuntary admission. These statements have also been reported to help prevent psychiatric crises (7). While it is not known which factors influence their effects, we previously hypothesized that the effects may be mediated by the service engagement, social support, insight and the quality of the working alliance (8).

Different types of advance statement coexist, each characterised by the way they are created. For example, a mental-healthcare provider may be involved in making a statement, or it may be facilitated independently (9).

In the Netherlands there are two types of advance statement: a crisis plan that is created together with a patient advocate (Patient Advocate Crisis Plan: PACP), and one that is made with the clinician (Clinician-facilitated Crisis Plan: CCP). Each type contains the description of crisis prevention and practical information for handling future psychiatric emergencies. The information is summarized on a small card, the 'crisis card', which users carry with them at all times. Crisis plans are developed on a voluntary basis. As they are not legally binding, actual treatment – during involuntary admission, for instance – may diverge from the preferences or refusals stated in the plan.

The primary aim of the present study was to examine whether a crisis plan facilitated by the patient advocate or the clinician could reduce voluntary admissions, involuntary admissions, and emergency visits. We also investigated the possible associations between the effects of the crisis plans in relation to service engagement, social support, insight and the quality of the therapeutic alliance.

METHOD

The protocol for this trial and supporting CONSORT checklist are available as supporting information; see Checklist S1, Protocol S1 and Protocol S2. Research data is available for secondary analysis and may contribute to larger datasets of routinely collected outcome data or service user data. Data will be shared in anonymized form. Data archiving and curating is executed within the ethical, legal and institutional regulatory framework of the Erasmus Medical Center Rotterdam.

Participants and setting

Participants in the study were outpatients aged between 18 and 65 years who had a diagnosis of schizophrenia or other psychotic disorder, and bipolar disorder II, and who had had at least one emergency outpatient contact with the mental health services, or one voluntary or involuntary admission over the previous two years. They were recruited from 12 *Assertive Community Teams* and *Illness Management & Recovery* teams in Rotterdam, the Netherlands. There were four exclusion criteria: having a somatic illness that caused a psychotic disorder, the inability to give informed consent because of mental incapacity, an insufficient command of the Dutch language, and already having a crisis plan or another type of advance statement.

Recruitment of participants and data collection

Originally the planned start date for patient recruitment was October 15, 2007. Due to logistical delays patient recruitment began in January 2008 and ended in March 2011. Candidate participants were selected from the clinicians' caseloads by the clinician and the researcher on the basis of the inclusion and exclusion criteria. The patients selected received an information letter about the study from their clinicians, who requested the patients' permission to be contacted by an independent researcher. The interviewer explained the research goals and randomisation procedure. The baseline interview followed the provision of written informed consent. The second interview with the patient was scheduled eighteen months after the baseline measurement.

INTERVENTIONS

Patient Advocate Crisis Plan: PACP

Patient advocacy is a lay specialization in health care. Patient advocates are often (former) psychiatric patients, trained to represent the interests of current patients in mental health care. This is done by providing patients with information, advice and support regarding mental health and health care, and their legal position and rights as a patient.

Patient advocates can also help with filing complaints and mediate between patient and service provider with finding solutions. The two participating patient advocates in this study were social workers with over fifteen years of work experience in the mental health services; one was also an expert by experience. Both worked for a patient organization. Their main focus was the creation of crisis plans together with the patients.

After the randomization, the patient advocate made an appointment. During the first meeting, the advocate discussed the procedure with the patient and collected information for the crisis plan. Crises-precipitating factors were discussed and strategies for preventing crises were developed. After this meeting, the advocate prepared the first concept of the plan. Then, the patient, supported by the advocate, negotiated with his or her clinician

about what to do when the first signs of a crisis develop and what his or her wishes are about what to do in times of crisis. After completion of the plan, it was signed by the patient's psychiatrist, the clinician (mostly psychiatric nurses) and other people (e.g. the partner, friends or family) involved in the crisis plan. The final step was to summarize the plan on a crisis card, which was then handed to the patient.

Clinician facilitated Crisis Plan: CCP

In the CCP condition, after randomization the researcher explained the structure of the intervention to the clinicians. The clinicians (mostly psychiatric nurses) composed the crisis plan as part of the patients' regular treatment. As in the PACP condition, crises-precipitating factors were discussed and strategies were developed for preventing them. The patient and his or her clinician formulated the content of the crisis plan together. The procedure contained several stages: the preparation and formulation of the crisis plan, an informed discussion, and the collection of signatures of everyone involved in the development process

(e.g. the partner, friends or family). The final step was to summarize the plan on a crisis card, which was then handed to the patient.

The content of the crisis plan has to be evaluated annually or more frequently if necessary. All crisis plans were included in the patients' records and in the electronic records of all emergency psychiatric services with which the patient might come into contact during a crisis.

Structured monitoring

During the study we registered the respective amounts of time needed to complete the PACP and the CCP. In each condition, the researcher (AR) monitored the process whereby the crisis plans were drawn up. To remind the clinicians to finish the plan, the researcher needed to undertake a mean of five actions (i.e. e-mails or telephone calls; SD = 3) in

the CCP condition. In the PACP condition, no reminders were necessary in order to finish the plan. Similar problems with the implementation of advance statements by clinicians were encountered by Thornicroft et al. (5).

Primary outcome measures

Primary outcome measures were collected at baseline and over an 18-month follow-up period; they included any voluntary or involuntary admissions to a psychiatric hospital, and any outpatient emergency visit.

The Dutch Act on Special Admissions to Psychiatric Hospitals distinguishes between two types of involuntary admission. The first type involves an emergency involuntary admissions, whereby the city's mayor, advised by an independent physician, decides if hospital admission is required to counter the emergency situation. An acute dangerous situation may involve danger-to-self, usually a suicidal thoughts or behavior, or it may concern aggressive behavior to others or serious public nuisance. Within a five working days, a judge must decide whether the admission is to be continued. The second type of involuntary admission is the common procedure, whereby a judge determines whether legal conditions have been met based on a medical report by an independent psychiatrist. In this case, the dangerousness criteria mostly include self-neglect or social breakdown. Both emergency involuntary admissions and court-ordered involuntary admissions are included in our primary outcome measures.

Data were collected from patients' files, checked against the Rotterdam region Psychiatric Case Register (10).

Patient characteristics

Demographic variables, the histories of previous admissions and emergency visits, and clinical diagnoses were all collected from patients' files. The Health of the Nation Outcome Scales (HoNOS) was used to check for differences in psychosocial functioning (11; 12).

Patient characteristics were assessed through interviews with patients and clinicians. Patients' engagement with the services was measured through the Services Engagement Scale from clinician's perspective (13). Social support was measured with the Adult Social Report scale (14), and insight was measured with a self-report Insight into Psychosis scale (15). The therapeutic alliance between the patient and the clinician was measured through the Working Alliance Inventory (16; 17). See Ruchlewska et al. (8) for a more detailed description of these measures.

Sample size and power

The sample size required was calculated on the basis of previous studies of the primary outcome variables: voluntary and involuntary admissions (4). In a pilot study of the effects of crisis cards, the difference between the baseline percentages admitted in hospital and during the year after the intervention was 25% (18). This difference was 14% in the Henderson's RCT study (4). On the basis of these two studies we expected a medium effect size. Based on a local study concerning patients seen in emergency psychiatric services, the percentage of patients who were expected to be admitted to psychiatric hospital in the follow-up period was estimated at 30% to 44% (19). For percentages in this range, a medium effect size ($h=.6$) corresponds to differences in percentages of about 20% to 25% (20). At a significance level of $p < 0.05$ (one sided) and power of 90%, we calculated a required sample size of 50 subjects per group. To compensate for respondents lost to follow-up, we decided to increase this to 80 (total 240).

Randomisation

Randomisation was stratified by treatment team. To ensure the even distribution of the patient groups within each team, we used envelopes containing 12 lots per team. After written informed consent had been obtained, the principal investigator allocated participants randomly into one of the three conditions (PACP, CCP and control condition).

Statistical analyses

We used Chi-2 tests to assess differences between intervention conditions regarding the number of patients admitted, voluntarily or under the Mental Health Act, and regarding the number of patients in contact with outpatient emergency services. Multiple logistic regression analyses were performed checking for interaction effects and collinearities for all main factors. Model fit was checked using McFadden R2 and diagnostic scatter plots using standardised residuals. Differences between the intervention and control conditions with regard to continuous variables were assessed using Repeated Measure Analyses of Variance or Covariance. Analyses were performed on an intention-to-treat basis. SPSS for Windows (version 17.0) was used to perform all statistical procedures.

RESULTS

Patient characteristics

During the recruitment period we selected 537 patients, 212 of whom (40%) enrolled in the study; 151 (28%) refused to be contacted by the researcher or refused to participate

in the study after the explanation of the research goals, and 174 (32%) could not be contacted after several unsuccessful attempts.

TABLE 1 Baseline demographic and clinical characteristics of participant groups.

	PACP	CCP	Control group
	(n=69)	(n=70)	(n=73)
Gender (%)	50 (72.5)	46 (65.7)	49 (67.1)
male			
Age (SD)	40.3 (10.9)	40.6 (11.6)	39.4 (11.6)
Ethnicity (%) Dutch	43 (62.3)	42 (60.0)	46 (63.0)
Diagnosis (%)	53 (76.8)	45 (64.3)	56 (76.7)
Psychotic disorder			
HoNOS (range)	11 (2 – 25)	11 (3 – 24)	10 (1 – 23)
Behaviour	2 (0 – 6)	1 (0 – 6)	1 (0 – 5)
Impairment	2 (0 – 5)	2 (0 – 6)	2 (0 – 6)
Symptoms	3 (0 – 9)	4 (0 – 9)	3,5 (0 – 9)
social problems	4 (0 – 10)	3 (0 – 9)	3 (0 – 9)

TABLE 2 Previous admissions and outpatient emergency visits

Previous admissions and outpatient emergency visits			
No (%) of patients admitted	43 (62.3)	40 (57.1)	51 (69.9)
No (%) of patients with an emergency admission	13 (18.8)	12 (17.1)	18 (24.7)
No (%) of patients admitted under a court order	11 (15.9)	12 (17.1)	18 (24.7)
No (%) of patients who made one or more emergency outpatient visit	45 (65.2)	41 (58.6)	41 (56.2)

Table 1 shows the characteristics of patients randomised to the CCP, PACP and control conditions. Table 2 presents previous admissions and outpatient emergency visits. For a flowchart of the study, see figure 1. Seventy percent of the patients (49/69) completed the PACP and 57 % (40/70) completed the CCP. There was no drop out in the control condition from the study. The completion percentages in the two conditions were not significantly different. There were also no significant differences between the PACP and CCP completers and non-completers with respect to age, sex, diagnosis, ethnicity, education and marital status. The total duration of face-to-face contacts needed to draw up a crisis plan differed significantly between the PACP condition (Median=120 minutes) and the CCP condition (Median=180 minutes; Mann-Whitney U=429,5; p=0.00; r=-.36).

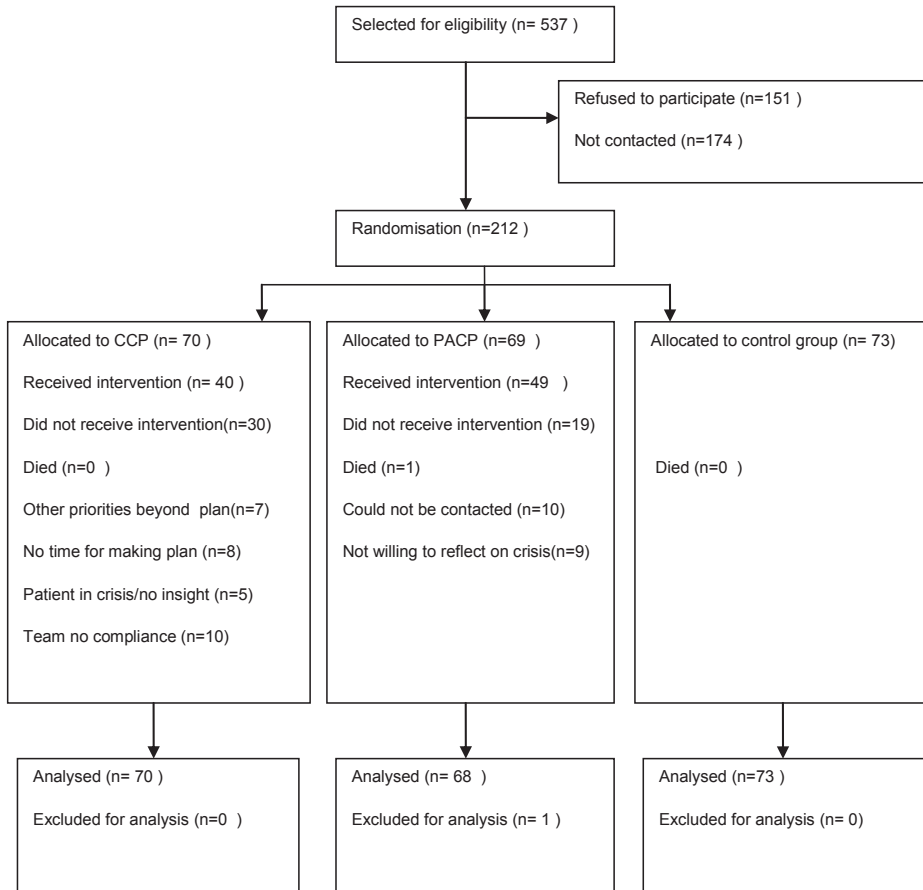


FIGURE 1 Participant flow chart.

Hospital admissions and outpatient emergency visits

Table 3 presents the numbers and percentages of patients who were admitted to hospital and who had emergency visits at follow up. Although not statistically significant, the percentages of overall admissions, emergency admissions and outpatient emergency visits were lower in both or either the PACP and CCP conditions compared to the control condition. For those admitted (N=90), the number of bed days did not differ significantly between the three conditions (Kruskal-Wallis test, Chi-2 (2) = 2.1; $p=0.35$). In the intervention conditions, the percentages of patients admitted voluntarily were higher, but not statistically significant, than in the control condition. Between the three conditions, the percentages of court-ordered admissions differed significantly, the percentages of patients in the PACP and CCP conditions being smaller than the percentage in the control condition. Table 4 shows that independently of the intervention condition, age and previous admission affect the chance of being voluntary hospitalised in the follow-up

period. Controlling for confounders, patients in the CCP condition were *less* likely to be admitted under a court order than those in the control condition.

TABLE 3 Hospital admission and emergency visits at follow up

	PACP group	CCP group	Control Group	Chi² – test**	Cramer's V
	(n=69)	(n=70)	(n=73)		
No (%) patients admitted	33 (47.8%)	24 (34.3%)	33 (45.2%)	0.3	0.34
No (%) patients admitted voluntarily	16 (23.2%)	14 (20.0%)	12 (16.4%)	1.0	0.07
No (%) patients with emergency admission	12 (17.4%)	7 (10.0%)	14 (19.2%)	1.1	0.07
No (%) patients admitted under court order	11 (15.9%)	7 (10.0%)	19 (26.0%)	5.7*	0.16
No (%) patients with emergency visits	22 (31.9%)	22 (31.4%)	25 (34.2%)	0.2	0.03

* $P < 0.05$; $df=1$

** Chi² test compares the intervention (PAPC+CCP) and the control group

TABLE 4 Logistic regression results of admission at follow- up (court-ordered admission as reference)

	B (SE)	OR	95% CI for OR	P value
(Intercept)	1.421 (0.503)			
PAPC group	0.582 (0.416)	1.79	0.79 to 4.04	0.16
CCP group	0.960 (0.468)	2.61	1.04 to 6.54	0.04
Control group	0	1		
Male	-0.329 (0.428)	0.72	0.31 to 1.67	0.44
Age ¹	0.058 (0.018)	1.06	1.02 to 1.10	0.00
HoNOS ¹	-0.044 (0.036)	0.96	0.89 to 1.03	0.22
Dutch (versus immigrants)	-0.710 (0.386)	0.49	0.23 to 1.05	0.07
Not admitted before baseline	1.350 (0.477)	3.86	1.51 to 9.83	0.01
Bipolar disorder (versus psychotic disorder)	0.788 (0.501)	2.20	0.82 to 5.88	0.12

Mc Fadden $R^2 = 0.17$, Model Chi² = 40.5, $df=8$, $p = 0.00$.

¹ Grand mean centred

Effects on service engagement, social support, insight and the quality of the therapeutic alliance

There were no significant condition by time interactions between the interventions and the control condition: service engagement ($F(2,381)=0.27$; $p=0.76$); social support ($F(2,532)=2.1$; $p=0.12$); insight ($F(2,547)=1.9$; $p=0.16$); and working alliance (patient version: $F(2,497)=0.24$; $p=0.78$; therapist version: $F(2,526)=0.6$; $p=0.58$).

DISCUSSION

This randomized controlled trial showed that two types of plans did not significantly reduce overall admissions, voluntary admissions, emergency admissions, or outpatient emergency visits. Although not significant, there were fewer involuntary admissions and more voluntary admissions in the intervention conditions than in the control group. Crisis plans did have a significant effect on planned court-ordered admissions, especially when they had been composed together with the clinician. Independently of this effect, older participants who had not been admitted to psychiatric hospital before the study were less likely to be admitted under a court order. We did not find evidence for the associations between the effect of the crisis plans on court ordered admissions with service engagement, social support, insight and working alliance.

Comparison with other studies

A systematic review identified only two studies on the effects of advance statements (21). Recently, a third study was published (5). The first of these, by Henderson et al. (4), found an effect of a joint crisis plan on the use of the Mental Health Act. In this study, the plan was developed together with the outpatient clinician, as was done in the CCP condition in our study. It may be that the involvement of the outpatient clinician is important for the effectiveness of the crisis plan. In the Henderson's study however, the intervention meeting was facilitated by an independent psychiatrist, what may have contributed to a better quality of the plan. Thornicroft et al. (5) re-examined the effect of a joint crisis plan made in the same fashion as described by Henderson et al (4) but on a larger scale using a multicentre design. Unfortunately they could not replicate the beneficial effect of a joint crisis plan on the use of the Mental Health Act. The authors suggest that the absence of a significant effect may be partially attributed to the insufficient implementation of the joint crisis plan at certain study sites. Finally, in the study by Papageorgiou et al. (6), patients wrote seven statements on their future preferences for treatment during their hospital stay, without any involvement of their outpatient clinicians, what may have disadvantaged the effectiveness of the statement.

Limitations

This study had some limitations. Firstly, the DSM-IV diagnoses were not assessed by means of a structured diagnostic interview, making them less reliable; however such a diagnosis was of limited importance to the present study. Secondly, fewer patients were admitted than expected, what resulted in a lower statistical power to detect effects on the number of admissions. Thirdly, the generalisability of our results may have been limited because 60% of the eligible patients did not want to participate in the study. This refusal rate corresponded with that in the study by Henderson et al. (4), who reported a

non-response of 64%; in the study by Papageorgiou et al. (6), the refusal rate was 30%. Fourthly, we did not have information on the manner in which the crisis plans were used in actual crisis situations. It may be that they were insufficiently used in clinical practice. Finally, another limitation is the high percentage of patients who did not complete the crisis plan: 30% in the PACP group and 43% in the CCP condition, which both contrast with the lower drop-out rate of 19% in the Henderson's study. Papageorgiou's study reported no explicit drop-out rate. Our dropout rate was nonetheless consistent with that in another study on facilitating the completion of psychiatric advance directives, in which 39% of participants did not complete such document (22). In line with the intention to treat principle, effects of completers as well as non-completers were analysed together. Smaller numbers of admissions than anticipated, and fewer completers in the intervention condition, may have resulted in overall lower effects of the intervention. The study was underpowered to detect small beneficial effects of joint crisis plans.

Clinical implications

Our study yielded three important results. Firstly, fewer patients were involuntarily admitted under a court order. Secondly, because a greater reduction in court-ordered admissions was found in the CCP than the PACP, it might be better to document a crisis plan together with the clinician than with a patient advocate. Thirdly, as we found no change in patient characteristics (see methods section), it is not clear which factors are associated with the reduction of court-ordered admissions. Therefore, we can only speculate on explanations for this result. It may be that the process of making a crisis plan by the patient and his or her clinician helps the clinician to feel more certain about what to do in times of a crisis situation, thereby reducing the need for court-ordered admissions, and causing a shift towards voluntary admissions. In other words, clinicians who have documented a crisis plan together with their patients may be better at risk assessment, and may therefore intervene earlier in order to prevent dangerous situations such as the self-neglect and social breakdown (23; 24).

In conclusion, our finding that a crisis plan could reduce court-ordered admissions may support the mental-health service policy of making advance statements a structural part of the treatment plans. However, experiences during this study showed that the participant clinicians needed intensive monitoring by the researcher. This suggests that the implementation of a crisis plan in the mental health system requires additional supervision.

Future research should replicate the results of this study and then focus on working mechanisms, cost-effectiveness of crisis plans and evaluate whether the instructions in the plans were followed during a particular crisis situation.

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Chapter 4

Determinants of implementation and use of psychiatric advance statements in mental healthcare

Ruchlewska A., Kamperman A.M., Wierdsma A.I., Van der Gaag M., Mulder C.L.

Submitted

ABSTRACT

Objective Crisis plans are a particular type of Psychiatric Advance Statements (PAS) that describe how early signs of psychiatric crisis can be recognized and crisis situations can be handled. Although they may help reduce crises, their implementation in clinical practice is problematic. We wished to establish which variables, including patient and clinician characteristics, were associated with successfully drawing up (“completing”) a full crisis plan. We also wished to describe how often a crisis plan were used in a crisis situation.

Methods The participants were 139 crisis-prone outpatients and their clinicians recruited in the context of a randomized controlled trial (RCT) studying the effects of crisis plans. The plans were created with the help of clinicians or patient advocates. Upon their completion, we used multivariate logistic regression analyses to analyze associations between patient and clinician characteristics.

Results Sixty four percent (89/139) of patients completed a crisis plan. Our results showed that higher completion rates were associated with a better clinician-rated working alliance, a lower educational level in patients, and shorter professional experience in clinicians. In a crisis, the plans were actually consulted in a third of the patients (13/38; 34%). They were used less in cases of involuntary admission than in outpatient emergency visits or voluntary admission.

Conclusions The completion of PAS was associated not only with patient and clinician characteristics but also with working alliance. The use of PAS after completion is not self-evident, especially not in cases of involuntary admissions.

INTRODUCTION

Psychiatric advance statements (PAS) are important instruments for patients and clinicians who wish to prevent crisis situations and to find mutual agreement on how to handle them (1; 2). They may also have a positive effect on the therapeutic relationship and patient satisfaction with treatment (3). The term psychiatric advance statement encompasses a range of statements used in psychiatric care, such as crisis plans, joint crisis plans and psychiatric advance directives. They can vary in form, content, and judicial context (4).

As the process of implementing new evidence-based interventions is estimated to take over a decade, it is not surprising that the implementation of PAS in the mental health system has been problematic (3; 5; 6). Although their benefits are promising but equivocal, and although interest in them is growing, a very small proportion of patients actually have such a statement (3). This discrepancy between interest in PAS and actually drawing them up has been examined in a small number of studies in the US. One study in approximately 200 outpatients at five different public mental-healthcare services showed that 4% to 13% of patients who wanted a PAS had actually completed one (7). The reasons for the discrepancy between the demand for PAS and their completion may depend both on the clinicians' attitude towards the statements and any barriers they perceive: it has been suggested that clinicians may have doubts about the need for them, or are reluctant to share decisions with their patients (8; 9).

One factor that seems to be important for the completion of a PAS is the use of an independent facilitator. Individuals in one study were randomized to two conditions, one in which a facilitator was involved in making PAS, and one in which no facilitator was involved. Sixty-one percent of the facilitated PAS were completed, against 3% of those that had not been facilitated (3). An earlier study by our group showed that if a patient had been helped by a patient advocate to draw up a PAS, the quality of the statements in terms of completeness and specificity was higher than the quality of a PAS drawn up by a clinician and patient alone (10). In contrast, medical information such as patients' current medication, their preferences regarding it or any refusal to use it, was better described in statements which had been drawn up solely between clinician and patient.

Another aspect of implementation of PAS is whether they are actually used during a crisis. While this seems logical from a clinical standpoint, many factors can interfere with the use of such a plan. In times of crisis, for example, the content of the plan may be overlooked by family members or clinicians working in the crisis service simply because

time is lacking, or because no-one is aware of its existence. To our knowledge, this is an issue that has not been studied before.

We therefore tested the hypotheses that more PAS were likely to be completed in three cases: 1) if the patient had better psychosocial functioning (i.e., greater illness insight, fewer symptoms, better social functioning, and fewer behavioral problems); 2) if the patient had more positive attitudes to the mental healthcare service, clinician and usefulness of a PAS; and 3) the clinician had a more positive attitude to the patient and usefulness of a PAS. We also described the actual use of PAS during crisis situations.

METHODS

Design

The data for this study were derived from a randomized controlled trial (RCT) on the effects of a crisis plan – i.e. a type of PAS – for patients with psychotic and bipolar disorders. This study, which has been described in detail (2; 11), investigated the effects of the crisis plans on the number of voluntary and involuntary admissions and outpatient emergency visits. The study was approved by the Dutch Union of Medical Ethics Trial Committees for Mental Health Organizations. Informed consent was obtained from all participants. Trial registration: NTR1166.

The crisis plan

Crisis plans were conceived according to protocol (11), and two types of procedure were used to create them, one in which the plan was created by the patient and the clinician (CCP), and one in which the creation of the plan was facilitated by a patient advocate (PACP). The crisis plan described how early warning signs of a crisis could be recognized and proper help be provided. The format distinguished four domains: (1) indicators of relapse; (2) the patient's care preferences in the event of a crisis; (3) medical information; and (4) the contact information of relevant others.

Recruitment

We included adult outpatients who had had at least one crisis contact with mental health services, or had been admitted – voluntarily or compulsorily – within the previous two years. Participants were recruited from twelve Community Mental Health Teams in three mental health institutions in Rotterdam, the Netherlands. A total of 537 candidate participants were selected on the basis of case notes, 151 of whom refused to be contacted with the researcher or to participate in the study, and 174 of whom could not be contacted. In total, 212 patients were included in the RCT. Patients in the control

condition (N=73) did not draw up a crisis plan and were excluded; 139 patients were included in our present analyses (PACP: N=69; CCP: N=70). Data were collected between November 2007 and March 2011.

Procedures

During a two-hour team meeting before the start of the study, the researcher (AR) and two participating members of the patient-advocacy organization trained all participating clinicians in making crisis plans. Most participants were psychiatric nurses who were the patients' regular treating clinicians. They were familiar with the concept of crisis plans. The two participating patient advocates were social workers with over fifteen years of work experience in the mental health services; one was expert patient. Both worked for the patient-advocacy organization. Their main focus was to draw up crisis plans together with patients.

The following procedures were involved in drawing up the protocols for crisis plans. The first meeting was spent discussing the procedure with the patient and collecting information for the plan. Crisis-precipitating factors were discussed, and strategies for preventing crises were developed.

After this meeting – or after more meetings if necessary – the first draft of the plan was prepared. The plans, when completed, were signed by the patient's psychiatrist, the clinician, and any others involved in the crisis plan, such as partners, friends or family. The final step was to summarize the plan on a crisis card, and give it to the patient.

MEASURES AND INSTRUMENTS

Outcome variables

The completion of crisis plans was operationalized as the handover of the crisis card to the patient. *The use of crisis plans* was assessed using a structured interview during follow-up (at 9 and 18 months). We interviewed the patient's clinician, asking the following questions: "Has the crisis plan been used over the past 9 months?" (yes/no), "Who has consulted the crisis plan?" (patient/clinician/family or other stakeholder/other), "Which parts of the crisis plan have been consulted?" (part 1-8), "The instructions in the crisis plan were followed/ ignored during crisis, because..." (open question). Similarly, we assessed the occurrence and cause of one or more crisis situation, and the number and type of crisis interventions during follow-up. For this purpose, we categorized the crisis intervention in three categories: 0 "no crisis", 1 "outpatient emergency visit or voluntary admission," and 2 "involuntary admission" (whether acute or court ordered).

Determinants

Socio-demographic characteristics: Patient characteristics included chart diagnosis, gender, age, ethnicity, education, income, and marital status. Clinician characteristics included years of professional experience. The patient's *psychosocial functioning* was assessed by an independent interviewer using the Dutch version of the Health of the Nation Outcome Scales (HoNOS) (12, 13). The patient's *insight into illness* was measured using the self-report insight into psychosis scale (13). *The patient's level of service engagement* as seen from the clinician's perspective was measured using the Dutch version of Service Engagement Scale (14). *The quality of the therapeutic relationship* was measured using the Dutch version of the Working Alliance Inventory (WAI) (15), which was scored from both the patient's and the clinician's perspectives. *Expectations about the crisis plan* were measured on the basis of four questions that were answered by clinicians and patients (11): "To what extent do you think the crisis plan could be effective in 1) preventing a crisis, (2) recognizing a crisis, 3) what to do in advance of a crisis, and 4) what to do in case of a crisis?" This questionnaire was scored by both patient and clinician. All determinants were assessed at baseline.

Statistical analysis

Univariate associations between completion of the crisis plan and all determinants were analyzed using unadjusted (crude) odds ratios with corresponding 95% confidence intervals (CI). Determinants with a significance level of 0.25 were considered potentially relevant and retained for further analysis (16). Subsequently, all candidate determinants and meaningful interactions between determinants were entered into a logistic regression model, and removed in a stepwise backward selection procedure on the basis of the fit of the model. Collinearity between determinant variables was checked. The model fit of the final model was checked using diagnostic scatter plots of the standardized residuals, and described using Nagelkerke's pseudo R^2 . Associations between determinants and the use of a crisis plan were analyzed using Fisher-Exact tests (FET). Although the dataset is hierarchical, since patients are clustered within clinicians and treatment teams, sensitivity analysis using multilevel models produced no evidence that completion of crisis plans varied across treatment teams. SPSS for Windows (version 21.0) was used to perform the statistical procedures.

RESULTS

Sample characteristics

Table 1 shows the characteristics of the patients and clinicians, and table 2 shows the completion of the crisis plans.

Mean psychosocial functioning as measured with the HONoS was consistent with the average score in psychotic patient populations (12). Illness insight was average to high. Service-engagement scores indicated moderate engagement. The mean score for the patient- and clinician-rated working alliance indicated positive therapeutic relationships. The mean score on the expected usefulness of crisis plans indicated positive expectations. Patient and clinician characteristics did not differ between the PACP and CCP conditions.

TABLE 1: Characteristics of the patients and clinicians in the sample

Patient characteristics (N=139)	
Age (m;sd)	40.5 (11.2)
Sex (N;%)	
Men	96 (69%)
Women	43 (31%)
Marital status	
Single/ divorced	120 (86%)
Married	19 (14%)
Ethnicity	
Dutch native	85 (61%)
Immigrant	54 (39%)
Income	
Employed	13 (9%)
Unemployed	126 (91%)
Educational level	
Low	30 (22%)
Middle	99 (71%)
High	10 (7%)
Diagnosis	
Psychotic disorder	98 (71%)
Other severe mental illness	41 (29%)
Psychosocial functioning	
HoNOS (m;sd)	11.3 (5.1)
Insight (m;sd)	8.4 (2.9)
Attitude	
Service engagement (m;sd)	28.1 (8.1)
Working alliance (m;sd)	142.5 (20.8)
Expectations CP (m;sd)	15.3 (2.7)
Clinician characteristics	
Years of professional experience (med;range;sd) (N=93)	14.0 (0-40; 9.4)
Attitude	
Working alliance (m;sd) (N=139)	137.6 (15.1)
Expectations CP (m;sd) (N=93)	16.1 (1.9)

TABLE 2: Completion of crisis plans and reasons for non-completion

	N %	
No. of crisis plans completed	89/139	(64%)
In clinician-created crisis plan condition	40/70	(57%)
In patient-advocate-created crisis plan condition	49/69	(70%)
Actions needed by researcher (email, telephone calls etc.)	M	SD
To remind clinician	5	
	3	
To remind patient advocate	Nil	na
Reasons for non-completion	N %	
No time/Other treatment priorities	18/50	(36%)
Patient was continuously in crisis and lacked illness insight	10/50	(20%)
Patient refused to reflect on possible crisis	6/50	(12%)
Patient was not compliant with the treatment	6/50	(12%)
Patient could not be contacted	4/50	(8%)
Patient changed clinician multiple times	3/50	(6%)
Patient died	1/50	(2%)
Patient emigrated	1/50	(2%)
Crisis plan got lost before finalization	1/50	(2%)

Univariate logistic regressions analyses showed that the completion of the crisis plan was associated at a p level of < 0.25 level with patients' gender, unemployment, having a psychotic disorder, education level, service engagement level, patient- and clinician-rated working alliance, and clinician-rated expectations for the effectiveness of the crisis plan.

Table 3 presents the final model with the clinician-rated working alliance, education and clinicians' treatment experience as the predictors of the completion of the crisis plan. The probability of completion was significantly smaller if the working alliance had been qualified negatively by the clinician. The more experience a clinician had, the lower the chance a crisis plan would be completed. Participants with a low educational level were significantly more likely to complete their crisis plans than those who had been educated to a moderate or high level. We tested the interaction effect of working alliance with education on the completion of crisis plans, and found no interaction effects.

Use of crisis plans

Forty-three percent (38/89) of the patients who had completed their crisis plan later experienced some form of crisis, with 24/89 (27%) needing an outpatient emergency visit or being admitted voluntarily to a psychiatric ward, and with 14/89 (16%) being ad-

TABLE 3. Predictors of completion of a crisis plan in the final model.

	Beta (SE)	Exp(B)	95%CI	P-value
Constant	1.96 (0.58)	7.10		0.00
Working alliance – clinician's perspective				
Negative alliance	-1.76 (0.53)	0.49	0.17-0.61	0.00
Neutral alliance	-0.61 (0.53)	0.54	0.19-1.53	0.25
Positive alliance	1			
Patient's educational level				
Low	1.06 (0.53)	2.88	1.03-8.10	0.04
Middle to High	1			
Clinician's professional experience (in years)	-0.04 (0.02)	0.96	0.92-1.00	0.07

Nagelkerke's $R^2 = 0.16$

mitted involuntarily. Some form of crisis was experienced by 32 of the 50 patients whose crisis plan was incomplete (64%), with 19/50 (38%) needing an outpatient emergency visit or being admitted voluntarily, and with 13/50 (26%) being admitted involuntarily.

The crisis plan was actually consulted in a third of the patients in crisis (13/38; 34%). In a quarter of patients in crisis, no information was available on whether their crisis plans were consulted (9/38; 24%). Clinicians and patients consulted the crisis plans to the same extent. In the event of a crisis, the information that was consulted most often was the information on patient's care preferences (6/10; 60%), followed by indicators of relapse (3/10; 30%), and medication (1/10; 10%). In 20% of cases (10/51), crisis plans were also consulted when no crisis was actually taking place. In two cases, the plan was consulted by family members or others involved in the patient's care.

More crisis plans were consulted for patients who needed an emergency visit or were being admitted voluntarily (12/20; 60%) than for patients who were being admitted involuntarily (1/9; 11%) (FET: $p=0.020$).

DISCUSSION

Almost two-thirds of the crisis plans were completed successfully. Completion was associated with better working alliance as seen from the clinician's point of view, a lower educational level on the part of the patient, and fewer years' treatment experience on the part of the clinicians. The results therefore do not support our first two hypotheses, that the completion of a crisis plan is positively related to the patient's level of psycho-

social functioning (hypothesis 1) and to the patient's attitude towards healthcare and usefulness of the crisis plan (hypothesis 2). However, the chance of a crisis plan being completed successfully was positively affected by a positive attitude on the part of the clinician (hypothesis 3). In only a third of patients who had a completed crisis plan was the plan actually used during a crisis situation – usually in the context of an emergency visit or voluntary admission.

As 64% of crisis plans were completed only after the researcher had reminded the clinicians to do so, it is possible that clinicians had difficulty completing these plans with their patients. This result is in line with that found in American research (3), where 61% of plans were completed after additional efforts had been made to facilitate the process. The reason clinicians needing reminding may be that they gave priority to other treatment tasks, which is especially likely in the Dutch outpatient context, which does not legally require PAS. As most clinicians reported positive expectations of the crisis plan, we assume that the problem was not lack of motivation, but that they were prevented by practical barriers such as lack of experience drawing up such plans according to a structured format, or lack of time due to a busy schedule. At this point we should add that a legal requirement to draw up a PAS might also have disadvantages: its statutory nature might create the risk that the PAS becomes an obligatory administrative procedure rather than a mutual advance agreement between patient and clinician.

The lack of evidence for a positive impact of psychosocial function on the completion of these plans is supported by earlier research on the influence of patient characteristics on PAS completion (3; 7). As such, our finding that a better working alliance (seen from the clinician's point of view) is associated with the completion of crisis plans has not been reported before, but it is in line with the finding that clinician's reluctance towards PAS have been reported as an important barrier to the implementation of PAS (8; 9).

The finding that patients with a lower educational level have higher completion rates is not supported by earlier research. In fact, the reverse is the case: successful completion was previously found to be associated with higher levels of education, along with better illness insight and a higher level of competence: i.e. understanding, appreciating, reasoning and choice regarding PAS (3; 7).

It is noteworthy that previous studies (8; 9) found that greater professional experience reduced the perceived barriers towards PAS, while our own study found the opposite. Swanson (3; 7) reported that positive attitudes of the patient towards a PAS and towards healthcare services contributed to higher completion rates, a finding we could not replicate.

We speculate that patients with a higher educational level and clinicians with more years of professional experience may value the discussion on the preferred treatment more than its actual product, i.e. a finished PAS (17).

Although our results should be interpreted with caution, they suggest that PAS will be completed if a clinician believes treatment to be progressing. It is known that clinicians experience problems forming a collaborative relationship with patients with severe mental illness (18). In our sample, plans were completed by three-quarters of patients who had been admitted voluntarily or had had an emergency visit during the follow-up period, whereas a plan had been completed by only half of the patients who had been admitted involuntarily during the follow-up period. We also found that the plans were consulted more in cases of an emergency visit or voluntary admission, and less in cases of involuntary admission. This might suggest that the completion of crisis plans positively affects the way a crisis is handled (2). Although our data did not support the interpretation that patients who function better – who are by definition less prone to involuntary admission – were more able to complete a plan, it is unclear whether there is any causal relationship between the way a crisis is handled, a good working alliance and the completion and subsequent consultation of a PAS.

As previous analyses had shown, facilitation by patient advocates resulted in more and qualitatively better PAS (10). On the other hand, clinicians drew up PAS in which the description of medical information was qualitatively better (10). We therefore recommend that clinicians and patient advocates actively work together to improve the quality of the working alliance and thereby improve the completion of PAS – especially when the alliance between clinician and patient is disturbed.

Strengths and limitations

Strengths. To our knowledge this is the first study to assess the completion of PAS in relation to patients' and clinicians' characteristics and attitudes towards PAS and the healthcare service. Neither have there been any earlier reports on the associations between completion of PAS, the occurrence of crises, and the actual use of PASs during crisis situation.

Limitations. Due to our limited sample size and statistical power, caution must be taken when interpreting the associations between patient and clinician characteristics, the completion of PAS and the type or occurrence of crisis situations. Future research is needed to replicate these findings, and to determine the extent to which information from a PAS affects the actual healthcare provided. The data on completion of the PAS were collected in the context of an RCT to study the effects of (completed) crisis plans. As considerable effort goes into stimulating clinicians to complete the plans, the results

cannot be generalized to a naturalistic context in which clinicians are neither supervised nor facilitated by a patient advocate. It is nonetheless likely that the percentage of plans completed would drop significantly if they were drawn up without close monitoring.

In conclusion, we found that successful completion of a PAS was related less to patients' and clinicians' attitudes towards the usefulness of the instrument, but relied more on a positive working relationship between patient and clinician. Since the completion and consultation of PAS were associated with a more positive handling of the crisis, it is important for healthcare services to invest in mental healthcare professionals' relationship with their patients, and to consider the use of independent patient advocates. Clinicians should also be more aware of the potential benefits of consulting a patient's PAS. Future research should assess whether and how information from PAS is used during crisis situations, and should establish the effects of using this information on the way the crisis develops.

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Chapter 5

**Patient advocates make better
crisis plans than clinicians.**

Ruchlewska A, Mulder CL, Van der Waal R, Kamperman A, Van der Gaag M.

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ABSTRACT

This study compared quality aspects of crisis plans made with the help of a patient advocate (PACP) with those of plans made with the patient's clinician (CCP).

Methods Patients were randomized into PACP and CCP conditions. The Quality of Crisis Plan Checklist was used to compare quality aspects of PACP and CCP crisis plans.

Results The quality scores were significantly higher in the PACP group than in the CCP group (Cohen's $d = 0.78$ for the Quality Checklist total score).

Conclusions Patient advocates may be important to the successful development of crisis plans.

INTRODUCTION

Psychiatric advance statements allow patients to express their preferences for the psychiatric treatment they would receive in a future crisis situation, when their capacity for decision-making might be compromised. The aim of these documents is to improve a person's self-determination, and possibly to reduce future crisis situations and involuntary hospital admissions. A psychiatric advance statement might thus describe early indicators of relapse, methods of de-escalating the crisis, and preferences for medication or hospitalization.

Research has shown that when they are independently facilitated, some types of advance statement can reduce the need for involuntary admission and treatment (1, 2). One study suggested that the therapeutic relationship can be improved when a facilitated type of psychiatric advance directive is completed (3). Other authors hypothesize that advance statements give patients a sense of autonomy and control, and also improve treatment adherence (4).

Although the benefits of psychiatric advance statements are promising, the implementation of such documents in the mental health system is still problematic (5). One possible obstacle involves uncertainty about the way the statements should be facilitated and about the most appropriate type of statement. Another is clinicians' skepticism about their patients' capacity to make such documents (6). Atkinson et al. (7) found that psychiatrists are not convinced of the need for advance directives.

The use of advance statements in the mental health services may be complicated by clinicians' reticence about sharing decisions with patients (8). While clinicians believe that mental health professionals should take the lead role in completing such documents, consumers may prefer to seek help in a non-medical setting; this was shown by a study in the Veterans Health Administration system that measured the consensus between mental health consumers and their clinicians on implementing psychiatric advance directives (5).

Overall, research on implementing psychiatric advance directives has found that experts in mental healthcare believe that the clarity of the information presented in such documents is very important to the directives' successful implementation (5). The quality of such directives may also mirror the quality of the process whereby they were developed.

There are different kinds of advance statement, each determined by the context. They include the involvement of a mental health provider, independent facilitation, or legislative status defines. In the Netherlands, there are various forms of advance statement. In this study we evaluate crisis plans, which were developed as a self-help initiative by the Amsterdam Patient and Consumer Advocacy Group in the Netherlands (9), and cover two aspects of an advance statement: crisis prevention and the provision of practical

information for future psychiatric emergency care. The practical information is summarized on a small card, the 'crisis card', which the user carries with him or her at all times.

This form of crisis plan is a non-legally binding advance agreement between patient and mental health provider. One quality aspect is that the crisis plan contains explicit, specific and concrete information on what to do in times of crisis. This is important: during a crisis, unambiguous information may ensure better problem-solving.

In this study, we therefore compared the quality of crisis plans drawn up with the help of a clinician (Clinician Crisis Plan: CCP) with that of a crisis plan drawn up with the help of patient advocate (Patient Advocate Crisis Plan: PACP).

The original crisis plan, the Amsterdam Patient and Consumer Advocacy Group model, was developed with the help of a patient advocate working independently of the mental healthcare provider. As the specificity and completeness of the crisis plan are two important aspects of its quality, we reasoned that a plan developed by a patient advocate might be better than one developed by a clinician. Because patient advocates might have more experience of drawing them up, and also more time available to do so than clinicians, patients might be more willing to provide an advocate with personal information.

METHODS

Participants and procedures

The data for this study were derived from a randomized controlled trial on the effects of a crisis plans for patients with psychotic and bipolar disorders. This study was described in detail in Ruchlewska et al. (10); briefly, it aimed to investigate the effects of the crisis plans on the number of voluntary and involuntary admissions and outpatient emergency visits. Data were collected between November 2007 and March 2011. We included outpatients who had been diagnosed with a psychotic or bipolar disorder and had had at least one crisis contact with mental health services, or had been admitted – voluntarily or compulsorily – within the previous two years.

Participants were recruited from twelve Community Mental Health Teams in three mental health institutions in Rotterdam, the Netherlands. These teams were located throughout the city centre, and in the northern, eastern and southern districts of the city and their outlying areas. The patients selected received an information letter about the study from their clinicians, who requested their patients' permission to be contacted by an independent researcher. Written informed consent was obtained after participants have been provided with a complete description of the study. Participants received EUR 10 for the interview. The design and implementation of this study were approved by the

Dutch Union of Medical Ethics Trial Committees for mental health organizations. Trial registration: Current Controlled Trials NTR1166.

A total of 537 candidate participants were selected on the basis of case notes, 151 of whom refused to be contacted with the researcher or refused to participate in the study after the researcher had explained its objectives. After several unsuccessful attempts, 174 patients were not contacted. For a flowchart of the study, see figure 1.

Definition of crisis plans

The crisis plans were conceived according to a set procedure. We compared two types of crisis plan: one created by a patient advocate together with the patient, and one created by a clinician together with the patient. Each type had the same format and described how to recognize the early warning signs of a crisis, and how to provide adequate help.

Both types distinguished four domains. The first domain, on relapse indicators and daily functioning, described a potential future crisis situation in a way that made it more likely to ensure that other people would recognize the individual signs in the person risking a crisis. Aspects of this person's life beyond their being a patient (such as their hobbies and social activities) were described in a "daily functioning" category. These two items were linked together because engaging in daily activities might prevent relapses.

The second domain described what to do in times of crisis, stating the patient's preferences for the type of care during a crisis, such as the hospitals to which they did and did not wish to be admitted, their medication preferences, or how they wished to be treated by clinicians. This domain also provided practical information for use in times of crisis, such as who must be called, or what to do with pets.

The third domain specified medical information, including current medication and pharmacy information; and the fourth comprised all relevant contact information on people involved in the crisis plan, including friends, relatives, and the clinicians.

The plans were summarized on a small crisis card. This was the size of a credit card, and could be folded into a plastic wallet that the user was to carry at all times.

Each crisis plans was made on a strictly voluntary basis. If it was strictly necessary for a patient's treatment, the clinician could deviate from it. However, the signatures on the plan of all people involved in it are of significant importance, since they mark an agreement between the parties to the crisis plan. In our study protocol we presented more detailed information on the types of advance statement (10).

Procedures

During a two-hour team meeting before the start of the study, the researcher (AR) and two participating members of the patient advocacy group trained all participating clinicians in making crisis plans. Most participants were psychiatric nurses who were patients' regular

treating clinicians. They were familiar with the concept of crisis plans. The two participating patient advocates were social workers with over fifteen years of work experience in the mental health services; one was also a consumer peer specialist. Both worked for the patient organization 'Basisberaad'. Their main focus was the creation of crisis plans.

PACP and CCP groups

The protocols in the two intervention conditions were as similar as possible, and involved the following procedures.

CCP condition: during a face-to-face meeting after the patients had been randomized to the CCP condition, clinicians were provided with the CCP protocol, and the researcher explained the structure of the intervention in more detail. Clinicians later made an appointment with their patients.

PACP condition: in this condition, the advocate received a patient's contact information from the researcher, with whom he or she then made an appointment.

In both groups, the first meeting was spent discussing the procedure with the patient and collecting information for the crisis plan. Crisis-precipitating factors were discussed, and strategies for preventing crises were developed.

After this meeting – or after more meetings if necessary – the first draft of the plan was prepared. In the PACP group, the advocate formulated patient's wishes on what to do if the first signs of a crisis developed, and what to do in times of crisis. In the CCP condition, the patient and his or her clinician created the content of the crisis plan together.

In both cases, the plans, when completed, were signed by the patient's psychiatrist, the clinician, and any others involved in the crisis plan, such as partners, friends or family. The final step was to summarize the plan on a crisis card, which was then given to the patient. The content of the crisis plan was to be evaluated annually or more frequently if necessary.

During the study we registered the time needed by the patient and the advocate to complete the plan in the PACP condition, and by the patient and his or her clinician to complete it in the CCP condition. As the creation of crisis plans was one aspect of the regular treatment of patients in the CCP condition, the clinician could only state the time estimated to have been spent specifically on making the plan. The researcher (AR) monitored the process whereby the crisis plans were drawn up in the two groups. To remind or motivate the clinicians to continue making and finishing the crisis plan, the researcher needed to undertake a mean of five actions (i.e. e-mails or telephone calls; SD = 3) in the CCP condition. In the PACP condition, no reminders were necessary.

MEASURES

Demographics

These included gender, age, ethnicity (dichotomized into Dutch natives and immigrants); education (dichotomized into low and middle or high education); and marital status (dichotomized into never married or divorced and married).

DEPENDENT VARIABLE

Quality of crisis plan

The outcome variable was the quality of the crisis plan. This was measured using the Quality of Crisis Plan Checklist, which was developed for the present study as we were unaware of any checklist described in the literature that was appropriate to our study objectives. The checklist consisted of ten items corresponding to the items of the crisis plan. For the Quality Checklist, see appendix. These items comprised four domains: 1.) relapse indicators/daily functioning, 2.) advance statements on what to do during a crisis, 3.) medical information, and 4.) information on contacts.

The crisis plans were rated by two independent research assistants, who were blind for the experimental conditions and who assessed the quality of each crisis plan by scoring each item from 0 ("no information/ vague information") to 3 ("complete information"). The last six items consisted of "yes" or "no" categories. Higher scores indicate better quality.

Inter-rater reliability and internal consistency were also assessed. Inter-rater reliability was assessed by the intraclass correlation coefficient (ICC), and was 0.81 (good inter-rater reliability). The Cronbach's alpha of the *relapse indicators/daily functioning* alpha was 0.52 (3 items); *advance statements for care during crisis* was 0.68 (6 items); *medical information* was 0.33 (5 items), and *information on contacts* was 0.60 (7 items). Due to the widespread absence of the items on medication preferences and medication to be avoided during a crisis, the Cronbach's alpha of the medical information scale was low (73% were missing in the PACP group, and 2% in the CCP condition). In the PACP group, the reason stated by advocates for the absence of medication preferences was that a patient did not know which medication he or she preferred. In other domains the internal consistency was acceptable. The missing medical information domain items were scored 0.

Statistical analysis

Statistical analyses were conducted with the SPSS 17.0 software package. Inter-rater reliability was assessed by the intraclass correlation coefficient (ICC). Cronbach's alpha was used to measure the internal consistency. Data were checked for normality of their distributions. Chi-square and student t-tests were used to compare group differences at

baseline, the student t-test to analyze the total mean scores of the quality of the crisis plans between the two conditions (CCP and PACP), and the Mann-Whitney U and Chi-square tests to analyze the item differences. The effect size was measured with Cohen's d, using pooled variance of the two means.

RESULTS

Sample characteristics

We selected 537 patients, of whom 212 (40%) were included in the study. 151 (28%) refused to be contacted by the researcher or refused to participate in the study after explanation of the research goals. 174 (32%) patients could not be contacted after several unsuccessful attempts. Figure 1 illustrates the flowchart of the study.

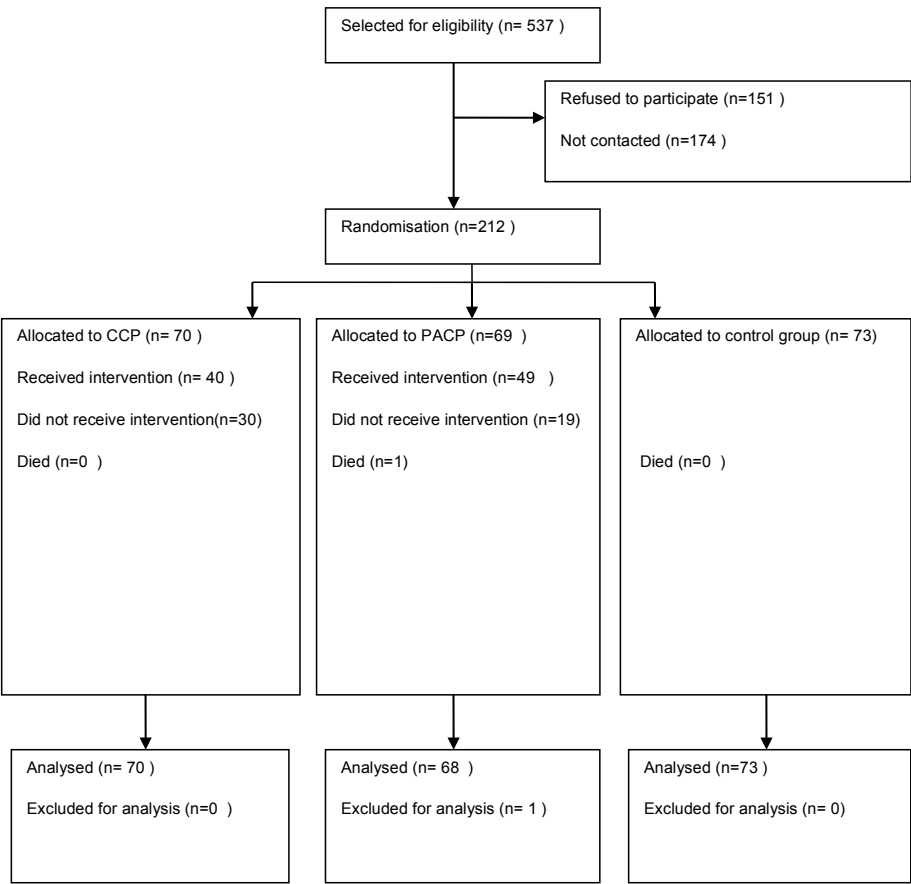


FIGURE 1 Participant flow chart.

Seventy patients were randomized to the clinician-facilitated Crisis Plan (CCP) condition and sixty-nine to the Patient Advocate facilitated Crisis Plan (PACP). Demographic and clinical variables are presented in Table 1. There were no significant differences between the CCP and PACP conditions. Thirty-one clinicians participated in the CCP condition, 12 male and 19 female. Twenty-eight of them were psychiatric nurses, one was physicians, one social workers and one a psychologist. Their average (median) working experience was 14.5 years, with a range from 2 to 39 years.

TABLE 1. Characteristics of patients in the clinician-facilitated crisis plan (CCP) condition and in the patient-advocate-facilitated crisis plan (PACP) condition

	CCP (N=40)	PACP (N=49)	chi ²	p- value
	N (%)	N (%)		
Gender			0.85	0.35
men	24 (60.0)	34 (69.4)		
women	16 (40.0)	15 (30.6)		
Diagnosis			0.33	0.56
psychotic disorder	33 (82.5)	38 (77.6)		
bipolar disorder	7 (17.5)	11 (22.4)		
Ethnicity			2.66	0.10
Dutch natives	21 (52.5)	34 (69.4)		
Education			2.13	0.55
low education	10 (25.0)	13 (26.5)		
middle/high education	30 (75.0)	36 (73.5)		
Marital status			1.00	0.32
never married/divorced	32 (80.0)	43 (87.8)		
married	8 (20.0)	6 (12.2)		
	Mean (SD)	Mean (SD)	t-value	p- value
Age	39.4 (11.4)	40.6 (11.1)	-0.50	0.61

Completed crisis plans

The crisis plans were completed by 57% of the 70 patients randomized to the clinician-facilitated Crisis Plan (CCP) condition (40/70), and by 70% of those randomized to the PACP (49/69) (figure 1). The completion rate did not differ significantly between the two conditions. Neither were there any significant differences for age, sex, diagnosis, ethnicity, education and marital status between the patients who completed the crisis plan and those who did not. The estimated average duration of face-to-face contacts was 153 minutes in the CCP group, against an average duration of 110 minutes for meetings in the PACP condition. The groups differed significantly in the average duration of face-to-face meetings ($t = -3.350$; $df = 81$; $p = .001$).

There were various reasons for non-completion of the plans. In the CCP condition, the clinicians gave four main reasons: 1) other priorities beyond making the plan, 2) no time, 3) the patient was continuously in a crisis situation and had no insight into his/her illness, or 4) the patient was not compliant with his or her treatment. Three other patients changed clinicians many times, disadvantaging the creation of the plan. In one case a clinician lost a crisis plan that had almost been completed.

In the PACP group, there were two main reasons for not finishing the plan: 1) the patient could not be contacted, or 2) did not want to reflect on a possible crisis. One patient died, and one emigrated.

Quality of Crisis Plan Checklist scores

Table 2 shows the total scores and the item scores of the Quality Checklist of the CCP and PACP group. The total score in the PACP group was significantly higher than in the CCP group. The scores on most items of the Quality Checklist were better in the PACP group than in the PCP group, except for the items *preferences for medication* and *medication to avoid*. As stated above, 73% of these items were missing in the PACP condition. The effect-size of the difference between the mean total item scores of the CCP and PACP groups was calculated with the Cohen's d, using pooled variance of the two means. The result, 0.78, indicated a large effect.

TABLE 2. Quality of the Crisis Plan Checklist scores of the clinician crisis plan (CCP) and patient advocate crisis plan (PACP). A higher score signifies higher-quality information

	CCP (N=40)		PACP (N=49)		Analysis				
	Mean	SD	Mean	SD	U	t	chi ²	df	p*
Checklist total score	36.525	(7.132)	40.694	(3.906)		3.501		87	<.001
1 How can a crisis situation be recognized?									
1a visible signs	1.75	(1.15)	1.88	(0.95)	938				.718
1b early relapse indicators	2.28	(.82)	2.63	(0.64)	747				.026
2 How should one act in a crisis situation?									
2a advice for clinicians	2.00	(.82)	2.67	(0.62)	522				<.001
2b advice for third parties	2.03	(1.07)	2.67	(0.62)	643				.001
3 Daily functioning when not in crisis	2.10	(.93)	2.86	(0.35)	535.5				<.001
4 Physical condition	2.55	(.93)	2.86	(0.61)	822.5				.029
5 Medication:									
5a current medication	2.60	(.63)	2.88	(0.33)	754				.010

TABLE 2. (continued)

	CCP (N=40)		PACP (N=49)		Analysis				
	Mean	SD	Mean	SD	U	t	chi ²	df	p*
5b pharmacy information	2.63	(.84)	2.86	(0.61)	824				.030
5c medication preferences during a crisis	2.75	(.81)	.73	(1.25)	284.5				<.001
5d medication to be avoided during a crisis	2.50	(1.04)	.88	(1.30)	389.5				<.001
6 Preferences regarding admission									
6a hospital preferences	1.70	(.85)	2.82	(.56)	223				<.001
6b hospital to avoid in crisis	.96	(1.18)	.96	(1.22)	970.5				.930
7 Tasks others involved	2.15	(.92)	2.57	(.61)	734.5				.024
8 Practical items of importance	1.68	(1.29)	2.78	(.59)	504.5				<.001
9 Information of involved others	2.80	(.40)	2.94	(.24)	844				.049
10 Signature	Yes (%)	Yes (%)							
10a Patient	40 (100)	49(100)							
10b Clinician	37 (92.5)	47 (95.7)					0.485	1	.486
10c Team psychiatrist	22 (55)	46 (93.9)					18.464	1	<.001
10d Involved others	25 (62.5)	48 (98)					18.778	1	<.001
10f Hospital gatekeeper	16 (40)	42 (85.7)					20.275	1	<.001
10e Family doctor	23 (57.5)	48 (98)					22.343	1	<.001

* After Bonferroni correction a p-value < .002 was considered significant

DISCUSSION

This study found that the quality aspects in terms of completeness and specificity of crisis plans were better when the plan had been facilitated by a patient advocate than when it had been made by a clinician alone. As the effect size of this difference is large, we consider the results to be clinically relevant.

In the CCP condition, 57% of the plans were completed. In many cases, the researcher had had to send the clinicians reminders to continue working on these plans and to finish them. If she had not done so, it is very possible that the plans would not have been completed.

The advocates succeeded in completing 70% of the crisis plans. This, they stated, was consistent with their usual experience, as approximately 30% of the crisis plans they

facilitate in situations outside the RCT are not completed. Why might the quality of the crisis plans drawn up by the patient advocates be higher than that of the plans drawn up by clinicians? One explanation might be that as the patient advocates are independent of a patient's treatment, they may have paid greater attention to the patients' personal wishes, daily life, and functioning.

If so, this may have led to information that was both more specific and less ambiguous. Henderson et al. (5) found that, when creating an advance directive, patients prefer a non-medical setting. It is possible that our results imply that patients may have been feeling more comfortable in a non-medical setting. The fact that the advocate also succeeded more often than the clinician in obtaining the signatures of the parties involved – including those of team psychiatrists, family doctors, family, friends and hospital gate-keepers – might suggest that the advocate had more time to collect this information. However, our assessment of the total amount of time spent making the crisis plan has shown that clinicians needed significantly more time to develop the plans than advocates did.

The quality of the information on medication preferences was higher in the CCP condition than in the PACP group – the only domain in which clinicians had a better score than advocates. However, this is very important in times of crisis, since the wrong medication could put patients at risk. Conceivably, this suggests either that they had better access to information on medication, or that because medication was the main focus of the treatment they provided, they paid less attention to other aspects of the patient's situation.

Limitations

Due to the lack of standard instruments for measuring the quality aspects of crisis plans, we used a self-developed checklist for the purpose. This instrument has not been used or tested in other studies.

Only 40% of potential candidates participated in the study, a response that seems to be inherent to this research context. In the study by Henderson et al (2004), 36% of eligible patients agreed to participate. However, these percentages refer to participation in a RCT, and do not imply that the same percentages apply if, beyond the context of an RCT, patients were invited to make a crisis plan.

As stated above, the researcher monitored in both conditions whether the crisis plans had actually been completed. If she had not repeatedly reminded participating clinicians to start, continue and finish the CCP, the number of completed CCPs would almost certainly have been much lower. Since clinicians are under no legal obligation to make a crisis plan, they might therefore be less motivated, and give priority to other tasks. However, a legal requirement to make crisis plans might also adversely affect their

quality: their statutory nature might lead to the risk that completing them became an administrative procedure rather than a mutual advance agreement between patient and his or her clinician.

Before the study began, the participating clinicians filled in a questionnaire on their expectations regarding the crisis plans (results not shown). Nearly all of them were positive about them. This may suggest not so much that their lack of motivation was the problem, but that they were not used to using a structured format for making a crisis plan.

Although neither advocates nor clinicians received remuneration, clinicians were asked in our self-made questionnaire before the study began what they thought about the crisis plans in general. Almost all of them had positive expectations of them. This could also imply not so much that the documenting process was hampered by their low motivation, but by their lack of experience of working with the structured format of the crisis plan.

In relation to the generalizability of the finding in the daily practice, there were only two patient advocates. This stands in contrast to the thirty one clinicians. We therefore cannot be certain if the personal characteristics of these advocates instead of their facilitation were responsible for the findings.

A final limitation is that because participants in the study had psychotic and bipolar disorders, the results cannot be generalized to patients with other diagnoses.

Implications for the services

Patient advocates may be important to the successful development of crisis plans. To improve the completeness and the quality of the plans, clinicians and patient advocates could work together. However, while patient advocates should continue to work in a non-medical setting, the clinician should be involved at an earlier stage of the development process. Any procedure whereby a crisis plan is made might thus involve a face-to-face meeting in which advocate, clinician and patient have an informal discussion of the medication preference.

Future studies should investigate the associations between the quality of crisis plans and its role in preventing or better management of crisis situations.

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Chapter 6

Working alliance in patients with severe mental illness who need a crisis intervention plan

Ruchlewska A, Kamperman AM, van der Gaag M, Wierdsma AI, Mulder CL

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ABSTRACT

Working alliance has been characterized as an important predictor of positive treatment outcomes.

We examined whether illness insight, psychosocial functioning, social support and locus of control were associated with working alliance as perceived by both patient and clinician.

We assessed 195 outpatients with psychotic or bipolar disorders. Our findings indicated that patients rated the alliance more positively when they experienced a greater need for treatment, fewer behavioral and social problems, and more psychiatric symptoms. Clinicians rated the alliance more positively in patients who reported fewer social problems and better illness insight. Patients' demographic characteristics, including being female and married, were also positively related to the clinician-rated alliance. Our results suggest that patients and clinicians have divergent perceptions of the alliance. Clinicians may need help developing awareness of the goals and tasks of patients with certain characteristics, i.e., singles, men, those with poor illness insight and those who report poor social functioning.

INTRODUCTION

A good working alliance has been characterized as an important predictor of positive outcomes for a number of treatments (1, 2). However, due to factors such as poor insight into their illness and into the need for treatment, some patients with schizophrenia and their clinicians find it difficult to form a therapeutic relationship (3, 4).

As one might expect, the severity of symptoms and subsequent impairments has been found to be associated with working alliance in patients with severe mental illness. However, the results vary widely, and may relate to the patient's and clinician's perceptions of their working alliance, or to the concordance between these perceptions. To start with the latter, Lysaker et al. (5) found a higher level of concordance between patients and clinicians in patients who experienced more negative symptoms and more impairments. On the other hand, Davis and Lysaker (6) found that while more impaired patients reported better alliances, their clinicians appraised the alliances more negatively. And while other authors (7, 8, 4) have also reported a negative association between clinician-rated working alliance and the presence and severity of symptoms, Barrowclough et al. (7) found an opposite association: that clinicians rated the working alliance more positively in patients with higher levels of self-reported depression. Barrowclough et al. found no association between symptom severity and alliance. Finally, McCabe and Priebe (9) reported that patients with more severe symptoms gave a poorer rating to their working alliance.

Although some researchers suggest that patients who perceive their working alliance more positively do so because they have a better understanding of their illness (7, 4), the mechanism behind this relationship remains unclear. Patients who rated their working relationship highly have also been found to have a positive attitude towards medication and towards living with family (7, 8, 4).

In patients with psychotic or bipolar disorders, we showed that the clinicians' perspective on the quality of the working alliance was an important predictor of whether a treatment capable of preventing psychiatric crises had been properly implemented (10). This was shown in an RCT designed to examine the effects of a crisis plan -a particular type of advance statement developed in Dutch psychiatric care (11). Advance statements are used with patients with psychiatric disorders to document the treatment they would prefer if faced with a future mental health crisis or period of incapacity. The term "psychiatric advance statement" encompasses a range of instruments used in psychiatric care, such as psychiatric advance directives, wellness recovery action plans, and joint crisis plans. These vary in form, content, and judicial context (12). A crisis plan describes crisis prevention and contains practical information on the action to be taken

in future psychiatric emergencies. The information is summarized on a small card – the ‘crisis card’ – which users carry with them at all times. While crisis plans are developed on a voluntary basis and are not legally binding, they are important instruments for helping patients and clinicians to find mutual agreement on how to handle crisis situations. Although they may thus be important in preventing involuntary admissions (13, 14), little is known about the determinants of a good working alliance in the patient population that most needs one.

In the present cross-sectional study, which was part of the RCT referred to above, we tested two hypotheses. The first was that a higher level of psychosocial functioning – i.e., greater insight, fewer symptoms, better social functioning, fewer behavioral problems and more social support – would be associated with a clinician’s and patient’s perception of a better working alliance. The second was that the working alliance achieved with patients with an external locus of control – i.e., those who experience little control about forces that impact their lives – would be perceived more poorly by clinician and patient alike.

METHODS

Setting

For this study we used the baseline data from a randomized controlled trial on the effects of crisis plans (11). We recruited patients from twelve Community Mental Health Teams at three mental-health institutions in Rotterdam, the Netherlands. As is usually the case in Dutch psychiatric care, these teams provide care to adult patients (>18 years) with serious and persistent mental illness – usually a psychotic, bipolar, or major depressive disorder (with or without co-morbid substance disorder) who also have psychosocial problems in multiple domains of life. Outpatient care ranges from office-based community psychiatric care, to more intensive assertive outreach treatment. Team case load is generally small (i.e., less than 350 patients). Rotterdam’s community mental-health care institution has a catchment area of approximately 1.3 million inhabitants. Costs are covered through national health insurance.

Participants

On the basis of the inclusion and exclusion criteria formulated in the context of the RCT, the clinician and the researcher selected candidate participants from the clinicians’ caseloads. The patients who had been selected received an information letter about the study from their clinicians, who also requested permission for an independent researcher to contact them. After the study had been described in full, written informed consent

was obtained. Participants received EUR 10 for each interview. We selected 537 patients, 212 of whom (40 %) were included in the study. After explanation of the research goals, 151 patients (28 %) refused to be contacted by the researcher or refused to participate in the study, and 174 (32 %) could not be contacted after several unsuccessful attempts (for details of recruitment and inclusion, see Ruchlewska et al. (14). The design and implementation of this study were approved by the Dutch Union of Medical Ethics Trial Committees for Mental Health Organizations.

MEASURES

Working alliance inventory (WAI)

To measure the quality of the working alliance from the patients' and clinicians' perspectives, we used the Dutch version of the Working Alliance Inventory (WAI) (15, 16). This 36-item scale, which was rated on a 5-point scale, from 1 ('no, I strongly disagree') to 5 ('yes, I strongly agree'), concerns three aspects of the therapeutic relationship: 1) tasks, i.e., the extent to which patient and therapist view the treatment tasks as relevant; 2) bonds, i.e., the personal attachment between the patient and clinician, which is created through trust, empathy and respect; and 3) goals, i.e., mutual agreement on and valuing of the outcomes of therapy. Higher scores indicate greater satisfaction with the alliance. The reliability of the WAI was measured using Cronbach's alpha. In our sample, the patient's and clinician's instruments of the WAI both showed high levels of internal consistency ($\alpha = .94$; $\alpha = .92$), the range being 80-180 for the patients' scale and 73-178 for the clinicians' scale.

Psychosocial functioning

Psychosocial functioning was assessed by an independent interviewer using the Dutch version of the 12-item Health of the Nation Outcome Scales (HoNOS) (17, 18). The HoNOS was completed by the researcher after a structured interview that quantified the psychosocial problems encountered within the previous two weeks. The items are rated from 0 (no problem) to 4 (severe to very severe problem). The intra-class correlation coefficient (ICC) of the HoNOS total scores was 0.87 in the similar population, which indicates very good reliability (Wing et al.). The range for this scale in our sample was a minimum of 1 and a maximum of 25. Four subscales concern behavioral problems (range in sample: 0-6), impairment (range in sample: 0-6), psychiatric symptoms (range in sample: 0-9) and social dysfunction (range in sample: 0-10).

Insight

Insight was assessed using a self-report Insight into Psychosis scale (19). This consists of eight statements to which the participant responds in one of three ways: agree, disagree and unsure. The three subscales concern the relabeling of symptoms, awareness of illness, and the perceived need for treatment. Higher scores suggest greater insight. The reliability for the total scale in our sample was high, with a Cronbach's alpha of 0.75. The test-retest correlation was 0.90, indicating high reliability (19). Due to the non-normal distribution of this variable, the scores of the scale were log transformed.

Social support

Social support was measured using the Adult Social Report scale (ASR) (20), a self-report scale comprising fourteen items that measure the respondent's opinion of the help received from family and friends. Each item is rated on a five-point scale from 'no help at all' to 'very much help'. In our sample, the test-retest coefficient for this scale was 0.82, which indicates high reliability. The range of the scale was 15-61.

Locus of control

Patients' personal feeling of control over the forces impacting their lives was measured using MASTERY, a 7-item scale (21) in which each item is a statement reflecting the respondent's perception of self. Four responses are rated from 1 ('strongly disagree') to 4 ('strongly agree'). Higher scores indicated an external locus of control, meaning less control over the forces that impact the patient's life. As measured by Cronbach's alpha, the reliability of the Dutch version of this scale was 0.79 (22). The range of this scale in our sample was 5-25.

Statistical analysis

The data were checked for normality, and relationships between predictor variables were checked for collinearity. Correlations and differences between patients' and clinicians' working-alliance ratings were then examined using the Pearson correlations and paired t-tests. Finally, backward multiple linear regression analysis was used to identify independent predictors of patient- and clinician-rated working alliances.

RESULTS

The questionnaire on the quality of the working-alliance was completed by 195 adult outpatients from the original sample (N=212) (mean age of 39.6 years) (SD=11.4), who participated in this study. A majority of participants were male (70%) and single (64%); 21% were divorced or widowed, and 15% were married. Most were Dutch natives (62%);

78% had completed education to a moderate to high level. Moderate education level included high school and vocational college; a high education level consisted of further or higher education.

The commonest diagnosis was a psychotic disorder (81%). The mean score on the log-transformed insight scale was .94 (SD= 0.21), indicating average to high insight into one's own illness. The mean score on the HoNOS was 11 (SD= 5), which is consistent with the average score in psychotic patient populations (17). The mean subscale scores on the HoNOS were as follows: 1.72 (SD=1.53) for behavioral problems, indicating mild behavioral problems; 2.09 (SD=1.37) for impairment, indicating mild cognitive and disability problems; 3.65 (SD=2.23) for symptoms, indicating moderate symptom severity; and 3.46 (SD=2.17) for social problems, indicating moderate severity of problems with regard to social relationships. The mean score on the locus of control scale was 14.45 (SD=4.69), indicating moderate perceived control about the events and ongoing life situations. The mean score on the social-support questionnaire was 41.89 (SD=9.10), indicating satisfaction about help received from family and friends.

Of the 101 participating clinicians, 56% were female, 50% were psychiatric nurses, 19% were nurses, 7% social workers, 6% psychologists, 6% residents in psychiatry and 2% psychiatrists. Their average (median) working experience was 14 years, with a range from 1 to 35 years. Most clinicians rated the working alliance questionnaire on one patient. The number of ratings ranged between 1 and 9 patients.

Table 1 shows the total and subscale scores on patient- and clinician-rated WAI. The scores of the two versions were high, indicating satisfaction with the alliance. Patients were slightly more positive about their working alliance than their clinicians were. The paired t-tests showed small but significant differences between the total patient and clinician WAI scales. The concordance between patient and clinician working alliance was low, with correlations ranging from 0.22 to 0.28.

TABLE 1. Correlations and paired t-tests of the total and subscales scores of working-alliance inventory (WAI) from patients' and clinicians' perspectives.

	WAI patient			WAI clinician			Correlation		Differences	
	N	Mean	SD	N	Mean	SD	r	p	t	p
Total WAI	195	142.97	22.24	195	137.82	14.90	0.28	0.00	3.12	0.00
Bond subscale	195	50.70	7.40	195	48.79	4.66	0.24	0.00	-3.43	0.00
Tasks subscale	195	47.09	8.09	195	45.76	5.52	0.28	0.00	-2.92	0.01
Goals subscale	195	45.18	8.36	195	43.27	6.02	0.22	0.00	-2.21	0.03

Table 2 presents the final multiple regression analysis. Hypothesis 1 – that a higher level of psychosocial functioning would be associated with a clinician’s and patient’s perception of a better working alliance – was partly confirmed: patient-rated WAI was associated with 1.) higher scores on the perceived treatment needs of the insight subscale, 2.) lower HoNOS behavioral and social problem scores, and 3.) higher social-support scores. The clinician-rated WAI was associated with higher level of illness awareness, and higher social support scores. But, contrary to our hypothesis, the patient-rated WAI was associated with severer psychiatric symptoms as assessed with the HoNOS. With regard to the second hypothesis – that the working alliance achieved with patients with an external locus of control would be perceived more poorly by clinician and patient – we found that locus of control was negatively associated with higher scores on the patient-rated WAI. This means that patients with greater control over their lives were more positive about their working alliance.

Finally, unlike the Dutch patients, immigrant patients scored higher on the patient-rated WAI. Married patients and women scored higher on the clinician-rated WAI. The final models accounted for 20% of the total variance in the patient-rated WAI scores, and 12% of the total variance in the clinician-rated WAI-scores.

TABLE 2. Multiple regression analysis of the patient and clinician working-alliance inventory (WAI) and independent predictors.

Variable	WAI patient			WAI clinician		
	B	SE B	p	B	SE B	p
Constant	115.01	10.34	0.00	143.11	6.91	0.00
Insight:						
need for treatment	20.96	6.46	0.00			
illness awareness				7.97	4.06	0.05
Psychosocial functioning:						
behavioural problems	-2.52	1.01	0.01			
symptoms	2.20	0.78	0.00			
social problems	-1.36	0.79	0.09	-1.16	0.47	0.01
Social support	0.34	0.16	0.04			
Locus of control	-0.97	0.36	0.01			
Ethnicity (immigrants)	8.47	3.07	0.01			
Marital status (not married)				-6.27	2.90	0.03
Gender (women)				4.91	2.22	0.03

Patient WAI $R^2 = 0.20$; Therapist WAI $R^2 = 0.12$

DISCUSSION

This study in patients with psychotic and bipolar disorders investigated whether greater illness insight, better social functioning, fewer behavioral problems, and more social support were associated with more positive patients' and clinicians' ratings of their working relationship. We also examined whether the working alliance achieved with patients with an external locus of control would be perceived more poorly by the clinician and patient. As in previous studies (7, 8, 23, 4), the correlation between clinicians' and patients' ratings of the working alliance was low to moderate, and patients qualified their alliance more positively than their clinicians did. In their meta-analyses, Tryon et al. (23) report that the perceived working relationship between clinicians and patient shows more divergence for patients with less impairment and less psychiatric symptoms.

We found that the patients' and clinicians' perspectives on the working alliance were associated with different sets of variables. A working alliance that was rated positively by the patient was associated with more severe symptoms, a more strongly perceived need for treatment, fewer behavioral and social problems, being an immigrant, and an internal locus of control. Clinicians were more positive about the working alliance if a patient was married, female, had fewer social problems, and was more aware of his or her illness. Unlike the two studies that used only global assessments of insight (7, 4), our study differentiated several aspects of this variable.

Our finding that severer symptoms were associated with a better patient-rated working alliance was not consistent with previous studies. A possible explanation for this discrepancy is that Barrowclough et al. (7) used positive and negative syndrome scales to measure symptomatology, while symptoms in our study comprised delusions, depressive mood and other symptoms. It is interesting that Barrowclough et al. (7) did find a positive link between self-rated depression and alliance, because patients in our study scored high on the depressive mood subscale. It may be that depressive symptoms have a particularly pronounced relationship with the alliance. However, while McCabe and Priebe's study (9) also included depression in the measurement of the symptoms, it did not find any association with the alliance.

We also found that patients who experienced greater control over their lives were more positive about the working alliance with their therapist. Although it has not previously been studied in the context of working alliance, an internal locus of control was associated with increased treatment motivation, compliance and treatment adherence, and with better treatment outcomes in patients with severe mental illness (24). Our findings may mean that a positive working alliance is an effect modifier for the link between locus of control and health behavior, and subsequent treatment outcomes.

Other researchers have studied why patients with severe mental illness may engage differently from patients with milder illnesses and how clinicians can better engage patients by modifying their approach to them (25, 26, 27). Based on these insights, interventions are being developed and tested that focus on structuring patient-clinician communication, and that routinely discuss the patient's level of motivation for engaging in treatment (28, 29, 30). It seems likely that this testing will produce practical findings that are applicable to this population, since these interventions are designed especially to serve the needs of patients with severe mental illness.

Our study had five limitations. The first is that working alliance was measured through a self-report inventory of what patient and clinician thought of each other; no observer-rated assessment was included. The second limitation is that these variables explained only 20% of the total variance in the patient-rated working alliance, and only 12% of that in the clinician alliance. The variables that account for the unexplained part of the variance are unknown. The third limitation is that, due to the sample characteristics, generalization of the results is limited. Most participants were male, had a psychotic disorder, and, over a given period, had been in contact with Assertive Community treatment and Illness Management and Recovery teams. No information had been collected about how long these patients had been treated. The fourth limitation is that the patients' and clinicians' perception of working alliance may vary according to the stage of the psychiatric illness or between mental healthcare settings. The final limitation is the cross-sectional nature of the study, which does not enable us to draw any causal conclusions.

With regard to clinical practice, our results suggest that patients and therapists may have different perceptions of the alliance. A possible implication of the finding that the implementation of crisis plans may be predicted by a clinician's perspective on the alliance (Ruchlewska et al., submitted) is that clinicians need help in developing awareness of the goals and tasks of patients with certain characteristics – i.e., singles, men, and those with poorer social functioning and poorer insight into their illness and need for treatment – and in helping them effectively to consider them. The same finding may also mean that clinicians should become aware of a possible implicit preference for married female patients, for those who have a better understanding of their illness, and those are more competent in their social life. A focus on the patient's own sense of responsibility for the treatment may also help to build a successful alliance. Future research should replicate the results of present study, and should also investigate whether patients' treatment history, especially with their current clinician, would have an impact on their alliance.

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Chapter 7

Psychiatric emergencies, voluntary and involuntary admissions in psychotic and bipolar disorder: does working alliance matter?

Ruchlewska A, Wierdsma A, Van der Gaag M, Kamperman A, Mulder CL

Submitted

ABSTRACT

Background Better outcomes are associated with better working alliance and greater convergence between patients' and clinicians' ratings of the quality of the therapeutic relationship. Addressing divergent perspectives of the working alliance might help to prevent psychiatric emergencies and involuntary admissions.

Aim To study how the occurrence of psychiatric emergencies and of voluntary and involuntary admissions is affected by discrepancies between patients' and their clinicians' evaluations of the working alliance

Method We included 212 outpatients aged between 18 and 65 years who had been diagnosed with schizophrenia, another psychotic disorder, or bipolar disorder II, and who had experienced at least one psychiatric crisis in the previous two years. Over an 18-month follow-up period, crisis sensitivity was determined as (0) no crisis (reference), (1) one or more emergency visit and/or voluntary admission, and (2) at least one involuntary admission. Working-alliance ratings and possible confounders were assessed at baseline. Multinomial logistic regression models were fitted.

Results In the 18-month follow-up period, about 52 percent of patients had emergency visits or were hospitalized. At baseline, about 60 percent had been more satisfied than therapists with the working alliance. Crisis sensitivity was higher if the therapist had rated the working alliance below average. A psychiatric crisis and involuntary admission were more likely in patients with a long history of inpatient care and a more convergent working alliance with their clinicians at baseline.

Conclusion Working alliance is associated with the occurrence of psychiatric crises in certain aspects. This may be a target for crisis intervention.

INTRODUCTION

Psychiatric emergencies and voluntary and involuntary admissions are frequent events in the lives of patients with psychotic and bipolar disorder. Early this century, the use of involuntary admissions was on the rise in several West-European countries, including the Netherlands (1, 2); more recent international figures are not available.

Risk factors that have an impact on crisis situations can be modified by using targeted interventions to prevent psychiatric emergencies and compulsory measures of care. In health policies and programmes, three context-related risk factors can be targeted: service quality and continuity of care (3, 4), and also the provision of social support (5). Similarly, various patient-related factors are associated with admissions, such as severity of symptoms, illness insight, dangerous behaviour, and motivation for treatment (6, 7, 8). Finally, therapists' skills and attitudes have been associated with admission (9).

But it is in the working alliance that patient and therapist-related factors interact and become manifest (10). While the quality of this alliance can be assessed from two perspectives – the patient's and the therapist's – the correlation between clinicians' and patients' ratings of the working alliance is only low to moderate (11, 12, 10). Even though a better working alliance and more convergent perspectives of the relationship have been associated with better outcomes – including fewer hospitalizations for schizophrenia (13) – a meta-analytic review of the client-therapist perspectives of the working alliance suggested that divergent perspectives of the relationship are the rule rather than the exception (12). If these different perspectives were addressed, it might be possible to improve the therapeutic relationship, and to affect, or even prevent, psychiatric emergencies.

Several studies indicate that patients are more satisfied than therapists with their working alliance, and that overall scores converge more in patients with who have more functional impairment and more psychiatric symptoms (14, 15). This suggests that the alliance is influenced by factors such as diagnosis and the length and type of treatment. Tryon et al. (12) concluded that we need to know more about alliance ratings, more specifically how the association between divergence in alliance ratings and treatment outcome is affected by differences in patients' illness history – in other words, by their "frame of reference".

The present study investigated how crisis sensitivity is affected by patients' and therapists' divergent perspectives of the working alliance. On the basis of the studies referred to above, we expected that ratings of the working alliance would be more convergent in patients who had better outcomes, i.e. fewer psychiatric emergencies, and fewer voluntary and involuntary admissions. More specifically, we wished to establish whether differences in perceived working alliance were related to psychiatric history. We hypothesized that if a patient had had previous admissions, divergent perspectives of

the working alliance would have a smaller effect on crisis interventions. In patients with a long and disabling psychiatric history, we expected convergent perspectives to have a negligible effect on the risk of psychiatric emergencies (12). This study was conducted in a sample of psychotic and bipolar-disorder patients in the context of a 18-month follow-up study of the effects of crisis plans (16).

METHOD

Study design

In the context of an RCT studying the effects of crisis plans (17), we recruited patients from community mental health teams (Assertive Community Teams and Illness Management & Recovery teams) in Rotterdam, the Netherlands. Application of our eligibility criteria (age 18-65 years, diagnosis of psychotic or bipolar II disorder, and experience of at least one psychiatric crisis during the previous two years) produced a sample of 212 outpatients.

Participants were allocated randomly into one of three conditions: crisis plans prepared by patients and their patient advocates (PACP); crisis plans composed by patients and their clinicians (CCP); and standard crisis management (control condition). Primary outcome measures were the number of emergency (after-hours) visits, voluntary admissions and involuntary admissions. As well as socio-demographic variables, we included psychiatric history, diagnosis, illness insight, and psychosocial functioning as possible moderator variables that link working alliance to psychiatric crises. The variables used for the present study were assessed during interviews that were conducted face-to-face before randomisation. The protocol for this trial and the supporting CONSORT checklist and primary findings have been reported elsewhere (16, 17).

Crisis sensitivity

Service-use data were collected at baseline and over an 18-month follow-up period; as well as any voluntary or involuntary admissions to a psychiatric hospital, they included any outpatient emergency visits (with patient's treatment team or after-hour visit). Data were collected from patients' files and checked against the Psychiatric Case Register for the Rotterdam region (18). Because emergency visits and admissions appeared to be inter-related and the distribution of service use appeared to be irregular over time, we used a three-level factor indicating crisis sensitivity: (0) no crisis (reference), (1) one or more emergency visit and/or voluntary admission, and (2) at least one involuntary admission.

Working alliance

To assess the quality of the working alliance as seen from the patients' and clinicians' perspectives, we used the Dutch version of the Working Alliance Inventory (WAI) (19). This

consists of 36 items rated on a 5-point scale, from 1 ("no, I strongly disagree") to 5 ("yes, I strongly agree"). The WAI covers three aspects of the working alliance: the extent to which treatment tasks are labelled as relevant, personal attachment between the patient and clinician, and mutual agreement on the outcomes and course of the treatment. Higher scores indicate greater satisfaction with the alliance. The patient's instruments of the WAI (Cronbach's alpha .94) and the clinician's instruments (Cronbach's alpha .92) showed high levels of internal consistency. Scores ranged between 80-180 for the patients' scale and 73-178 for the clinicians' scale. Working alliance divergence was computed as the absolute difference of patient versus therapist rating, so that low scores indicated convergence and high scores reflected discrepancies in the working alliance – which, in most cases, indicated a more optimistic perspective on the patient's part than on the therapist's.

Psychiatric history and other independent variables

Several factors may influence divergence in the patients and therapists' scores of the Working Alliance Inventory (12). Generally, length of treatment may have a positive effect on alliance ratings, and may also reduce the chance of psychiatric emergencies and hospitalization. For this study, psychiatric history was operationalized as the total number of hospitalization days in an 18-month period before the start of the project (log transformed after adding 1 to account for patients without admissions). The reason for this was that all participants were outpatients at the time of recruitment, all of whom already had a long psychiatric history in terms of duration of care.

Other covariates that were considered as potential moderating variables were psychiatric diagnosis, illness insight, and social functioning. As patients diagnosed with schizophrenia could be more delusional than those with bipolar II disorder, they might score lower on the working alliance inventory while having a greater risk of psychiatric emergency contacts and involuntary admissions. Likewise, lack of illness insight and lower psychosocial functioning could moderate the association of the patient-therapist alliance ratings and the need for crisis interventions.

Demographic variables and diagnoses were collected from the patients' records. Illness insight was assessed using the Birchwood Self-report Insight Scale (BIS), an 8-item schedule with a three-point scale for each item (yes, unsure, no). BIS "weighted" total scores range from 0 to 12, higher scores indicating greater insight (20). Psychosocial functioning was operationalized as scores on the Health of the Nation Outcome Scales (HoNOS), which covers health and social domains rated by clinical staff in 12 items, each ranging from 0 (no problem) to 4 (severe to very severe problem). These scales have adequate psychometric properties and are widely used in various countries for the routine monitoring of outcomes (21, 22).

Statistical analyses

Data management tasks and descriptive statistics were performed in SPSS (version 21); all statistical analyses were conducted using R (version 3.1.1). To estimate basic 95% confidence intervals on the basis of 1000 replicates, Pearson's coefficients of the correlation between working alliance ratings and other independent variables were calculated using the boot package. Multinomial logistic regression models were fitted by the method of maximum likelihood using `multinom` in R. Regardless of statistical significance, the variables 'working alliance divergence' and 'therapist rating' were included in all models as covariates. Therapist rating is a grand-mean-centred score of the working alliance as rated by the therapist, with high scores representing good working alliance. High divergence scores at the lower end of the therapist ratings indicate that patients had a more positive perspective of the working alliance. Low divergence scores at the higher end of the therapist ratings refer to a more convergent working alliance ratings in the positive direction.

In the following steps, we included "psychiatric history" and an interaction effect of history and divergence. For other explanatory variables, we verified model selection using backward and forward procedures with 0.05 levels of entry and removal. Significance was determined by Chi-square tests examining the change in deviance after the removal of each variable.

Since patients were clustered within clinicians and treatment teams, the dataset is hierarchical. However, sensitivity analysis using multilevel regression models found no evidence that crisis sensitivity varied across clinicians or treatment teams. At baseline, scores for quality of the working alliance were missing in 15% of all cases, either from the patients' perspective or from the clinicians'. However, analyses of the final model using random and mean imputation for missing values showed no relevant changes in model parameters. (Results of additional analyses are available upon request from the second author).

RESULTS

Crisis sensitivity

In the 18-month follow-up period, over half of the patients (52%) had emergency visits or were hospitalized. Involuntary admissions were recorded for 23% of the patients included in the study. Table 1 shows patient characteristics by level of psychiatric emergency in the 18-months follow-up period. Overall, there were only small differences in demographic characteristics and factors related to psychiatric illness. Patients who did not have a crisis during follow-up had fewer previous hospital days and were some years older than those who had an emergency visit or an admission.

TABLE 1. Key sample characteristics at baseline by level of crisis sensitivity in an 18 months follow-up period

	No crisis (N=103)		Admission/emergency contacts (N=61)		Involuntary admission (N=48)	
Gender (male)	66%		66%		77%	
Age (M/SD)	43.5	(11.67)	38.6	(10.29)	34.6	(9.22)
Native Dutch	62%		61%		63%	
Schizophrenia	75%		66%		77%	
Illness insight (M/SD)	8.5	(2.91)	8.8	(3.05)	7.3	(3.26)
Social functioning (M/SD)	10.4	(4.89)	12.0	(5.28)	11.1	(5.07)
Crisis plan						
- Advocate	31%		33%		35%	
- Clinician	36%		38%		21%	
- Controls	33%		29%		44%	
History	0.87	(1.74)	1.36	(1.28)	2.12	(2.24)
Working alliance (M/SD)						
- Patient	144.1	(23.10)	146.7	(19.27)	137.1	(22.03)
- Therapist	140.3	(15.56)	135.0	(12.92)	133.5	(15.21)
- Divergence	19.1	(13.14)	20.1	(13.05)	19.3	(11.89)

Patients' ratings versus therapists' ratings of working alliance

At baseline, about 60% of patients scored higher on the working alliance inventory than the therapists did, their average ratings being approximately 4% higher in terms of scale range than therapists' scores. Rating variance was much higher among patients than among clinicians, and patients' and therapists' perspectives were only moderately correlated (.32, 95% CI= .29 - .35). The absolute difference in working alliance scores ranged from 0 (convergence) to 50 (high divergence). The divergence scores correlated positively with patients' scores (.20, 95% CI= .18 - .21) and negatively with clinicians' perspectives of the working alliance (-.13, 95% CI= -.12 - -.14). Possible confounders were associated only weakly with differences in working alliance scores, ranging from .03 for age to .13 for psychiatric history. Visual inspection of xy-plots showed no evidence of nonlinear associations. Results showed no confounding effect of psychiatric history on the relationship between the divergence in the working alliance and crisis sensitivity. However, this relationship may still have been modified by previous service use and illness-related factors.

The association between crisis sensitivity, divergence in working alliance and psychiatric history

Table 2 summarizes the results of the multinomial logistic regression analyses. The null model showed the effect of different perspectives of the working alliance on crisis sensitivity, controlling for grand-mean-centred therapists' ratings of the working alliance. The regression coefficients indicated that crisis sensitivity was higher when the therapist-rated working alliance lower. To provide a numerical example: at a score of two standard deviations (about 30 points) lower than the mean therapist's rating of the working alliance, the odds ratio for an involuntary hospital admission was estimated at 3.06 ($\text{Exp}(-0.037 \times -30)$). The odds were about three times higher than those for the reference group (who experienced no psychiatric emergency). Given the therapist's score, the difference in perspective of the working alliance between patient and therapist did not add to the null model.

TABLE 2. Effects of baseline working-alliance rating and psychiatric history on crisis sensitivity in 18-month follow-up (reference group: no crisis intervention)

	Admission/emergency contacts versus no crisis		Involuntary admission versus no crisis	
Null model	Beta (SE)	Odds	Beta (SE)	Odds
- Therapist rating	-.035 (0.013)	0.97 *	-.037 (0.014)	0.96 *
- Divergence	.001 (0.014)	1.00	-.005 (0.016)	1.00
Final model				
- Therapist rating	-.033 (0.013)	0.97 *	-.033 (0.014)	0.97 *
- Divergence	-.002 (0.017)	1.00	.021 (0.020)	1.02
- History	.198 (0.189)	1.22	.611 (0.193)	1.84 *
- History: Divergence	-.002 (0.007)	1.00	-.018 (0.008)	0.98 *

* $P < .05$ (t-tests, two tailed)

AIC null model: 379.5, final model: 374.6; $\text{Chi-2}(\text{df}=4) = 12.915$, $p = 0.012$

In the final model, psychiatric history was added as a predictor of crisis sensitivity. Table 2 shows an interaction effect of psychiatric history and divergence in working-alliance rating (log-likelihood test of the final model versus no interaction: $\text{Chi-2}(\text{df}=2) = 6.10$, $p < 0.05$). Imputation of missing working alliance ratings yielded similar outcomes. Other possible confounders or effect modifiers did not contribute to the model.

As it is not a straightforward matter to interpret statistical models directly from regression coefficients for log-transformed and centred main effects and interactions, we used an "effect display" (23) to present the fitted probabilities in the final model as a function of working alliance divergence at lower and higher values of psychiatric history. Figure 1 suggests that the effect of working alliance divergence is manifest for patients who

had more days of hospitalisation before their recruitment into the study (right-hand column). After controlling for therapists' ratings, we found that patients with a long history of inpatient care and more congruent perspectives of the working alliance at baseline were more likely to have a psychiatric crisis and be admitted involuntarily in the follow-up period (expected probability .22, but higher for patients with low divergence in the working-alliance rating).

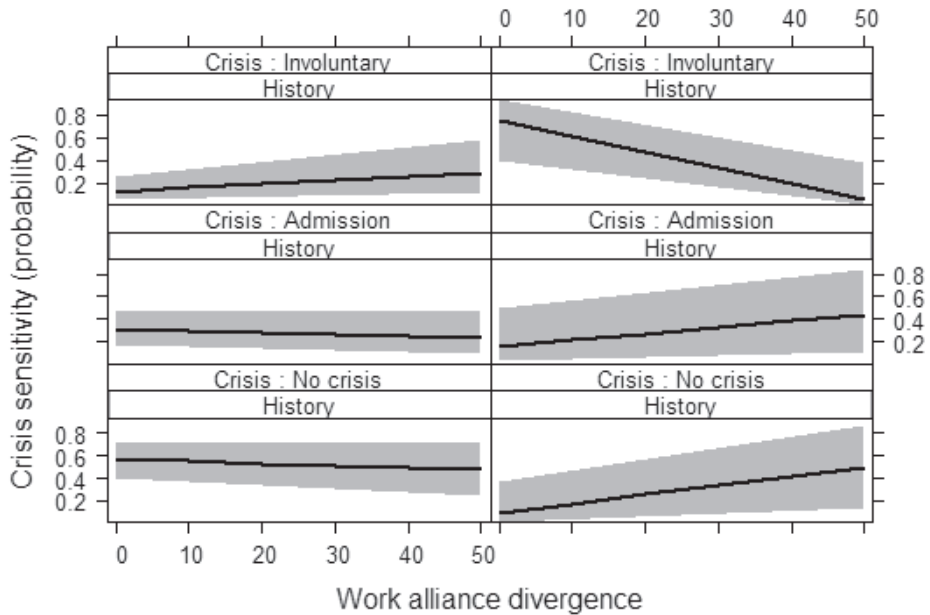


FIGURE 1. Effect display of crisis sensitivity¹ (no crisis, admission, involuntary admission) by working alliance-divergence score and frame of reference²

¹ Expected row proportions: no crisis .48, admission .30, involuntary admission .22

² Right column: above-average days in hospital, after control for working alliance rating (grand mean centered)

DISCUSSION

Although we had expected divergent perspectives on the patient-therapist working alliance to be a risk factor for outpatient emergency visits and for voluntary and involuntary admissions, our study results showed no additional effect of differences in perspectives. A therapist's report of a poor alliance was associated with a greater likelihood of psychiatric emergencies and involuntary admissions. Crisis sensitivity did not appear to be influenced by the differences between patients' perspectives and those of their therapists.

Tryon et al (12) concluded that the discrepancy in the patient-therapist alliance ratings was smaller when patients had previously had longer periods of hospitalization. In patients with a long psychiatric history we did not therefore expect to find an effect of the differences in working alliance. However, previous hospitalisations and divergent perspectives on the alliance appeared to have complex effects. The results suggest that crisis sensitivity in an 18-month follow-up period was somewhat higher for patients with more days of hospitalisation in the previous 18 months and congruent perspectives at baseline. This could be interpreted as an effect over the full range of negative and positive alliance ratings. Although the link between crisis sensitivity and shared negative alliance perspectives seems self-evident, visual inspection of the effect showed that negative and positive convergence were both associated with higher crisis sensitivity. Within the context of previous use of services (right column Figure 1), a shared positive perspective may express acknowledgement of a patient's history of inpatient care and therefore a higher probability of compulsory admission (top row Figure 1). In contrast, divergent alliance perspectives could end in either positive or negative outcomes.

Studies have shown not only that the working alliance between patients with severe mental illness and their clinicians may differ from that between patients with milder illnesses and their clinicians, but also that clinicians should engage patients in the treatment by adapting their behaviour to them (24, 25, 26). On the basis of these insights, interventions are being developed which focus on structuring the patient-clinician relationship and which routinely discuss the patient's motivation for engaging in treatment (27, 28, 29). These interventions are designed especially to serve the needs of patients with severe mental illness. The results of this study suggest that they might also help to reduce the number of involuntary admissions.

Strengths and limitations

As the study was conducted in routine settings across different teams and over a considerable follow-up period, we consider its ecological validity to be high: we successfully recruited about 75 percent of the sample we had envisaged, approximately 80 percent of whom we retained at follow-up. Given not only the challenging conditions under which the study was conducted, but also the nature of the study population – a patient group that was difficult to approach – we thus believe the size of the sample to be reasonable.

One limitation of the study is that the effect of differences in alliance ratings was not the primary objective. As a result, the study was not powered for a multinomial regression analysis of the sort we conducted, which also limited the use of model diagnostics to detect influential data points. Overall model fit was low, suggesting that important variables affecting treatment outcome (such as medication compliance or social support), had been omitted. This may have resulted in the selection of overly complex models.

Similarly, model selection may have been affected not only by the alternative scorings and data transformations, but also by pre-fitting transformations. The latter may indicate over-fitting and a lack of predictive accuracy for the final model, in which working-alliance divergence was combined with psychiatric history. Model selection also appeared to be affected. While our use of random and mean imputation of missing working alliance ratings yielded similar outcomes, the interaction effect was reduced. The clinical implications of this study should therefore be interpreted with caution.

Conclusion

Divergent perspectives of the working alliance after earlier disturbances of the patient-therapist relationship may be important to preventing new psychiatric crises. As the patients in this study had been recruited from multidisciplinary community mental health teams, it seems less likely that a patient's negative frame of reference will be improved by greater continuity of mental healthcare, more comprehensive treatment plans, or an approach that is more coordinated and more interdisciplinary. Our results indicate that attention to the working alliance and to patients' previous experiences with the health-care system may be important targets for those wishing to reduce the risk of future crisis situations.

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Chapter 8

General discussion

Psychiatric advance statements allow patients to express their preferences for the psychiatric treatment they receive in a future crisis situation. This can be an advantage if their capacity for decision-making is compromised during crisis.

There are different kinds of advance statement, each determined by its context, which may involve the independent facilitation of them by a mental health professional or a patient advocate, the legislative status of the statements or the involvement of a mental health provider. In the Netherlands, crisis plans were introduced by the advocacy movement, the underlying aim being to empower psychiatric patients.

While psychiatric crises and admissions are repetitive in nature, a patient's experience of them is often very distressful. It is not known why people who undergo such experiences seem unable to learn how to prevent a subsequent crisis.

Over recent decades, the number of involuntary admissions in the Netherlands has been rising (1, 2). As crisis interventions and periods of hospitalization are very expensive, any reduction in hospital bed days would also reduce mental health costs.

There were several reasons for this study. First, by comparing the effects of crisis plans facilitated by patient advocates (PAPC) with those drawn up with clinicians (CCP), we wished to reduce the current uncertainty about the effectiveness of crisis plans as a way of preventing psychiatric crisis situations and psychiatric admissions. To help understand how a crisis plan should be implemented, we also studied the quality of crisis plans and factors associated with their completion. Finally, we studied aspects of working alliance with respect to its association with crisis sensitivity in patients with a history of psychiatric crisis, which was operationalized as (1) no crisis, (2) one or more outpatient emergency visit and/or voluntary admission, and (3) at least one involuntary admission.

Below, a discussion of our findings is followed by methodological considerations. The chapter concludes with recommendations for clinical practice and future research.

THE EFFECTS OF CRISIS PLANS

The main reason for the study described in Chapter 3 was to examine the effect of crisis plans on the number of emergency outpatient visits and on the number of voluntary and involuntary admissions.

There were three main findings. First, relative to care as usual without crisis plans, crisis plans did not affect the number of emergency outpatient visits, voluntary admissions or emergency involuntary admissions. However, they did prevent court-ordered admissions (*rechterlijke machtigingen*). In the intervention groups there was also a trend towards more voluntary admissions than in the control condition. This may have indicated a shift in working methods towards a shared decision-making model in which patients were informed about treatment options. If so, patients may thus have become aware of

their choices, and also have become more able to express their preferences for future treatment, or their refusal of it. In times of crisis this may then have led more to voluntary admission than to involuntary court-ordered admission. Another possible explanation is that the clinicians in the PACP and CCP conditions gained greater empathy with their patients, and therefore greater trust in them, and may thus have resorted less often to coercive interventions such as involuntary court-ordered admission.

Other studies which investigated the effects of advance statements had ambiguous results. At 15 months follow-up, Henderson et al. (3) found an effect of a joint crisis plan on the use of the Mental Health Act. In this case, the plan had been developed together with the outpatient team member, as in the CCP condition in our study. While it may be that the clinician's involvement is important to the effectiveness of the crisis plan, the intervention meeting in Henderson's study was also facilitated by an independent psychiatrist, which may have contributed to better quality in the plan and its implementation.

However, Thornicroft et al. (4) re-examined the effect of a joint crisis plan made in the same fashion as Henderson et al. (3), but on a larger scale, at 18 months follow-up, and in a multicentre study. They could not replicate the beneficial effect of a joint crisis plan on the use of the Mental Health Act, and suggested that the absence of a significant effect was due partly to the insufficient implementation of the joint crisis plan at certain study sites, which indicated that the clinicians had low engagement with the intervention.

While the results of another study using joint crisis plans in patients with borderline personality disorder showed at 6 months follow-up that participants in the intervention condition had a greater sense of control and a better working alliance with their clinicians (5), there were no differences regarding self-harming behaviour, depression, anxiety, quality of life, well-being, cost-effectiveness and engagement and satisfaction with services. This study did not include admissions as an outcome variable.

Finally, patients in the last study on effects of advance statements (6) were assisted by the researcher in writing seven statements on their future preferences for treatment during their hospital stay. At one year follow-up, no effects were found on admissions. Importantly, however, the advance statements had been developed in hospital – during a period of involuntary stay – and without the involvement of any clinician. This context may thus have disadvantaged the effectiveness of the statements.

COMPLETION AND CONSULTATION OF THE CRISIS PLAN

The study described in Chapter 4 was conducted to establish which variables, including patient and clinician characteristics, were associated with successfully drawing up

("completing") a full crisis plan. We also wanted to know how often a crisis plan was used in a crisis situation.

Almost two-thirds of the crisis plans were completed successfully. Although this was a time-consuming activity – a median of 180 minutes of face-to-face contact was needed to draw up a plan – our study showed that clinicians had to be repeatedly reminded by the researcher to complete the plans. The results also showed that a higher completion rate was associated with a better clinician-rated working alliance, a lower educational level in patients, and shorter professional experience on the part of the clinicians. During a crisis situation, the plans were actually consulted in only one third of the patients (13/38; 34 percent). Fewer were consulted in cases of involuntary admission than in cases of outpatient emergency visits or voluntary admission.

Various reasons are possible for the non-completion of the crisis plan. One possible reason is that clinicians may have given priority to other treatment tasks – which is particularly likely not only due to the time-consuming nature of the task, but also because crisis plans were not a legal requirement and because their effectiveness had not yet been confirmed. However, before the study began, the participating clinicians had filled in a questionnaire on their expectations. Almost all were positive about the potential effects of the plans (results not shown in this thesis). This could imply that it was not so much clinicians' lack of motivation that was the problem, but their being prevented by practical barriers such as their lack of experience in drawing up plans according to a structured format, or the lack of time caused by a busy schedule. If the creation of a crisis plan had been obligatory, this might also have hindered their later implementation: the statutory nature of the plans might have turned the plans into an administrative burden rather than a mutual advance agreement between patient and clinician.

Another explanation for non-completion could be that not all clinicians and/or patients were convinced that having a crisis plan would be a good thing. Sometimes patients do not want to be confronted with their previous crisis situations and are not prepared to draw up a plan.

Although the shift from involuntary to voluntary interventions suggests that the crisis plans in our study positively affected the way crises were handled, their actual use during crisis situations was only moderate (34 percent). This may imply that clinicians did not always recognize the necessity or benefits of consulting them.

Various approaches might be taken at various levels to increase the use of these plans. As the literature has shown, lack of knowledge of advance statements may complicate their implementation (7). Mental health professionals who work with patients at risk of crises should be trained in making and working with crisis plans.

Another obstacle to consulting crisis plans may be limited communication between inpatient and outpatient clinicians (8). Crisis plans should therefore be discussed during routine meetings between inpatient and outpatient treatment staff. Similarly, mental

health professionals in every emergency department should ask whether a patient has a crisis plan. Finally, when a crisis situation is over, crisis plans should be evaluated with the patient.

QUALITY OF CRISIS PLANS

The main purpose of the study described in Chapter 5 was to examine which plans were qualitatively better: those developed with the help of a patient advocate, or those drawn up with the help of the patient's clinician. To compare the qualitative factors in terms of the completeness and specificity of the plans, we used a special scale developed for this project.

Our results showed that the quality of a crisis plan was better when the plan had been facilitated by a patient advocate than when it had been made with the clinician. However, the quality of the information on medication preferences was higher in the CCP condition than in the PACP group. While this finding suggests that patient advocates may be important for the successful development of the crisis plan, the actual use of these plans during crisis situations showed that the PACP and CCP plans were both frequently consulted by clinicians. The rates for this were comparable.

WORKING ALLIANCE AND CRISIS SITUATIONS

In the cross-sectional study described in Chapter 6 we examined whether insight, psychosocial functioning, social support and locus of control were associated with the working alliance from the perspectives of both clinician and patient.

Our results indicated that the patient-rated positive working alliance was associated with a greater need for treatment, fewer behavioral and social problems, and having a greater number of psychiatric symptoms. Clinician-rated positive alliance was associated with fewer social problems and greater illness awareness. Patients' demographic characteristics, including being female and married, were also positively related to the clinician-rated alliance.

Chapter 7 reports our study examining the association between discrepancies in the evaluation of the working alliance between patients and their clinicians with regard to crisis sensitivity, which was defined at three levels: no crisis situations during follow-up (level 1), the occurrence of psychiatric outpatient emergency visits, or voluntary admission (level 2), and involuntary admissions (level 3).

At baseline, approximately 60 percent of patients scored higher on the working alliance inventory than the therapists did. A better working alliance from the clinician's

perspective was associated with a lower level of crisis sensitivity. Patients were more likely to undergo a psychiatric crisis and involuntary admission if they had a long history of inpatient care and more convergence at baseline regarding the patient-therapist perspectives of the working alliance, either in the positive or negative direction.

CONSEQUENCES FOR CLINICAL PRACTICE

Although crisis plans such as those investigated in our study cannot prevent crises situations as such, we found a trend in the crisis plans groups towards voluntary admissions rather than towards involuntary admissions. The quality of these documents, their completion rates, and their consultation in clinical practice were nonetheless found to be problematic. It is therefore important for mental healthcare services to invest in the better implementation of crisis plans. Similarly, improving therapeutic relationships may support the completion of crisis plans, especially with regard to single, male patients with poorer insight into illness and with more social problems.

Clinicians could also focus on the use of crisis plans with patients who are at risk of involuntary admission; this is because the consultation of such plans after completion is not self-evident, especially in cases of involuntary admission. It could also be that more frequent consultation of a crisis plan might reduce the need for admissions – especially involuntary admissions – because patients feel they are taken more seriously.

To improve the accessibility of crisis plans at the system level, the plans should be incorporated in the electronic medical records, which are always available for consultation. The presence of a crisis plan in the electronic medical record should make a red flag appear – a signal that must not be ignored. The plan should be evaluated yearly and revised together with the patient and significant others.

Working alliance was an important variable for the completion of crisis plans (Chapter 4). However, patients and therapists may have different perceptions of their alliance, and patients and clinicians alike may have trouble in forming a good therapeutic relationship (Chapter 6). As working alliance also seems to be associated with crisis sensitivity (Chapter 7), clinicians should be aware of their view of the alliance and of the possible consequences of this view for treatment and for crisis situations and their prevention. Clinicians should also pay special attention to patients' previous experiences in mental healthcare. When appropriate, clinicians may discuss their view of the alliance with their patients or consider different perspectives of the working alliance and its relevance to the treatment goals, especially in groups of patients with a problematic working alliance. This may lead to a more collaborative relationship and more completed crisis plans, and, as a result, fewer crisis situations and admissions.

Different types of advance statement

In the preparation phase of this study we noticed the confusion about the different types of advance statement. Clinicians claimed that the 'relapse prevention plan' and the 'crisis plan' were one and the same instrument. But while these two documents may seem to be the same, they are in fact related to the model of care on which they are based.

The definition of 'relapse prevention plan' was provided by Van der Werf (9): an instrument that describes the early signs of a psychosis, the actions a patient can undertake, and how the patient wishes to be treated if these signs occur. The difference is that a relapse prevention plan is an institutionalized instrument based on the *clinician's view* of the actions to be taken during a crisis: the patient's wishes regarding these actions are not necessarily taken into account. Through this instrument, patients are taught how to cope with their illness (10, 11, 12).

Unlike a relapse prevention plan, a crisis plan serves as a 'psychiatric will' or 'living will' that expresses what the patient would have expressed if he had been able to do so. It also includes aspects of a person's daily life beyond being a patient, such as his or her daily routines. This practical information, such as who must be called during a crisis, is not part of a relapse prevention plan.

One consequence of overlooking the differences between these two types of statement may be that the patient's right to self-determination – which characterizes the crisis plan – is constrained. Mental health providers should therefore be aware that the crisis plan used in this study is very different from a relapse prevention plan.

Despite the different natures of the two types of statement, it might be possible to combine both in a patient's treatment planning.

METHODOLOGICAL CONSIDERATIONS: STRENGTHS AND LIMITATIONS

Strengths

The strengths of this study include its randomized design, its intention-to-treat analyses, its naturalistic setting and its clinical relevance. As patients were not screened with regard to their ability to make crisis plans, those included in the study may have been more representative of the general population of people with psychotic and bipolar disorders than of patients who had already wished to make such a plan, or those for whom clinicians thought a plan was needed.

Unlike other studies (5, 6, 8), our study not only addressed the effects of the crisis plans but also studied the process of implementing them.

Finally, a unique aspect of our study was that it was developed and conducted jointly with the patient advocacy group.

Limitations

Although the trial involved 211 participants, a smaller number of patients were admitted during follow-up than we had expected. The study was therefore relatively underpowered to answer the main research questions, which was to compare the effects of crisis plans on voluntary and involuntary admissions, with those without a crisis plan.

Although the DSM-IV diagnoses were not confirmed through a structured diagnostic interview and were therefore less reliable, a documented DSM-IV diagnosis was of limited importance to the present study.

In both conditions the researcher monitored whether the crisis plans had actually been completed. If she had not repeatedly reminded participating clinicians to start making the CCPs, and to continue and finish making them, the number of completed CCPs would almost certainly have been much lower. This intensive monitoring by the researcher may therefore have lowered the external validity, even though the internal validity undoubtedly increased.

Only 40 percent of the potential candidates participated in the study, a response that seemed to be inherent to this research context. Thirty-six percent of eligible patients participated in the Henderson's study, and 40 percent did so in their replication study (4). However, 74 percent participated in another study in patients with borderline personality disorder, (5). In the study by Papageorgiou et al. (6), the participation rate was 70 percent. However, these participant rates refer to participation in an RCT, and this does not imply that the same percentages would be found if patients were offered to draw up a crisis plan outside the context of an RCT.

Another limitation of this trial was the high percentage of patients who did not complete the crisis plan: 30 percent in the PACP group and 43 percent in the CCP condition. This contrasts with the higher completion rates in Henderson's study (81 percent) and in Thornicroft's replication study (77 percent; (4)). The reason for these higher completion rates may have been the involvement of an independent facilitator, a psychiatrist who facilitated the creation of the joint crisis plan and was not involved in the patient's treatment. In the study by Borschmann et al. (5), which used the same procedures as Thornicroft's and Henderson's, 89 percent completed the joint crisis plan. Papageorgiou's (6) study did not report a completion rate. Our completion rate was consistent with that in another study on the completion process of psychiatric advance directives, in which 39 percent of participants did not complete such a document (12).

Finally, we evaluated the quality of the crisis plans using a checklist we had developed ourselves. This instrument was not validated and has not been used or tested in other studies.

Implications for future research

In this thesis we showed the potential usefulness of crisis plans. As well as trying to replicate our results, future research should study the potential working mechanisms and cost-effectiveness of crisis plans. It is also important to determine whether the instructions in the plans were followed up during a particular crisis situation.

With regard to the possible de-escalating effects of crisis plans on crisis situations, it would be worthwhile to investigate whether the formulation of such plans can lead to less traumatising experiences during a crisis situation and to more satisfaction with treatment during one.

Since our study demonstrated that the working alliance was associated with the completion of the crisis plan and that having a crisis plan was associated with lower odds for involuntary court-ordered admissions, it may be that improvements in the working alliance lead to more patients having a crisis plan. This or the improved working alliance itself may lead to a reduction in crisis situations and voluntary and involuntary admissions – a hypothesis that future studies should evaluate.

As there is a gap between what we know about effective interventions and what we do to incorporate them in routine care (13), more implementation research is necessary to establish the best way to implement the crisis plan within clinical practice.

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Summary

BACKGROUND

Psychiatric crises and admissions are often distressful for patients and their caregivers. There has also been an increase in the number of involuntary admissions during the last decades. Surprisingly, until now only few studies specifically investigated interventions to prevent crises, voluntary and involuntary admissions. One type of intervention aimed at preventing crises and admissions is an advance statement. Advance statements are documents which allow patients to express their future treatment preferences when their capacity may be compromised, what may be the case during a crisis situation. These documents may help in the prevention of crises and admissions and the way they are handled. Three studies, however, showed ambiguous results in relation to the effectiveness of such advance statements.

There are different types of advance statements, dependent on the context in which they are developed, their aims and specific content. In this thesis we studied one type of advance statements, the crisis plan. We hypothesized that patients who were randomized to a condition in which they were to develop crisis plans – where of two types – were less likely to experience an outpatient emergency visit or an voluntary or involuntary admission.

Definition of crisis plan

In this thesis the crisis plan has been the advance statement type of choice. Two procedures of developing a crisis plan were used: (1) a crisis plan created by the patient with the help of a patient advocate (Patient Advocate Crisis Plan: PACP) and (2) a crisis plan developed with the help of a clinician (Clinician facilitated Crisis Plan: CCP). Originally, the crisis plan was developed as a self-help initiative by the patient advocacy movement. The crisis plan describes how to recognize early signs of a crisis and how to provide adequate help. The plan is summarized on a small card the size of a credit card and folded into a plastic wallet that the user carries with him at all times. The card also contains practical information to be used in times of crisis, for example who must be called, or what to do with pets.

Aims of this thesis

This thesis had two aims. The main aim of this thesis was to investigate whether the crisis plan can reduce outpatient emergency visits, voluntary and involuntary admissions. The secondary aim was, on the one hand, to improve the understanding of how crisis plans should be implemented in the specialized mental health care and to study associations between aspects of working alliance, and crisis sensitivity.

Chapter 1, the introduction, represents the background and aims of this thesis and *Chapter 2* describes the study protocol. In *Chapter 3* we described a randomized controlled trial to establish whether patients with a crisis plan would have fewer outpatient emergency visits or fewer voluntary or involuntary admissions than patients without such a plan. The outcome measures were collected at baseline and after an 18 months follow-up. The results showed no effects of the two interventions (PACP and CCP) on the numbers of outpatient emergency visits, voluntary admissions, and emergency involuntary admissions. There was a significant effect on planned court-ordered admissions, with 16 percent (11/69) in the PACP condition, 10 percent (7/70) in the CCP condition, and 26 percent (19/73) in the control condition. We concluded that crisis plans may be effective in reducing court ordered admissions, and that mental health services should implement crisis plans in routine care.

In *Chapter 4* we described which variables, including patient and clinician characteristics, were associated with successfully drawing up or “completing” a full crisis plan. We also wished to describe how often a crisis plan was used in a crisis situation. Participants were 139 crisis-prone outpatients, who had created a crisis plan, and their clinicians. As stated above, the crisis plans were created with the help of clinicians or patient advocates. The results showed that a total of 64 percent of patients completed a crisis plan. There were no significant differences between the PACP and CCP group in completing the crisis plans. Higher completion rates were associated with a better clinician-rated working alliance, a lower educational level in patients, and less professional experience of clinicians. During a crisis, the plans were actually consulted of only a third of the patients (13/38; 34 percent). They were used less in the event of an involuntary admission than of an outpatient emergency visit or voluntary admission. The conclusion of this study was that since the completion and consultation of crisis plan was associated with a more positive handling of the crisis, it is important for healthcare services to invest in the mental healthcare professional's relationship with his patient.

The aim of the study of *Chapter 5* was to compare quality aspects of the PACP and the CCP crisis plans. In the study, 139 patients were randomized into PACP and CCP conditions. The crisis plans were completed by 57 percent of the 70 patients randomized to the clinician-facilitated crisis plan (CCP) condition (40/70), and by 70 percent of those randomized to the PACP (49/69). The ‘Quality of crisis plan checklist’ was developed and used to compare quality aspects of PACP and CCP crisis plans. The scores on the Quality of crisis plan checklist were higher in the PACP condition versus the CCP condition. However, the quality of the information on medication preferences (one scale of the Quality of crisis plan checklist) was higher in the CCP condition than in the PACP group.

It was concluded that the overall quality of the crisis plan in the PACP condition was better than in the CCP condition. A limitation of the study is the use of a non-validated scale to assess quality of the crisis plan.

The aim of the study described in *Chapter 6* was to examine whether insight, psychosocial functioning, social support and locus of control were associated with the working alliance as seen from both a clinician and a patient's perspective. We found that both perspectives on working alliance were associated with different variables. The working alliance rated by the patient was independently associated with higher levels of psychiatric symptoms, more perceived need for treatment, fewer behavioral and social problems, being an immigrant, and being in control of their lives. Clinicians scored higher on the working alliance inventory when their patients were married, female, had fewer social problems, and were more aware of their illness. We concluded that clinicians should become aware of a possible implicit preference for a subgroup of patients having these characteristics. A focus on the patient's need for treatment may help to build a successful alliance.

In *Chapter 7* we described whether discrepancies in the evaluation of the working alliance as seen from the patients' versus the clinicians' perspective were associated with crisis sensitivity: the occurrence of outpatient emergency visits, voluntary and involuntary admissions. Over an 18 months follow-up period, crisis sensitivity was operationalized as: (1) no crisis, (2) one or more outpatient emergency visits and/or voluntary admissions, and (3) at least one involuntary admission. The results showed that at baseline about 60 percent of the patients scored higher on the working alliance inventory than the therapists. Crisis sensitivity was higher when the therapist rated the working alliance below average. Patients with a relative long history of inpatient care and more convergent working alliance with their clinicians at baseline showed higher crisis sensitivity. We concluded that working alliance was associated with crisis sensitivity. For a specific patient group, paying attention to previous experiences with mental health care and discussing different perspectives of the working alliance could be important in preventing psychiatric crises.

Finally, in *Chapter 8*, we described the implications for clinical practice, followed by strengths and limitations of the study and the recommendations for future research.

The creation of crisis plans may be an effective way to prevent court ordered admissions. However, the quality of these documents, their completion rates, and the consultation of them in the clinical practice, could be problematic. The improvement of the therapeutic relationship could prove helpful to the completion of a crisis plan. The consultation of crisis plans after completion is not self-evident, especially not in cases

of involuntary admissions. Therefore, clinicians should focus on using the crisis plan, especially for the group of patients at risk for involuntary admissions. The accessibility of crisis plans at the system level, i.e. their incorporation in electronic medical records, could also be helpful in improving the consultation of these documents. It is therefore important for mental healthcare services to invest in a better implementation of crisis plans.

Mental health providers should also be aware that the crisis plan used in this study is notably different from institutionalized advance statements, such as the 'relapse prevention plan'. The crisis plan, as opposed to the relapse prevention plan, serves as a 'psychiatric will', expressing what the patient would have expressed had he been able to.

The strengths of this study were its randomized design, the naturalistic setting and its clinical relevance. Also, our respondents represented a general population of people with psychotic and bipolar disorders, as compared to a situation where patients themselves want to make a crisis plan or for whom clinicians think a crisis plan is needed. Another strength of our study was its unique aspect that the total study was jointly developed and conducted together with the patient advocacy group.

Our study had several limitations. This study was relatively underpowered to answer the main research questions. Only 40 percent of potential candidates participated in the study. However, this response seems to be inherent to the research context. Another limitation of the study is the intensive monitoring by the researcher whether the crisis plans had actually been completed. This could therefore lower the external validity, although undoubtedly the internal validity increased.

Future research should replicate the results of this study and also study the potential working mechanisms and cost-effectiveness of crisis plans. Also it is important to evaluate whether the instructions in the plans were followed up during a particular crisis situation and whether the formulation of crisis plans can lead to less traumatising experiences during crisis situations. Moreover, future research should evaluate the hypotheses that improvements in the working alliance could lead to more patients having a crisis plan and that the improved working alliance itself may lead to a reduction of outpatient emergency visits, voluntary and involuntary admissions.

Samenvatting

ACHTERGROND

Crises en psychiatrische (gedwongen) opnames worden vaak door patiënten en hun naasten als zeer stressvol ervaren. De laatste jaren nemen ze ook alleen maar toe. Tot nu toe bestaan er geen effectieve interventies om crises te stoppen of te voorkomen. Wilsverklaringen zijn documenten die patiënten in staat stellen hun wensen aan te geven ten aanzien van de toekomstige crisis interventies wanneer zij zelf dat niet kunnen, wat het geval kan zijn tijdens een crisissituatie. Deze documenten kunnen een positief effect hebben op de crisissituatie, maar de literatuur over de effectiviteit van wilsverklaringen op crises laat verschillende resultaten zien. Voorts bestaan verschillende wilsverklaringen naast elkaar. Ieder type wordt door de context bepaald waarin het is opgesteld. Binnen ons onderzoek hebben we één type wilsverklaring onderzocht, namelijk het crisisplan, met als vraagstelling of deze een positieve invloed kan uitoefenen op het voorkomen of het verloop van de crisissituatie.

DEFINITIE VAN HET CRISISPLAN

In dit proefschrift bestond de interventie uit het crisisplan opgesteld door de patiënt samen met een onafhankelijke consulent werkzaam bij het Basisberaad (een belangenbehartigingsorganisatie voor psychiatrische patiënten) (*Patient Advocate Crisis Plan* of PACP) en het crisisplan opgesteld door de patiënt samen met zijn behandelaar (*Clinician facilitated Crisis Plan* of CCP). Oorspronkelijk zijn crisisplannen ontworpen door de patiëntenbeweging en dienen het zelfhulp te stimuleren. In het crisisplan staat beschreven hoe een crisis er uit kan zien bij de patiënt, wat de signalen kunnen zijn die wijzen op het ontstaan van een crisis, en welke interventies en hulp de voorkeur hebben voor de patiënt. Zo'n plan is samengevat op de crisiskaart, een klein opvouwbaar kaartje, die de persoon altijd bij zich draagt. De crisiskaart bevat ook praktische informatie ten aanzien van een crisis situatie, bijvoorbeeld wie er in dat geval dienen te worden gebeld, of wat er met de huisdieren moet worden gedaan.

DOEL VAN DIT PROEFSCHRIFT

Het hoofddoel van deze studie was om te onderzoeken of het crisisplan crises en (gedwongen) opnames kan reduceren. Daarnaast wilden we weten op welke wijze het crisisplan in de klinische praktijk geïmplementeerd zou kunnen worden en wat het verband tussen de werkaliantie en crisis sensitiviteit was. De doelgroep van de studie betrof patiënten met een psychotische of een bipolaire stoornis.

SAMENVATTING VAN DE RESULTATEN

In de introductie (*Hoofdstuk 1*) zijn de achtergrond en doelstellingen van het onderzoek weergegeven en in *Hoofdstuk 2* beschrijven wij het studieprotocol. In *Hoofdstuk 3* komt de door ons uitgevoerde gerandomiseerde studie aan de orde die de effecten van het crisisplan op het aantal crisiscontacten en (gedwongen) opnames heeft onderzocht. . Het bleek dat er na 18 maanden follow-up geen effect was van de twee soorten crisisplannen op het aantal crisiscontacten, vrijwillige opnames en inbewaringstellingen (IBS-en) ten opzichten van de controlegroep. Wij vonden echter een significant effect op het aantal gedwongen opnames middels een rechtelijke machtiging (RM), met 16 procent (11/69) in de PACP conditie, 10 procent (7/70) in de CCP conditie en 26 procent (19/73) in de controlegroep. De power van de studie liet niet toe om de CCP en de PACP condities onderling te vergelijken ten aanzien van hun effect op het voorkomen van crisiscontacten en (gedwongen) opnames.

De conclusie van het onderzoek was dat de twee soorten crisisplannen niet leiden tot een reductie van crisiscontacten, vrijwillige opnames en IBS-en, maar wel tot een reductie van RM-en. Dit resultaat ondersteunt het beleid van de GGZ-instelling om het crisisplan een structureel onderdeel van de behandeling te maken. Tijdens de uitvoering van de RCT bleek echter wel dat het maken van crisisplannen begeleiding van de behandelaars en extra inzet van de organisatie vereist.

In *Hoofdstuk 4* komt aan de orde welke variabelen geassocieerd waren met het succesvol afkomen van een crisisplan. Daarnaast beschrijven we hoe vaak het crisisplan tijdens een crisissituatie werd geconsulteerd. De participanten in deze studie waren 139 crisisgevoelige ambulante patiënten met psychotische of bipolaire stoornissen en hun behandelaars. De crisisplannen waren gezamenlijk door de patiënt met een consulent of samen met de behandelaar opgesteld. De resultaten lieten zien dat 64 procent van de patiënten hun crisisplan afmaakte. Het afkomen van het crisisplan bleek gerelateerd aan de beoordeling van de werkrelatie door de behandelaar. Meer tevredenheid over de werkrelatie was geassocieerd met het gereedkomen van meer crisisplannen leidde. Bij patiënten met een lagere opleiding en bij behandelaars met minder werkervaring werd het crisisplan eveneens vaker voltooid. Tijdens een crisissituatie werden de crisisplannen in 34 procent (13/34) van de gevallen daadwerkelijk geconsulteerd. Zij werden vaker gebruikt tijdens een ambulant crisiscontact of een vrijwillige opname dan tijdens een procedure voor een gedwongen opname.

Omdat zowel het afkomen als het raadplegen van de crisisplannen tijdens een crisis geassocieerd kan zijn met een meer positief verloop van een crisissituatie, concludeerden wij dat het des te belangrijker is voor de hulpverleners om te investeren in de werkrelatie met hun patiënten.

Het doel van de studie zoals beschreven in *Hoofdstuk 5* was om de kwaliteit van de crisisplannen die zijn gemaakt met de consulent (PACP) te vergelijken met de kwaliteit van de crisisplannen gemaakt samen met de behandelaar (CCP). In de studie werden 139 patiënten gerandomiseerd in de PACP- en CCP-conditie. Van de 69 patiënten in de PACP-groep maakte 70 procent het crisisplan af, terwijl in de CCP-conditie 57 procent (40/70) het crisisplan had voltooid. De kwaliteit van de crisisplannen werd gemeten middels een binnen onze studie ontwikkelde kwaliteit-checklist. De kwaliteitsaspecten in termen van volledigheid en specificiteit waren beter wanneer het crisisplan samen met de consulent (PACP) werd gemaakt dan wanneer het plan met de behandelaar (CCP) werd ontwikkeld. Het enige kwaliteitsaspect waarop het CCP beter scoorde, was het onderdeel over de (on)gewenste medicatie tijdens een crisissituatie.

We concludeerden dat de kwaliteit van de crisisplannen gemaakt samen met consulenten beter was, behalve ten aanzien van het onderdeel medicatie.

Het doel van de studie beschreven in *Hoofdstuk 6* was om te onderzoeken of ziekte-inzicht, psychosociaal functioneren, sociale steun en locus of control geassocieerd waren met de werkalliantie, en wel gezien vanuit het perspectief van de patiënt en dat van de behandelaar. We vonden dat beide perspectieven geassocieerd is met verschillende van de bovengenoemde variabelen. De beoordeling van de werkalliantie door de patiënt was positief geassocieerd aan het hebben van meer psychiatrische symptomen, meer behoefte aan behandeling, en minder gedrags- en sociale problemen. Daarnaast waren de allochtone patiënten en de patiënten met een groter gevoel van controle over hun eigen leven ook positiever over hun werkalliantie met de behandelaar. Behandelaren scoorden positiever op de werkalliantieschaal wanneer hun patiënten getrouwd en bovendien vrouw waren, minder sociale problemen hadden en meer ziektebesef vertoonden.

Onze conclusie was dat behandelaren zich bewust moeten worden van hun mogelijk betere werkalliantie voor een bepaalde patiëntengroep. Daarnaast zou een groter gevoel van controle van de patiënt over het eigen leven mogelijk ook kunnen helpen bij het tot stand komen van een positieve werkrelatie.

In *Hoofdstuk 7* hebben wij beschreven of verschillen in de beoordeling van de werkalliantie tussen patiënt en behandelaar aan het begin van de studie geassocieerd waren met de gevoeligheid voor het ontstaan van crises (crisissensitiviteit). Crisissensitiviteit werd door ons geoperationaliseerd als het gedurende 18 maanden follow-up optreden van (1) geen crisis, (2) één of meer crisiscontacten en/of vrijwillige opnames en (3) tenminste één gedwongen opname. De resultaten lieten zien dat bijna 60 procent van de patiënten hun werkalliantie hoger beoordeelden dan hun behandelaren. De crisissensitiviteit bij de patiënt was hoger indien de behandelaar een lager dan gemiddelde score gaf op

de werkaliantieschaal. Patiënten met meer opnames gedurende hun voorgeschiedenis en een meer gelijke beoordeling van de werkaliantie met hun behandelaar, hadden een grotere crisissensitiviteit gedurende de *follow-up*-periode.

De conclusie van dit onderzoek was dat bij de werkaliantie van belang lijkt bij het optreden van toekomstige crisis situaties, vooral ook wanneer patiënten eerdere opname ervaringen hebben. Het bespreken en verbeteren van de werkrelatie zou mogelijk een positieve rol kunnen spelen in het voorkomen van psychiatrische crises.

In *Hoofdstuk 8* volgt de discussie en aanbevelingen voor de klinische praktijk. Sterke en zwakke punten van de studie worden besproken, gevolgd door aanbevelingen voor vervolgstudie.

Het opstellen van de crisisplannen heeft mogelijk een preventieve werking op rechtelijke machtigingen maar zowel de kwaliteit, het afkomen van crisisplannen alsmede de consultatie van deze plannen in de praktijk blijkt problematisch. Het afkomen van crisisplannen kan mogelijk worden gefaciliteerd door de verbetering van de werkaliantie. Behandelaren zouden zich moeten richten op het raadplegen van de crisisplannen bij patiënten die beoordeeld worden voor een gedwongen opname, omdat het gebruik van deze documenten gedurende deze situatie niet vanzelfsprekend blijkt. Om toegankelijkheid en consultatie van de crisisplannen te bevorderen zouden deze plannen geïncorporeerd moeten worden in het elektronische patiënten dossier dat 24 uur per dag te raadplegen is. GGZ instellingen zouden moeten investeren in het verbeteren van de implementatie en het gebruik in de praktijk van crisisplannen.

De sterke kanten van onze studie waren zijn gerandomiseerde design, de naturalistische setting daarvan als ook de klinische relevantie. Doordat onze respondenten vooraf niet geselecteerd werden op hun vermogen tot het maken van een crisis plan, representeerden zij een algemenere groep patiënten met psychotische en bipolaire stoornissen. Andere sterke kant van ons onderzoek was dat het gezamenlijk ontwikkeld en uitgevoerd was met de patiëntenbelangenorganisatie (Basisberaad).

Onze studie kende ook een aantal zwakke punten. Het onderzoek had een te lage power om de hoofdvragen betrouwbaar te kunnen beantwoorden. Alleen 40 procent van de potentiële respondenten stroomde in de trial. Dit lage responspercentage blijkt echter inherent te zijn aan de context waarin zulke studies worden verricht. Een andere zwakke punt van onze studie was de intensieve bewaking van het voortgang van het maken van de crisisplannen, wat externe validiteit heeft kunnen doen afnemen. Aan de andere kant heeft deze intensieve toezicht op het afkomen van de crisisplannen de interne validiteit juist gunstig beïnvloed.

Toekomstige studies zouden moeten proberen om het resultaat van deze studie te repliceren en de kosteneffectiviteit van de crisisplannen te achterhalen. Het zou kunnen dat een verbeterde werkrelatie tot meer crisisplannen leidt maar tegelijkertijd kan het zijn dat de kwaliteit van de werkrelatie zelf ook mede van invloed is op het al dan niet optreden van crisissituaties en (gedwongen) opnames. Deze hypothesen zouden in een toekomstig onderzoek kunnen worden getoetst.

Curriculum vitae

Asia (Joanna Magdalena) Ruchlewska-Winius werd in Chełmża, Polen, op 27 december 1974 geboren. Op haar dertiende levensjaar emigreerde zij naar Nederland en leerde in een aantal maanden de Nederlandse taal op een internationale school in Alphen aan den Rijn. In Leiden volgde zij met succes een één-jarige VWO-opleiding. Haar bul in de klinische psychologie behaalde zij in 2006 aan de Vrije Universiteit te Amsterdam. Tijdens haar studie werkte zij een jaar als diepte-interviewer en onderzoeksassistent bij het Instituut voor Extramuraal Onderzoek, bij de Vakgroep Verpleeggeneeskunde in Amsterdam. Het onderzoek waaraan zij meewerkte ging over de behandeling van depressieve klachten bij verpleeghuisbewoners. Daarna werkte zij als diepte-interviewer voor het Trimbos-instituut, waar zij klinisch-diagnostische interviews afnam bij patiënten met depressie- en angstklachten. Binnen het depressieonderzoek bij Mentrum Polikliniek Psychiatrie (Noord en West) was zij onderzoeksassistent.

Haar klinische stage volgde zij bij Mentrum, afdeling Onderzoek & Ontwikkeling te Amsterdam. Haar doctoraalscriptie was getiteld "De gedeelde ruimte. Onderzoek naar werkrelatie in de psychotherapie".

In november 2006 begon zij haar promotieonderzoek. Tijdens haar promotietraject heeft zij twee jaar lang klinische interviews afgenomen middels het instrument SCAN (*Schedules for Clinical Assessment in Neuropsychiatry*). Dit deed zij in het kader van het Erasmus Rotterdam Gezondheid Onderzoek (ERGO).

Sinds 8 april 2009 is zij getrouwd met Pieter Winius. Samen hebben zij twee kinderen, Thomas Józef (2011) en Louisa Margaretha (2013).

List of publications

PUBLICATIONS

Ruchlewska A, Mulder CL, Smulders R, Roosenschoon BJ, Koopmans G et al: The effects of crisis plans for patients with psychotic and bipolar disorders: a randomized controlled trial. *BMC Psychiatry* 9: 41, 2009.

Ruchlewska A, Mulder CL, Van der Waal R, et al: Crisis Plans Facilitated by Patient Advocates are Better than those Drawn up by Clinicians: Results from an RCT. *Administration and Policy in Mental Health*, DOI 10.1007/s10488-012-0454-4, 2012.

Ruchlewska A, Wierdsma AI, Kamperman AM, et al: Effect of Crisis Plans on Admissions and Emergency Visits: A Randomized Controlled Trial. *PLoS ONE* 9(3): e91882, 2014.

Asia Ruchlewska, Astrid M Kamperman, Mark van der Gaag, André I Wierdsma, Niels C L Mulder: Working Alliance in Patients with Severe Mental Illness Who Need a Crisis Intervention Plan. *Community Mental Health Journal* 02/2015; DOI:10.1007/s10597-015-9839-7, 2015.

Portfolio

PHD PORTFOLIO SUMMARY

Summary of PhD training and teaching activities

Name PhD student: Asia Ruchlewska	PhD period: November 2007- June 2014
Erasmus MC Department: Psychiatry	Promotor(s): Prof.dr.C.L.Mulder, Prof.dr. M. van der Gaag
Research School: Epidemiological and Social	Supervisor: Dr.A.M. Kamperman
Psychiatric Research institute (ESPRi)	

1. PhD training

	Year	Workload (Hours/ECTS)
General academic skills		
- English Writing and Communication	2008	8
- Workshop 'Hoe geef ik een workshop'	2008	4
- Workshop EndNote	2009	3
- Introduction to data analysis (NIHES)	2010	30
- Regression analysis (NIHES)	2010	45
In-depth courses (e.g. Research school, Medical Training)		
- Training Schedules for Clinical Assessment in Neuropsychiatry, Groningen	2009	10
Presentations		
- Various presentations at research seminars, mental health institutions and patient advocacy organizations	2008-2013	200
National and International conferences		
- Word Psychiatric Association conference, Dresden	2008	70
- Werken met moeilijke mensen. Nieuwe interventies en instrumenten in de openbare GGz, Poortugaal (oral presentation)	2009	20
- Vaart in de crisiskaart conference (oral presentation)	2011	20
Seminars and workshops		
- Research lunches at O3 Research Centre (current ESPRi)	2008-2012	30
- Seminars at O3 Research Centre (current ESPRi)	2008-2012	25
2. Teaching activities		
Supervising research assistants		
- Training HoNOS and interviewing patients	2008-2012	200
Supervising Master's theses		
- Supervising medical and psychology students	2010-2011	70

Dankwoord

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Als eerste dank ik alle respondenten en deelnemende behandelaars. Daarnaast bedank ik mijn interviewers, maar in het bijzonder veel dank aan Anita, Joan, Daniel, Inga, Charlotte A. en Djoeka voor jullie zorgvuldige en enthousiaste assistentie. Ook was het erg gezellig om af en toe met jullie uit eten te gaan.

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APPENDIX

QUALITY OF CRISIS PLAN CHECKLIST

	No or vague information	somewhat vague	complete information	
1. How can a crisis situation be recognized?				
1a visible signs	0	1	2	3
1b early relapse indicators	0	1	2	3
2. How should one act in a crisis situation?				
2a advice for clinicians	0	1	2	3
2b advice for third parties	0	1	2	3
3. Daily functioning when not in crisis	0	1	2	3
4. Physical condition	0	1	2	3
5. Medication				
5a current medication	0	1	2	3
5b pharmacy information	0	1	2	3
5c medication preferences during a crisis	0	1	2	3
5d medication to be avoided during a crisis	0	1	2	3
6. Preferences regarding admission				
6a hospital preferences	0	1	2	3
6b hospital to avoid in crisis	0	1	2	3
7. Tasks others involved	0	1	2	3
8. Practical items of importance	0	1	2	3
9. Information of involved others	0	1	2	3
10. Signature				
10a patient	no	yes		
10b Clinician	0	1		
10c Team psychiatrist	0	1		
10d Involved others	0	1		
10e Hospital gatekeeper	0	1		
10d Family doctor	0	1		

FIGURE 1 Quality of Crisis Plan Checklist

