Phase-Based Treatment of a Complex Severely Mentally Ill Case Involving Complex Posttraumatic Stress Disorder and Psychosis Related to Dandy Walker Syndrome

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Phase-Based Treatment of a Complex Severely Mentally Ill Case Involving Complex Posttraumatic Stress Disorder and Psychosis Related to Dandy Walker Syndrome

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For patients with comorbid complex posttraumatic stress disorder (PTSD) and psychotic disorder, trauma-focused therapy may be difficult to endure. Phase-based treatment including (a) stabilization, (b) trauma-focused therapy, and (c) integration of personality with recovery of connection appears to be the treatment of choice. Objective: The objective of this article is to describe...
and evaluate the therapeutic process of a single case from a holistic perspective. Method: We present a case report of a 47-year-old woman treated for severe complex PTSD resulting from repeated sexual and physical abuse in early childhood and moderate psychotic symptoms stemming from Dandy Walker Syndrome with hydrocephalus. Results: The patient was treated with quetiapine (600–1,000 mg) and citalopram (40 mg). Stabilization consisted of intensive psychiatric nursing care in the home and stabilizing group treatment for complex PTSD. After stabilization, the following symptom domains showed improvement: self-regulation, self-esteem, assertiveness, avoidance of social activities, and negative cognitions. However, intrusions and arousal persisted and were therefore subsequently treated with prolonged imaginary exposure that also included narrative writing assignments and a final closing ritual. This intensive multidisciplinary, phase-based approach proved effective: All symptoms of complex PTSD were in full remission. Social integration and recovery were promoted with the reduction of polypharmacy and the provision of social skills training and lifestyle training. Conclusion: The present case shows a phase-based treatment approach with multidisciplinary collaborative care to be effective for the treatment of a case of complex PTSD with comorbid psychotic disorder stemming from severe neurological impairment. Replication of this promising approach is therefore called for.

KEYWORDS severe mental illness, psychosis, Dandy Walker Syndrome, function assertive community treatment, nursing, child sexual abuse, complex posttraumatic stress disorder phase-based treatment, stabilization, group therapy, prolonged exposure

INTRODUCTION

There is evidence in the literature that posttraumatic stress disorder (PTSD) in patients with psychotic symptoms can be treated effectively using eye movement desensitization and reprocessing (D. van den Berg & van de Gaag, 2012) or prolonged exposure (Frueh et al., 2009; M. van den Berg, Hendriks, & van Minnen, 2010).

For the treatment of complex PTSD, which is described in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM–IV), as PTSD with associated features such as dysregulation of affect and behavior and dissociative symptoms (Herman, 1992a; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005), a phase-based treatment is considered to be more effective (Herman, 1992b). The phase-based treatment should include
(a) stabilization, (b) trauma-focused therapy, and (c) integration of personality with recovery of connection. Stabilizing interventions have been shown to be effective (Dorrepaal et al., 2010, 2012; Thomaes et al., 2012) and improved the overall treatment effect when they preceded exposure (Cloitre et al., 2010; Frueh et al., 2009).

When Cloitre et al. (2011) conducted a survey among expert clinicians about best practice treatment modalities for addressing complex PTSD, several of the experts endorsed a phase-based therapy as the most appropriate approach. The primary interventions involved in such an approach are training in emotion regulation strategies, anxiety and stress management, cognitive restructuring, interpersonal skills, and the narration of trauma memories prior to the provision of trauma-focused therapy. However, there was no consensus on the expected prognosis of clinical improvement or the duration of the entire treatment. Further research including sustained symptom monitoring during the treatment process and follow-up was strongly advised.

**OBJECTIVE**

The use of the phase-based treatment model for treating complex PTSD seems promising for clinical practice. The aim of the current study was to examine this model at a single case level by evaluating the treatment process of a patient suffering from severe psychiatric and somatic issues dominated by complex PTSD symptoms and psychotic symptoms. The psychotic symptoms were related to Dandy Walker Syndrome (DWS) with accompanying neurological symptoms due to hydrocephalus and consisting of chronic headache, irritability, and concentration problems.

The treatment was performed by a function assertive community treatment (FACT) team. FACT is a Dutch variant of assertive community treatment, which provides coordinated multidisciplinary treatment and case management for severely mentally ill patients in a stable phase. Patients in an unstable phase of illness have intensive, tailor-made outreach care available to them. FACT teams foster shared caseloads (van Veldhuizen, 2007).

**DWS AND PSYCHOSIS**

DWS is a congenital malformation of the brain associated with the emergence of several neurological symptoms and cognitive impairments in early childhood. The syndrome often includes the development of cysts in the third or fourth ventricle with hydrocephalus and changes in the cerebellum resulting from these. In 10% to 20% of patients, alarming signs and symptoms do not appear until late childhood or early adulthood. These patients often have normal psychomotor and intellectual development during childhood, and
some of these same patients never develop any psychopathological signs (Kelly, 1991; Lipton, Preziosi, & Moses, 1978; National Institutes of Health, 2012).

Patients with a late onset of the symptoms of DWS can develop neuropsychiatric symptoms such as hallucinations and delusions or severe mood impairments during the late adolescence phase or early adulthood (Pollok, Klein, & Rabey, 1996; Turner, Nicholson, & Ghadiali, 2001). Gan et al. (2012) assumed a relationship with functional and structural abnormalities of the brain and described the overlap between psychiatric comorbid diseases in DWS and schizophrenia or bipolar disorder. Ryan, Grenier, Castro, and Nemeroff (2012) argued that abnormalities of the cerebellum also have been linked with the pathophysiology of schizophrenia and bipolar disorder. Similarities with these disorders include the following symptoms: delusions, hallucinations, and cognitive deficits. Differences are specific neurological symptoms such as severe headaches and convulsions.

CASE REPORT

Mrs. Antonia Green, a 47-year old woman with DWS, was referred to our community mental health team (FACT team) by her psychiatrist for long-term treatment after initial treatment with pharmacotherapy for psychotic and depressive symptoms in the past.

Brief Treatment History

Pharmacotherapy with quetiapine 600 mg was prescribed by the referring psychiatrist and proved to be clinically effective. Initial assessments showed both the psychotic and depressive symptoms to be in remission. The neurological symptoms of irritability and headache declined and a previous psychotic episode, which included grandiosity, did not reoccur. The depressive symptoms accompanied by suicidal ideation also disappeared. Medication was thus maintained for prophylactic reasons, and, given the stability of the patient, a recovery program was initiated.

The recovery process was impeded when Mrs. Green’s partner suddenly broke off their relationship. Mrs. Green had not anticipated this and was not able to cope with the loss, which severely affected her mental state and led to both symptoms of anxiety and depression. The symptoms of anxiety cumulated to psychosis with visual hallucinations pertaining to traumatic memories (i.e., seeing her abusing parents present in the bedroom).

Next she was voluntary admitted to an acute psychiatric ward. During her stay, Mrs. Green suffered nightmares about being the victim of repeated, simultaneous sexual abuse by three relatives around the age of 3. These nightmares with traumatic memories were new to her and very frightening.
because she was only aware of sexual abuse around the age of 13. The
admission seemed to have a negative impact, and in consultation with the
referring psychiatrist discharge was planned within 1 week. After discharge
from the acute psychiatric ward, Mrs. Green received further intensive psy-
chiatric care provided by the FACT team. Mrs. Green’s psychiatrist then
diagnosed complex PTSD on the basis of the following cluster of symptoms:
physical flashbacks about sexual abuse, nightmares about and reexperienc-
ing the traumatic events, avoidance of specific triggers, low self-esteem, and
mistrust of others.

Biography

Mrs. Green was the youngest of five children in a farmer’s family. Her family
lived in a rural area and was socially very isolated. The children were not
allowed to bring school friends home with them. Mrs. Green remembered
her parents arguing a lot and both being emotionally and physically abusive
to the children. She reported, for example, that when she was 5 years old
she was forced to help her father whip her older sister with a rope. For a
period of 3 years starting at the age of 13, Mrs. Green was sexually abused
by a relative.

Mrs. Green completed her primary and secondary education without
serious learning problems, but she was often bullied by her peers. She
entered a vocational education program at the age of 15, was accepted by
her peers during the program, and developed some friendships at the time.
She became a certificated plumber and attained employment but was later
declared unfit for the job because of knee problems at the age of 26 (i.e., on
medical grounds). She found it difficult to deal with the loss of her job. She
was living with her parents at the time but wanted to live on her own. Her
parents were reluctant to let her go, but she eventually moved out on her
own.

The first psychiatric symptoms occurred at the age of 28 and consisted
of panic attacks during the night and depressive symptoms accompanied
by low self-esteem and suicidal ideation. The symptoms were related to
recovered memories of her sexual abuse at the age of 13.

The traumatic events recalled by Mrs. Green were disclosed to her fam-
ily members, who responded in a hostile manner and subsequently excluded
her from the family. Shortly after this sequence of events, Mrs. Green’s symp-
toms became so severe that inpatient psychiatric treatment was required. She
made friends with her fellow patients.

After discharge from the psychiatric hospital, Mrs. Green got her-
self a dog. This greatly facilitated her assimilation into the neighborhood.
She started caring for other people’s dogs thereafter and even became a
professional dog breeder.
At the age of 37, there was an onset of headaches and convulsions. Hydrocephalus as a result of DWS with one cyst was diagnosed. Three surgical interventions then followed: (a) partial resection of the cyst, (b) placement of a catheter to allow drainage, and (c) removal of the catheter after the development of peritonitis with no surgical options left. Mrs. Green's symptoms diminished very little. Severe headaches continued despite two different rehabilitation trajectories after surgery. In this period, she suffered from a brief psychotic episode involving grandiosity about directing traffic, which she then actually tried to do one night. Eventually she became severely depressed, in part because she experienced the headaches as unbearable and attempted suicide.

At the age of 43, Mrs. Green was again referred to a mental health care setting for outpatient psychiatric treatment. Quetiapine 600 mg was prescribed and appeared to effectively decrease the headaches, irritability, and concentration problems. Over time and with the aid of her psychiatrist, Mrs. Green developed more self-efficacy skills to cope with the remaining symptoms of DWS. These skills included the identification of sources of stress and the prevention of cognitive overload.

### PHASE 1: STABILIZING TREATMENT

#### Diagnostics at the Start

After her discharge, the psychiatrist who diagnosed Mrs. Green's symptoms as complex PTSD classified the existing comorbid disorders as follows:

<table>
<thead>
<tr>
<th>DSM–IV Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Axis I:</strong></td>
</tr>
<tr>
<td>PTSD, chronic with associated features</td>
</tr>
<tr>
<td>Psychotic disorder related to DWS</td>
</tr>
<tr>
<td>Major depressive episode, in remission</td>
</tr>
<tr>
<td><strong>Axis II:</strong></td>
</tr>
<tr>
<td>No diagnosis on Axis II</td>
</tr>
<tr>
<td><strong>Axis III:</strong></td>
</tr>
<tr>
<td>DWS with acquired hydrocephalus</td>
</tr>
<tr>
<td><strong>Axis IV:</strong></td>
</tr>
<tr>
<td>020 problems in primary support group</td>
</tr>
<tr>
<td>040 working problems</td>
</tr>
<tr>
<td>060 financial problems</td>
</tr>
<tr>
<td><strong>Axis V:</strong></td>
</tr>
<tr>
<td>Global Assessment of Functioning (GAF) = 45</td>
</tr>
</tbody>
</table>

Based on these diagnoses and after consultation by the FACT team the treatment plan was modified and aimed at phase-based treatment. Stabilizing interventions were planned at first and consisted of pharmacotherapy and nursing outreach care.

#### Pharmacotherapy

Amitriptyline 50 mg and paracetamol (≤4,000 mg) were prescribed 7 years earlier by the neurologist to ease the neuropathic pain that Mrs. Green
reported suffering from. Topiramate (50 mg) was prescribed and added 3 years later to prevent potential epileptic seizures. The quetiapine 600 mg prescribed by the referring psychiatrist 4 years earlier was also continued in the current treatment context. The psychiatrist then prescribed and added citalopram 40 mg for treatment of the current PTSD-related symptoms.

Despite an initial level of mistrust and anxiety on the part of Mrs. Green, the treating psychiatrist was able to build a therapeutic relationship with her. Mrs. Green also accepted home visits from a mental health nurse.

Nursing Outreach Care

Intensive outreach treatment and nursing is an important element of FACT. In the present case, this care was provided on a weekly basis from a visiting home nurse with the following goals in mind: provide support for daily life activities (e.g., self-care, nutrition, and housing), reduce avoidance of social activities, and provide tailor-made crisis interventions.

The level of severity of the symptoms and the lack of self-management skills at the time of the FACT nursing intervention, however, impeded the positive effects of this outpatient care.

Group Stabilizing Treatment

Mrs. Green’s psychiatrist referred her to the “before and beyond” stabilizing treatment group. The aims of this treatment are to improve complex PTSD using psychoeducation, emotion regulation skills, social skills, and anxiety and stress management skills in addition to cognitive–behavioral interventions (Dorrepaal, Thomaes, & Draijer, 2008; Dorrepaal et al., 2012).

Measurements for Monitoring and Evaluation

After Mrs. Green’s enrolment in the stabilizing treatment program, four instruments (i.e., the Davidson Trauma Scale, Structured Interview for Disorders of Extreme Stress [SIDES], Dissociative Experiences Scale, and GAF) were used to measure complex PTSD symptoms and global functioning before and after Mrs. Green’s participation in the stabilizing group treatment and before and after the prolonged exposure treatment (see Table 1).

PTSD symptoms were measured using the Davidson Trauma Scale. This scale assesses the severity of DSM–IV diagnostic criteria for PTSD using 17 well-validated items along a 5-point Likert scale. The total scale score can range from 0 to 68. The cutoff score is 40 (Davidson, Malik, & Travers, 1997).

The presence of complex PTSD was confirmed by using the SIDES. The SIDES was developed to assess the severity of the following symptom domains of complex PTSD: affect regulation, memory and attention,
TABLE 1 Mrs. Green’s Clinical Diagnoses and Symptom Course Before Stabilizing Group Treatment, After Stabilizing Group Treatment, and After Prolonged Exposure

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline ($t = 0$)</th>
<th>After stabilizing group treatment ($t = 6$ months)</th>
<th>Follow-up and start of prolonged exposure ($t = 12$ months)</th>
<th>After prolonged exposure ($t = 18$ months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD diagnosis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Complex PTSD diagnosis</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Psychotic symptoms</td>
<td>Yes (mild)</td>
<td>Yes (mild to moderate)</td>
<td>Yes (moderate to severe)$^a$</td>
<td>Yes (mild)</td>
</tr>
<tr>
<td>Davidson Trauma Scale (clinician rated)</td>
<td>37</td>
<td>32</td>
<td>17$^b$</td>
<td>0</td>
</tr>
<tr>
<td>PTSD scale self-report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured Interview for Disorders of Extreme Stress</td>
<td>39 (moderate)</td>
<td>20 (subclinical)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Dissociative Experiences Scale</td>
<td>21</td>
<td>43</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Global Assessment of Functioning</td>
<td>45</td>
<td>55</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

Notes: PTSD = posttraumatic stress disorder.

$^a$During the prolonged exposure period, psychotic symptoms increased and quetiapine doses were upgraded to 1,000 mg.
$^b$The highest score on the PTSD scale self-report during prolonged exposure was 48 (see Figure 1).

self-perception, perception of the perpetrator, interpersonal relations, somatization, and systems of meaning. The total SIDES score can range from 0 to 144 (Pelcovitz et al., 1997). For a diagnosis of complex PTSD, each domain has to be present except for perception of the perpetrator. Zlotnick and Pearlstein (1997) concluded that the SIDES has sufficient convergent and divergent validity to constitute a valid measure of PTSD with associated features. Scoboria, Ford, Lin, and Frisman (2008) more recently tested the SIDES and showed that the derived factors have good internal consistency. They also found sufficient convergent and discriminant validity.

Dissociative features were measured using the Dissociative Experiences Scale. A total of 28 items record the severity of dissociative symptoms. The total score for this scale can range from 0 to 100. A total score greater than 25 suggests PTSD, whereas a total score greater than 40 suggests a dissociative disorder (Bernstein & Putnam, 1986; Carlson et al., 1993).

Global functioning, including psychological, social, and occupational functioning, was measured with the GAF Scale. This scale considers a hypothetical continuum of mental health illness and does not include impairment in functioning as a result of physical or environmental limitations. It is used for the DSM–IV classification (American Psychiatric Association, 2000).
Psychotic symptoms and medication effects were clinically monitored by the psychiatrist on a monthly basis. A validated instrument such as the Positive and Negative Psychotic Syndrome Scale for schizophrenia (Kay, Fiszbein, & Oppler, 1987) was not used in these evaluations.

The stabilizing group treatment was provided by two therapists: a nurse practitioner (the first author) and a clinical nurse specialist. This was done in 20 weekly 2-hr sessions with two follow-up sessions after 3 and 6 months according to the protocol. The therapy group consisted of 10 members. Mrs. Green appeared to be an active member. She always completed her assignments at home and had positive interactions with other group members. Although she suffered sometimes from headaches and concentration problems, she was never absent.

During the group therapy sessions, members were allowed to leave for a brief time out when feeling overwhelmed. Mrs. Green sometimes left the group on account of irritability problems and twice left because of traumatic flashbacks. Active relaxation exercises helped her to calm down and rejoin the group.

During the stabilizing group treatment, positive psychotic symptoms such as hallucinations and delusions did not occur. Negative symptoms such as concentration problems, irritability, and lack of energy increased slightly.

After the stabilizing group treatment, Mrs. Green no longer met the SIDES criteria for complex PTSD (see Table 1). Improvements were seen in terms of self-regulation, assertiveness, and self-esteem. Mrs. Green benefited most from learning the following skills: creation of a safe place in her bedroom, relaxation exercises, and correction of thinking errors. As a result of these skills, her self-efficacy also improved. Probably as a result of decreased avoidance, however, she still suffered from intrusions and arousal and thus met the Davidson Trauma Scale criteria for PTSD (see Table 1).

It was expected that the acquired skills and coping strategies would become more effective over time. After multidisciplinary consultation by the FACT team, it was decided to adopt a watchful waiting policy for a period of 6 months. Mrs. Green agreed to this.

After this waiting period she functioned better but still had strong traumatic intrusions. In consultation with her nurse practitioner, the possibility of trauma-focused therapy was raised. The FACT team then extensively considered the potential benefits and risks of such treatment for Mrs. Green. Among the possible benefits were a decrease in the remaining symptoms of PTSD, less suffering, and improved global functioning. Among the possible risks was increased psychotic symptoms without guaranteed reduction of PTSD. The FACT team decided to offer Mrs. Green trauma-focused therapy with clear provision of information on the potential benefits and risks and a detailed relapse prevention plan. This plan continued nursing interventions at home and contained crisis management, including hospitalization, should
this prove necessary. Mrs. Green expressed an initial desire to take advantage of this opportunity, and, after several shared decision-making steps, she agreed to try trauma-focused treatment. Given her neurological problems and because eye movements or auditory stimuli could provoke headaches and convulsions, eye movement desensitization and reprocessing was not the preferred option for the trauma-focused treatment.

**PHASE 2: TRAUMA-FOCUSED TREATMENT**

Prolonged imaginary exposure treatment provided by the already familiar nurse practitioner was decided upon for the trauma-focused treatment of Mrs. Green. This was conducted according to the imaginary exposure protocol of Foa, Hembree, and Rothbaum (2007). In the first session, psychoeducation on the imaginary exposure procedure was provided and agreements were made on the crisis management options and support. The following options were offered in the case of Mrs. Green: low threshold, 24/7 telephone access, and a psychiatric bed on call for unstable nights. These support agreements were formally incorporated into the treatment plan.

During the prolonged exposure intervention phase, symptom severity was assessed at the start of each session using a self-report PTSD scale. The 17 items constituting this scale are assigned a score that can range from 0 to 51, with a cutoff score of 14 (Foa, Riggs, Dancu, & Rothbaum, 1993; see Table 1 and Figure 1).

A tentative fear hierarchy including all known traumatic events for Mrs. Green was next composed in collaboration with Mrs. Green. The following list was then agreed upon: sudden loss of partner, emotional neglect and abuse by mother, forced assistance of father in beating of her sister, sexual abuse by a relative, and sexual abuse by father. In Sessions 2–6, these traumatic events were consecutively recalled. In Session 6, memories of the involvement of both parents in sexually invasive abuse of Mrs. Green in early childhood were also recovered.

Exposure had to be interrupted in Session 7 when high levels of anxiety occurred. Mrs. Green was also quite sad about the past behavior of her parents. Using a genogram to talk about positive experiences with her extended family appeared to provide support and ease her grief to some extent.

Session 8 consisted of stabilizing interventions aimed at reducing anxiety and promoting safety with the use of an on-call psychiatric bed.

In Session 9, Mrs. Green mentioned that new memories had been recovered about another abusing relative but that she did not dare to talk about it.

The week after this session, Mrs. Green developed psychotic symptoms when at home (e.g., visual hallucinations in the form of seeing flying bats and deformations of objects, auditory hallucinations in the form of hearing her dead dog barking); she also experienced increased dissociative features (e.g.,
derealization and depersonalization). The quetiapine dosage was increased to 1,000 mg by her psychiatrist.

After multidisciplinary consultation, continuation of the exposure sessions in a clinical setting was offered and Mrs. Green agreed to this. While she was waiting for admission, the session on the early sexual abuse by her father was repeated in detail and an extended genogram was created in another session to provide support (see Figure 1, session topics).

Upon her admission, exposure continued. Mrs. Green wrote a letter to her mother during this episode, and in Session 15 she read the letter out loud.

In Session 16, the most frightening memories—the recently recovered memories of the involvement of both parents in early sexually invasive abuse of Mrs. Green and abuse by another relative—were told. This session was repeated in detail during Session 17.

Mrs. Green wrote a letter to her father and read it out loud in Session 18. After this she felt very relieved because her fear was now gone. She was also very sad and talked about the little girl she had been and how she longed to comfort that little girl. A woman doll and a child doll were then given to

FIGURE 1 Self-reported posttraumatic stress disorder (PTSD) symptom score at the start of each session. The numbers correspond with each weekly session.
her to depict the comforting that she longed for when she was a little child but did not receive then.

Mrs. Green was given a great deal of support by the nurses on the ward. They played a key role in helping her cope with her fear and sadness. For example, some nurses sat together with her when she listened to the audiotapes of the sessions, which she did on a regular basis following the protocol.

After the completion of 18 exposure sessions, Mrs. Green returned home. In Session 19, a closing ritual was prepared. Mrs. Green broke the compact disc with the audiotaped Sessions 16 and 17 on it. She then buried it near her parents’ burial place with her therapist present to witness the event and provide support.

**PHASE 3: INTEGRATION AND RECOVERY OF CONNECTION**

Shortly after the closing therapy session, Mrs. Green no longer met the criteria for complex PTSD and the dissociative experiences were almost gone. Her global functioning, according to the GAF, had further improved (see Table 1). She no longer had a need for intensive psychiatric home care. She reported experiencing a great relief and talked about feeling overjoyed.

At this point, further recovery-based treatment was offered to Mrs. Green, but she said that she preferred to enjoy her “new life” for a while and to simply use her prophylactic medication.

Six months later she suffered from new memories about another abusing relative. Two exposure sessions were provided to process these memories. Her flashbacks and feelings of fear disappeared after these sessions.

**Pharmacotherapy**

Mrs. Green had numerous medications for comorbid neurological and psychiatric symptoms. Reducing polypharmacy was thus an important goal for the promotion of further recovery. First the quetiapine dosage (1,000 mg) was reduced by 50 mg per week to 600 mg. A dosage lower than 400 mg gave rise to neurological problems and therefore a dosage of 600 mg was continued.

The dosage of citalopram 40 mg was next reduced by 10 mg per week and finally stopped. Mrs. Green mentioned feeling better then: more energetic and much less sedated. Hallucinations and delusions did not occur in this period. Negative symptoms such as concentration problems and lack of energy—which were hardly distinguishable from neurological symptoms or side effects of quetiapine—improved: Her concentration improved and her daily life became more active.
Lifestyle Interventions

Mrs. Green had become overweight over time, probably because of the huge calorie intake that is associated with high quetiapine doses and a lack of physical exercise as a result of avoiding many activities in the past. Somatic screening for side effects of medication was therefore conducted in line with the Dutch national guidelines for psychosis treatment (Cahn et al., 2008). The screening results showed small changes in glucose and lipid laboratory values. Medical policy therefore called for further reduction of polypharmacy, a low-calorie diet, and supporting a healthy lifestyle.

As Mrs. Green regained her self-confidence and became more active, she also got involved in sports and became more physically active on a day-to-day basis with walking and cycling. She visited a dietician for advice and joined a lifestyle training program at the mental health center.

Social Contact and Activities

Regaining meaningful social contacts was stimulated with the training of social skills. This helped Mrs. Green establish healthy boundaries with significant others. She demonstrated more initiative for social contact and reported enjoying these experiences. She visited her youngest aunt, who had been very nice to her in the past. This aunt offered her a broader perspective on her parents and is now an important relative.

Mrs. Green is currently helping elderly people in a nursing home on a voluntary basis. She reports a markedly better quality of life after a long and challenging recovery process.

DISCUSSION

Stabilization

Patients with severe mental illness such as psychotic disorders and comorbid complex or chronic PTSD can be treated successfully with interventions aimed at stabilization. These interventions can consist of emotion regulation strategies, anxiety and stress management, cognitive restructuring, and enhancement of interpersonal skills. Complex PTSD symptoms have been shown to decrease or disappear following such interventions (Dorrepaal et al., 2012; Mueser et al., 2008; Thomaes et al., 2012).

The remaining symptoms can be persistent, however, and sometimes complicate further recovery. In the present case of complex PTSD, many symptoms decreased significantly following stabilizing group treatment. The regulation of emotion, social skills, and trust all improved while anxiety and stress were better tolerated. Existing negative psychotic symptoms (e.g., concentration problems and lack of energy) increased slightly, but this increase
did not interfere with the stabilizing process in the case of Mrs. Green: Avoidance decreased while intrusions and arousal persisted.

Given that learned skills can improve over time and symptoms further decrease over time, we decided to wait 6 months and then reassess Mrs. Green’s symptoms. In hindsight and given the level of patient suffering, this period could have been shorter. However, Mrs. Green thought she needed this time to make up her mind with regard to trying trauma-focused therapy.

**Trauma-Focused Therapy: Prolonged Exposure**

Prolonged exposure is considered the first choice of treatment for PTSD (Foa et al., 2007). However, comorbid psychosis is a potential contraindication for trauma-focused therapy because of the risk of increasing psychotic symptoms. After multidisciplinary consultation among the care professionals, the potential advantages and disadvantages of prolonged exposure were extensively discussed with the patient, who then decided to try this treatment.

Important factors influencing the decision to try exposure were the ongoing clear and continued contact with the psychiatrist and visiting nurse, daily activities in a protected environment, a positive therapeutic relationship with the nurse practitioner since the initiation of stabilizing treatment, and the possibility for hospital admission when necessary. This treatment approach is in line with the findings of other studies showing prolonged exposure to be effective for the treatment of PTSD in patients with comorbid psychosis (Frueh et al., 2009; M. van den Berg et al., 2010).

In a recent review of potential contraindications for the use of prolonged exposure therapy in cases of PTSD, psychosis was not found to constitute a contraindication (van Minnen, Harned, Zoellner, & Mills, 2012). This conclusion was based on the positive effects of prolonged exposure on both the symptoms of PTSD and psychotic symptoms. The authors of the review nevertheless emphasized that the following conditions must be in place: concurrent care as usual; pharmacotherapy; case management; and the formulation of a crisis intervention plan. In the present case of PTSD with comorbid psychosis, positive psychotic symptoms consisting of visual and auditory hallucinations not related to traumatic memories occurred during prolonged exposure but disappeared after the PTSD went into remission. The negative symptoms improved slightly but concentration problems and irritability, which are also related to DWS, remained. Pharmacological treatment and crisis intervention in the form of hospital admission further appeared to be effective for helping the patient endure the prolonged exposure.

**Integration and Recovery of Connection**

Integration of traumatic memories was associated with the mourning of the loss of her family members. Writing letters to her abusive but now deceased
parents helped the patient in our study to cope with her traumatic past, and a closing ritual helped to finalize this.

Recovery of connection is an important part of the third phase in the phase-based treatment of complex PTSD (Herman, 1992b). In the present case, recovery of connection with a relative appeared to be critical and took the form of renewed contact with a nonabusive aunt. Mrs. Green’s work as a volunteer with elderly people also gave her a significant experience of connection.

Mrs. Green’s general recovery was also promoted by the stimulation of a healthier lifestyle and by the reduction of polypharmacy with the associated side effects of such heavy medication. The integrated care offered by the nurse practitioner may have resulted in more attention to her physical health and its interaction with mental health problems and well-being.

Collaborative Care
The multidisciplinary treatment approach adopted for the complex case reported on here appeared to be critical and in line with the conditions recently outlined for the treatment of PTSD using prolonged exposure (van Minnen et al., 2012). Several team members formed a safety net for this socially isolated patient, which she experienced as crucial for gaining her trust and helping her cope with the traumatic memories and feelings.

The provision of such clinical conditions may not always be possible, however. It is therefore recommended that the therapist work together with at least a second therapist for the provision, for example, of pharmacotherapy and crisis management. It is also recommended that the therapist work with a significant other (i.e., relative or friend of the patient) to guarantee daily support for the patient whenever necessary.

Aftercare
This patient in the present study needed aftercare for remaining psychotic symptoms associated with the DWS. In stable phases of her illness, pharmacological treatment under the guidance of a psychiatrist will still be necessary.

Steps for the prevention of psychotic relapse when stress or signs of relapse present themselves must also be established. A plan to be followed should be formulated with detailed descriptions of the early symptoms of (increasing) psychosis and possible neurological symptoms, such as headaches, irritability, and problems with movement coordination. The relapse prevention plan provides information about the support and availability of other involved professionals (general practitioner, neurologist).
LIMITATIONS AND CAVEATS

The psychosis of the patient described in the present case study stemmed from the DWS and thus had an organic nature. This could limit the generalizability of the phase-based treatment protocol described here to the treatment of patients with so-called functional psychosis. However, the similarities with schizophrenia are such that in clinical practice, treatment of the comorbid psychotic symptoms was comparable in terms of pharmacotherapy, psychoeducation, and relapse prevention.

Psychotic symptoms were evaluated clinically in the present study and thus not monitored using a validated structured interview such as the Positive and Negative Psychotic Syndrome Scale for schizophrenia (Kay et al., 1987).

CONCLUSION

This case report shows effective treatment of complex PTSD with severe psychiatric and somatic comorbidity to be possible. A number of factors can be seen to be of importance: (a) a broad-based treatment policy with the inclusion of a FACT team and adequate cooperation between care professionals (e.g., psychiatrists, neurologists, nurses, and nurse practitioners); (b) adoption of phase-based treatment to deal with complex PTSD; (c) use of clear protocols for stabilization, stabilizing group treatment, and prolonged exposure procedures; (d) flexibility in the form of well-considered and clearly justified deviation from protocols when required or deemed necessary; (e) clearly articulated and agreed-upon plans for crisis management and support; (f) shared decision making with the patient during all phases of therapy and customization of the treatment, which were very important for the therapeutic process as these helped create trust and foster a sense of mastery on the part of the patient; and last but not least, (g) a very motivated and brave patient.

Further exploring the present treatment model is recommended for patients with complex PTSD and comorbid psychosis or another severe mental illness. Depending on the configuration of individual case and illness characteristics, treatment phases may need to be made shorter or longer to allow, for instance, less time between stabilization and the start of trauma-focused therapy (Cloitre et al., 2010; Frueh et al., 2009). The provision of intensive psychotherapy (i.e., stabilizing group treatment followed by trauma-focused therapy) for patients with severe mental illness and comorbid complex PTSD may, moreover, be promising from an economic perspective. That is, a temporary increase in costs can lead to lower health care costs in the long run and improved social participation. In the present case the benefits clearly outweighed the costs.
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REFERENCES


