Enhanced compliance in non-adaptive Complex PTSD patients with comorbid personality disorder in stabilizing cognitive behavioral group treatment

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Abstract

In the present study we aimed to investigate if personality characteristics would predict treatment compliance and effectiveness in a 20-week stabilizing CBT group treatment for child abuse related Complex PTSD. We compared the adaptive patients (N = 14) with the non adaptive patients (N = 24) as revealed by a cluster study. Counter intuitively, we found that non adaptive patients showed very low dropout rates. In contrast, the more adaptive patients were found to dropout frequently. Two types of non adaptive patients with considerable different DSM axis II profiles: withdrawn and aggressive, were equally compliant, indicating that this treatment is well tolerated by patients with a variety of personality pathology. With regard to symptom reduction, we found no significant differences between subtypes. Post hoc patients with a personality disorder showed significantly lower dropout rates and clinically meaningful but not statistically significant higher effect sizes in terms of Complex PTSD severity, especially on domains affect regulation and interpersonal problems.
Introduction

Childhood physical abuse and rape are known to result in a very high prevalence (50%) of posttraumatic stress disorder (PTSD) (Kessler et al., 1995), frequently complicated by additional sequelae like problems in affect regulation, memory and attention, self-perception, interpersonal relations, somatization and systems of meaning (Herman, 1992), referred to as ‘PTSD with associated features’ in DSM-IV-TR or ‘Complex PTSD’ (Pelcovitz et al., 1997). Empirical studies as well as neurobiological findings have supported the distinction of Complex PTSD from ‘simple’ PTSD (Ford, 1999; Lanius et al., 2010; Thomaes et al., 2009; Van der Kolk, et al., 2005; Zlotnick et al., 1996).

Standard trauma focused cognitive behavioral treatment (TFCBT) has proven to be effective for PTSD (Bradley, et al., 2005; Foa, et al., 2009), although dropout rates in these studies are high (approximately 30%). In contrast, the effectiveness of treatments for child abuse related Complex PTSD, PTSD with Personality Disorder (PD) or child abuse related PTSD, has hardly been studied (Bradley, et al., 2005; Breslau, 2001; Cloitre, 2009). Some evidence exists that treatment outcome is unfavorable in these populations (Cloitre & Koenen, 2001; Ford & Kidd, 1998). In TFCBT, 41% of the patients with child abuse related PTSD dropped out prematurely versus a dropout rate of only 9% from non-trauma focused treatment (McDonagh et al., 2005). These data suggest that TFCBT may be less efficacious and less well tolerated by patients with child abuse related Complex PTSD compared with patients with ‘simple’ PTSD (Ehlers et al., 1998; Tarrier, et al., 1999; Van der Kolk et al., 1996).

There is a clinical need for suitable treatments for patients with child abuse related Complex PTSD which addresses additional sequelae like affect dysregulation before the start of TFCBT (Chard, 2005; Cloitre, 2009; Cloitre et al., 2011; 2000; Resick et al., 2008; Van der Kolk et al., 2007), such as a stabilizing group treatment (Dorrepaal et al., 2010; Lubin, et al., 1998; Zlotnick et al., 1997). Such a phase-based approach aims at integrating the long-term advantages of exposure-based methods with the short-term benefits of affect management models while limiting potential drawbacks of both (cf Cloitre, 2009; Linehan, 1993; Roth, et al., 1997; Van der Kolk et al., 1996).

However, although tailoring treatment may thus be clinically relevant, child abuse related Complex PTSD shows high inter-subject variability in psychiatric comorbidity. Some patients have internalizing personality traits and may present themselves as inhibited, anxious and withdrawn, whereas others with externalizing personality characteristics appear disinhibited, angry and affect dysregulated (Allen, et al., 1999; Miller & Resick, 2007). Such comorbid personality disturbances may explain differences in treatment results (Allen, et al., 1998). For example, it has been found that self-defeating features predicted poor treatment outcome
In a previous study (Dorrepaal et al., 2012a) we reported a cluster-analysis of personality disorder symptoms in a child abuse related Complex PTSD population, which resulted in five subtypes, confirming the earlier findings of Allen et al (Allen, et al., 1999). First, we identified a relatively adaptive subtype associated with the fewest personality disorder symptoms. The non-adaptive subtype could be divided into four subgroups, termed: withdrawn, alienated, suffering and aggressive. These subgroups differed on dimensions of introversion and disinhibition. Of these four non-adaptive subgroups, the withdrawn and aggressive subtypes showed the most qualitatively different patterns, prototypical for internalizers and externalizers, respectively. The withdrawn subtype was associated with DSM-IV cluster C pathology (avoidant, dependent and self-defeating personality characteristics), whereas the aggressive subtype was associated with cluster B pathology (borderline and histrionic personality characteristics).

In the present study, we aimed to investigate whether child abuse related Complex PTSD subtypes differed with respect to (1) compliance as well as (2) improvement when treated within a stabilizing CBT group treatment. We expected that the adaptive patients would show the lowest dropout rate and that the non-adaptive patients within the aggressive subgroup would show the highest dropout rate, since all these patients met the criteria for a comorbid borderline personality disorder. Furthermore, we expected that the withdrawn patients, who were most self-defeating, would show poor treatment outcome.

Method

Study design
For the present study we used the data of 38 patients with child abuse related Complex PTSD who were treated during 20 weeks with a psycho-educational and cognitive behavioral stabilizing group treatment. This treatment was given in a randomized controlled trial (RCT) in which a total of 71 patients were enrolled and in which two treatment conditions were compared: psycho-educational and cognitive behavioral stabilizing group treatment added to treatment as usual (TAU) and with TAU only (Dorrepaal et al., 2012b).

Intervention: we extended the affect management manual of Zlotnick (Wolfsdorf & Zlotnick, 2001) to a 20-week protocol with additional cognitive restructuring and psycho-education on Complex PTSD domains of interpersonal relations, self-esteem, guilt, shame and distrust (Dorrepaal et al., 2008; Dorrepaal et al., 2010). During the first 10 sessions, psycho-education was provided, as well as registration
homework to recognize ‘triggers’. Subsequently, intentional avoidance to acquire greater cognitive and emotional control was taught, followed by skills training to learn to tolerate negative feelings and ultimately decrease avoidance. Sessions 11–20 contained cognitive restructuring, on new – trauma related – topics such as problems with anger, assertiveness, bodily experiences, shame, guilt and distrust.

**Inclusion criteria**

Seventy-one female patients with sexual and/or physical abuse before the age of 16 who met the criteria for both PTSD (assessed with the Structured Diagnostic Interview for DSM-IV Axis I disorders) and Complex PTSD (assessed with the Structured Interview of Disorders of Extreme Stress; SIDES) were enrolled in the RCT. Exclusion criteria were the presence of antisocial personality disorder, current psychotic episode, dissociative identity disorder or severe alcohol or drug dependence or abuse (likely to interfere with attendance) as assessed by Structured Clinical Interviews for DSM-IV. Subjects currently under exposure treatment or seeking such treatment were also excluded. Dropout was defined as missing the group meeting on three consecutive occasions. The SIDES was used to assess the severity of Complex PTSD (Pelcovitz et al., 1997). Presence and severity of personality disorders, were assessed with the Structured Interview for DSM-IV Axis II Personality disorders (SIDP-IV) (Pfohl, 1997). The Davidson Trauma Scale (Davidson, et al., 2002) was used to measure PTSD severity. Interviews were administered by trained and supervised independent raters, blind to the treatment condition.

**Outcome RCT**

Of the 38 patients randomized to a psycho-educational and cognitive behavioral stabilizing group treatment, seven (18%) dropped out prematurely, leaving 31 completers. Dropout versus completer analysis revealed no significant differences on pre-test variables. After 20 weeks, the experimental condition (large effect sizes) and control condition (medium effect sizes) both showed significant decreases on DTS and SIDES, but differences between the conditions were not significant. The comparison between conditions showed somewhat ambiguous results. While significant superiority on change scores was absent in the intention-to-treat sample, trends on both DTS (P= 0.10) and SIDES (P= 0.05) favored adding group treatment in the completers sample. Additionally, in the intention-to-treat sample, significantly more responders on DTS (45% vs. 21%) (P= 0.03), but not on SIDES (P= 0.05 in completers: 74% vs. 50%), indicated clinical meaningfulness of adding group treatment (Dorrepaal et al., 2012b).
Subjects
The 38 patients included in this study showed severe PTSD symptoms at pretest (DTS mean: 90 (SD: 20)). In a previous study (Dorrepaal et al., 2012a) we applied Ward’s hierarchical cluster-analysis (with squared Euclidian distance as the dissimilarity measure) (Ward, 1963), similar to Allen’s study (1999) on DSM-IV Axis II features using the (dimensional) SIDP-IV severity scores and found a percentage of 96% assignment of the cases to the same clusters with a kappa of 0.94 for a five-cluster solution (Dorrepaal et al, 2012a). The cluster-analysis first yielded two clusters: adaptive versus non-adaptive. Second, the non-adaptive cluster was split in 4 sub clusters: withdrawn; alienated; suffering and aggressive. The 38 patients randomized to a psycho-educational and cognitive behavioral stabilizing group treatment, were distributed as follows: adaptive (n = 14; 37%), non-adaptive (n = 24; 63%), withdrawn (n = 4; 17%); alienated (n = 1; 5%); suffering (n = 9; 37%) and aggressive (n = 10; 41%).

Adaptive vs. non-adaptive subtypes. The adaptive and the non-adaptive subtypes differed with respect to borderline, avoidant, self defeating and depressive features, as well as cluster B and C personality pathology. Almost half of the patients belonging to the adaptive subtype met the criteria for a personality disorder vs. almost all patients belonging to the non-adaptive subtype.

Non-adaptive subtypes. The non-adaptive subtypes were split on both an introversion dimension (personality disorders with avoidant and dependent symptoms) as well as an disinhibition dimension (personality disorders with borderline and antisocial symptoms).

- **Withdrawn subtype:** introvert and not disinhibited. This subtype was characterized by high levels of avoidance, dependence, self-defeating and depressive personality symptoms.

- **Alienated subtype:** introvert and disinhibited. This subtype showed very high ratings on many personality scales across all DSM-IV Clusters. A uniquely high score was found on Cluster A personality disorders (schizotypical, schizoid, paranoid), indicating introversion, combined with very high levels of borderline features, indicating disinhibition.

- **Suffering subtype:** not introvert and not disinhibited. This subtype showed intermediate levels on both DSM-IV Cluster B and C symptoms relative to the most disturbed (alienated) subtype, on the one hand, and the adaptive subtype, on the other hand.

- **Aggressive subtype:** not introvert and disinhibited. High scores on DSM-IV Cluster B borderline symptoms accompanied by low Cluster C avoidance and dependence symptoms.
Data Analyses

(1) To examine whether subtypes predicted dropout, logistic regression was used with adaptive subtype (yes/no) as independent variable and dropout rate as dependent variable.

(2) Adaptive versus non-adaptive subtypes were evaluated on treatment effect in terms of PTSD and Complex PTSD symptoms using linear regression analysis with change scores (pre-test minus post-test) as the dependent variable among the completers. Cohen’s d effect sizes (ES) were computed. Medium ES > 0.5 were considered meaningful and are reported.

All computations were carried out with SPSS 15.0.

Results

(1) Does Personality Based Subtype Predict Dropout?
Contrary to our hypothesis, the adaptive subtype showed by far the highest dropout percentage (43%), as opposed to the non-adaptive clusters in which dropout was very low (4%). (Logistic regression: Beta= 2.84, SE Beta= 1.15, p= 0.01, R^2= 0.208 (Cox & Snell); 0.338 (Nagelkerke), Chi square 8.9, df= 1, p= 0.003, 2-tailed). Post hoc no significant differences between the dropout rates in the prototypical subtypes withdrawn (N = 4; 0%) versus aggressive (N = 10; 10%) were observed (Likelihood Ratio 0.70, df= 1, p= 0.40).

(2) Does Personality Based Subtype Predict Treatment Effect?
No significant differences between adaptive versus non-adaptive subtypes in change scores on the Davidson Trauma Scale (DTS; PTSD severity) were found (Linear regression: Beta= 1.53, SE Beta= 5.68, t= 0.27, p= 0.79). The mean change score on the DTS was 24.7 (SD 27.3). Cohen’s Effect Size d (ES) (pretest vs. posttest) was 1.13. The change scores varied from 13.8 (SD 31.1) in the aggressive cluster to 29.4 (SD 23) in the suffering cluster (with a non-significant difference between these two clusters with an ES of 0.6).

Post hoc comparison contrasting the prototypical subtypes withdrawn vs aggressive did not reveal a significant difference on change scores of DTS or SIDES, and ES were < 0.5 (data not shown).
Post Hoc Analyses on Axis II Comorbidity

Is presence of comorbid axis II diagnosis related to dropout? To further investigate the puzzling finding that on the one hand a large percentage (43%) of the adaptive subgroup dropped out of treatment, while on the other hand the adaptive patients who completed treatment obtained favorable treatment results, a comparison was carried out between completers en dropouts within the adaptive cluster. We found that the adaptive dropouts showed a 33% prevalence of comorbid Axis II diagnosis compared with 75% in the adaptive completers (Likelihood Ratio 2.49; df= 1; p= 0.12).

Across subtypes, the absence of axis II diagnosis was associated with 44% dropout vs. 10% dropout when comorbid Axis II diagnoses were present (Chi square: 5.3, df 1, p= 0.02). A similar pattern was found for patients with borderline personality disorder as well as avoidant personality disorder.

Does presence of comorbid axis II diagnosis predict treatment effect? PTSD change scores, measured with the DTS, did not differ significantly between patients with a personality disorder versus those without a diagnosis of a personality disorder: \( t= 0.13, df= 29, p= 0.90 \). In addition, the between group ES was smaller than 0.5.

With respect to change scores on Complex PTSD symptoms, measured with the SIDES, the following was found: The mean change score in patients with Axis II diagnoses was 15.5 (SD 11.1)), compared to a mean change score of 10.5 (SD 5.4) in patients without Axis II diagnoses, in particular on affectregulation (ES 0.7) and interpersonal problems (ES 0.7). This difference was not statistically significant (\( t= -0.98, df= 29, p= 0.33 \)). The between group ES Cohen’s \( d \) in patients with Axis II diagnoses was 0.5 higher compared with patients without Axis II diagnoses.

Discussion

In the present study we aimed to investigate if personality based subtypes within a Complex PTSD population would predict differential treatment compliance and effectiveness. Contrary to our expectations, we found that patients with the most severe personality pathology showed the lowest dropout rates during stabilizing CBT group treatment. In contrast, the adaptive patients were found to dropout frequently. In addition, two most contrasting types of non-adaptive patients – withdrawn and aggressive – were found to be equally compliant, suggesting that this treatment is well tolerated by patients with a variety of personality pathology. With regard to PTSD as well as Complex PTSD symptom reduction, however, we found no significant differences between adaptive and non-adaptive subtypes, or between various subtypes of non-adaptive patients, although the latter result may have been due to low power.
The dropout rate in the relatively adaptive subtype was high (43%) compared to the non-adaptive subtypes (4%). The patients with the adaptive subtype who stayed in treatment achieved good results in terms of both PTSD and Complex PTSD. Post hoc analyses showed that comorbid Axis II diagnoses were related to enhanced treatment compliance. This is in accordance with our previous findings, however, the present results indicate that compliance is associated with the presence of a personality disorder in general, not only borderline personality disorder. Our dropout rate in patients with comorbid personality disorder (10%) was low compared to dropout rates in specific personality disorder treatments, ranging from 25% to 51% (Doering et al., 2010). Moreover, our patients with personality disorder also showed larger effect sizes in terms of Complex PTSD symptoms. To our knowledge, this is the first study reporting enhanced PTSD treatment compliance in a specific (Complex) PTSD population: non-adaptive patients with comorbid PD. Note however, that these results should be considered very preliminary due to the small sample size.

Compliance may have been associated with type of treatment. Factors that may be important include firstly the integrated approach in which not only PTSD symptomatology but also associated pathology was focus of the treatment. Secondly, the group format is presumably an important feature (Kessler et al., 2003; Peleikis, et al., 2005), and is likely to be effective in relieving stigma, desolation, and shame, while improving social relationships and self-esteem by recognition and learning from each other. Thirdly, the primary focus of the treatment was on stabilization by psycho-education and increasing affect regulation skills, only later followed by cognitive restructuring on directly trauma-related and interpersonal issues. A comparable paced treatment schedule, starting with affect management was shown to be effective (Cloitre et al., 2010). These treatments can be considered examples of treatment extensions for patients with comorbid PD’s beyond the standard manual for Axis I disorders (Weertman, et al., 2005). In contrast, for the adaptive subtype without comorbid PD, the content of stabilizing treatment may not match, thereby resulting in high dropout rates, and TFCBT may suit these patients better.

The present results contrast sharply with previous findings on TFCBT, showing that the presence of Axis II disorders – especially BPD – was associated with enhanced dropout rates (McDonagh et al., 2005), although studies investigating borderline features in TFCBT found no differential dropout rates or treatment effects, but this finding probably does not generalize to the more severe BP Disorder patients (Clarke, et al., 2008; Feeny et al., 2002; Karatzias et al., 2007; van Minnen, et al., 2002). Taken together, these findings indicate that TFCBT is most suitable and effective for PTSD patients without comorbid PD, whereas stabilizing CBT treatment is appropriate for non-adaptive child abused patients with comorbid PD. Axis II comorbidity may therefore be considered a ‘prescriptive’ variable that predicts a different pattern
of treatment outcome between various treatment modalities (Resick et al., 2008; Olatunji, 2010). Future research aimed at a direct comparison of initially stabilizing versus immediately TFCBT in Complex PTSD patients with comorbid PD in terms of compliance as well as treatment effectiveness is warranted to corroborate these preliminary findings.

In conclusion, the present findings may aid in providing optimal treatment to patients with child abuse-related (Complex) PTSD. When axis II disorders are absent, dropout risk is high in a stabilizing group CBT treatment, whereas in patients with comorbid axis II diagnosis dropout risk is likely to be low compared to trauma-focused cognitive behavioral treatment. Such considerations would be in line with the rationale of a phased approach in Complex PTSD patients: stabilization if necessary; trauma focused if possible.