

EVALUATION OF NARRATIVE EXPOSURE THERAPY (NET) FOR BORDERLINE PERSONALITY DISORDER WITH COMORBID POSTTRAUMATIC STRESS DISORDER

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Abstract

Objective: frequently patients with borderline personality disorder (BPD) report a history of exposure to traumatic stressors and, as a consequence, symptoms of Posttraumatic Stress disorder (PTSD). BPD and PTSD combined exacerbate suffering beyond a simple additive effect. To assist these complex cases, we have tested the efficacy of *Narrative Exposure Therapy* (NET), an evidence-based treatment for survivors of different, multiple or continued traumatic stressors and compared the outcome with the one from a standard *Treatment by Experts for Borderline Personality Disorder* (TBE)

Method: in both an inpatient and outpatient setting, patients with BPD and comorbid PTSD (N=22) were assigned to NET or a TBE. They received either weekly sessions of NET (on average 17) or TBE (on average 14). Changes in symptoms were evaluated prior to therapy, at 6 months and 1 year post-therapy.

Results: both treatment forms reduced all of the symptoms (PTSD, borderline, depression and dissociation) substantially. The decrease continued throughout the 12 months follow-up period producing large effects. Greatest effect sizes with Hedge's $g = 1.6$; CI 0.6 – 2.5 was obtained for the reduction of PTSD symptoms by NET ($g = 1.1$; CI 0.2 – 2.0 for TBE) and depression ($g = 1.4$ for NET and $g = 0.7$ TBE).

Conclusions: the results of this evaluation study showed a considerable reduction for the whole spectrum of symptoms in patient with BPD and PTSD and indicate that Narrative Exposure Therapy (NET) warrants further testing as an effective tool to assist borderline patients suffering from trauma symptoms in both, a hospital setting as well as on an outpatient basis.

Trial registration: NCT01033708

Key words: borderline personality disorder, posttraumatic stress disorder, complex trauma, disorders of extreme stress, narrative exposure therapy (NET), traumatic stress, dissociation, trauma spectrum

Declaration of interest: the authors of this article hereby declare that no conflict of interests exists in relation to the manuscript presented

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Several recent studies show that in clinical samples a large proportion of BPD patients are suffering from comorbid PTSD (30-50%) (Harned 2013). Despite this overlap, the full set of DSM-IV-PTSD criteria is not always fulfilled in BPD (Zanarini et al. 1998, Jacob

and Lieb 2007, Grant et al. 2008). While a conclusive explanatory model of the connection between BPD and PTSD awaits to be elaborated (Golier et al. 2003), childhood maltreatment and sexual abuse are discussed as one important etiological factor in the development

of both PTSD and BPD (Molnar et al. 2001, Peleikis and Dahl 2005).

Whereas the etiology and symptomatology for PTSD and BPD share similarities and comorbidity of these conditions is associated with increased distress and psychopathology, treatment guidelines for these conditions in isolation are at odds. Guidelines of the International Society for Traumatic Stress Studies (ISTSS, USA) and NICE (© National Institute for Health and Clinical Excellence, UK) recommend trauma-focused treatment for PTSD, as these forms of interventions have been superior to other therapies in the treatment of complex trauma (Foa et al. 2008, Neuner 2008). For BPD, the standard treatment approach includes a stabilization phase before any exposure to memories of traumatic experiences. The skills training in DBT is a type of stabilization, that teaches the patient self-control and ways of coping with the symptoms. However, the clinical challenges encountered in the treatment of individuals with BPD can make it difficult to implement trauma-focused PTSD treatments in this population. Indeed, PTSD treatments are generally viewed as being inappropriate for patients with BPD, especially for patients with severe forms of the disorder, due to concerns that the treatment might exacerbate suicidality, self-injury, and other BPD-related problems (Harned 2013).

A well-known and frequently carried out approach for BPD is Dialectical Behavior Therapy (DBT) (Linehan et al. 1994). It suggests that traumatic stressors could potentially be addressed only in the second part of the intervention (Bohus 2002). In clinical practice however, trauma-confrontation is often postponed in favor of skills training and thus there is limited evidence of its effectiveness (Ball and Links 2009, Paris 2009).

While specific therapies often achieve a reduction of BPD symptoms, at least for behavioral disorders (e.g. a reduction in self-inflicted injuries and suicidal behavior), the symptoms of the additional serious conditions (e.g. PTSD) often persist over a longer period of time (Bohus and Schmahl 2007, Bohus et al. 2011). An approach that is aimed at controlling the symptoms in cases where BPD and PTSD co-occur, is somewhat problematic because the uncontrollable nature of intrusions and the sudden intense tension (often accompanied by fear) is one of the inherent characteristics of PTSD. Consequently, it is therefore questionable whether a skills training or a stabilization phase in relation to these core symptoms can actually result in the desired level of stability being achieved. Individuals who suffer from BPD and co-morbid PTSD therefore frequently never reach the presumed required level of stability to undergo trauma-focused therapy in the second stage of treatment (Jacob and Lieb 2007, Ball and Links 2009).

A trauma-focused approach on the other hand, aims to develop habituation of the emotional reactions to reminders of the traumatic events, creating a change in the experience of fear as a result of changes to its associative memory networks. In narrative approaches, a reconstruction of an autobiographical memory is created. Through these processes the fear and tension is alleviated and reparative attachment opportunities for the old emotional network are provided, a crucial element in the therapy of Borderline Disorder (i.e. repairing attachment wounds within the therapy relationship when re-experiencing the past) (Schauer et al. 2011). A detailed and critical examination of the use of stabilization versus exposure in the treatment of patients with PTSD has been presented by Neuner (2008), suggesting that a stabilization phase before

trauma exposure is neither necessary nor helpful for the patient (Neuner 2008, Beutel and Subic-Wrana 2012).

Another obstacle for offering trauma focused therapy is the fact that BPD had frequently been an exclusion criterion in studies examining treatments for DSM-Axis I disorders because of the presumption that patients with BPD will not benefit from such treatments, will have a poorer outcome or would be unlikely to complete treatment (Clarke and Resick 2008). In their investigation of female rape victims, comparing cognitive behavioral therapy (CBT), prolonged exposure (PE) and a waitlist control, Clarke et al. (2008) demonstrated – in contrast to other investigations (McDonagh et al. 2005) – that patients with borderline personality characteristics (BPC) can benefit from treatment for PTSD even though some of them started with more severe symptoms. They found no evidence for a relation between BPC and treatment dropout. In the meantime, a number of different disorder-specific therapeutic approaches have been developed for both BPD and PTSD (Bohus 2002, Jacob and Lieb 2007, Maercker 2009). As far as we know, there are few therapeutic approaches that aim to treat both disorders simultaneously, despite the overlapping etiology and symptomatology (Dyer et al. 2009, Cloitre et al. 2010, Harned et al. 2012, Bohus et al. 2013).

With *Narrative Exposure Therapy* (NET), Schauer, Neuner and Elbert have developed a trauma-focused therapy that acknowledges the effects of cumulative exposure to traumatic stress and thus allows the treatment of complex or chronic PTSD (Schauer et al. 2011). NET targets posttraumatic symptoms by changing the associative memory-related fear structures through the integration of intrusive and implicit memories with contextual cues. In the course of exposure and habituation, each event is organized in chronological order, contextualized in time and place, in the personal autobiography. This promotes the development of a consistent and well-organized and non-pathological trauma memory, including relevant sensations, thoughts, feelings and behavioral aspects and meaning making (Schauer et al. 2011). In NET, the patient, with the assistance of the therapist, constructs a chronological narrative of her life story with a focus on the traumatic experiences. Empathic understanding, active listening, congruency and unconditional positive regard are key components of the therapist's behavior. For traumatic stress experiences the therapist facilitates imaginary exposure by working in detail through emotions, cognitions, sensory information, physiological responses and probing for respective observations. The patient is encouraged to relive these emotions while narrating, and at the same time is well grounded in the "here and now". The therapist uses constant reminders that the feelings and physiological responses result from memories, linking the experiences to episodic facts, i.e., time and place (Schauer et al. 2011). The safe support and the continued interest of the therapist are naturally facilitated by a growing understanding of the survivor's biography as it unfolds when working through the whole life. This ensures the opportunity for reparative attachment for the client. There is ample evidence and countless publications pointing to the fact that repairing attachment wounds within the therapeutic relationship is crucial for survivors of complex trauma. For a more detailed explanation of the basic theoretical assumptions relating to this process, we refer to (Schauer et al. 2005, 2011). NET is now a comparatively well-tested therapy approach for different types of traumatized groups such as victims of organized and/or domestic violence and emotional neglect (Schaal et al. 2009,

Hensel-Dittmann et al. 2011, Stenmark et al. 2013) and accordingly NET has frequently been recommended to treat complex trauma (Robjant and Fazel 2010). Since there is sufficient evidence that NET is not only able to substantially reduce the symptoms of PTSD but also allows for an integration of individual experiences, has non-dissociative effects (Schauer and Elbert 2010) and can promote the formation and stabilization of a patient's own identity, we hypothesized that NET would also be helpful in treating patients who present with both BPD and PTSD. Given the current debate, our main goal was to demonstrate how the NET treatment can be used for this population and to test its efficacy in a clinical trial. Some of the data presented here have been included in an earlier short report that was presented to show the feasibility of trauma-focused treatment in PTSD in BPD patients (Pabst et al. 2012a, 2012b).

Methods

The study was implemented at the Center for Integrative Psychiatry ("Zentrum für Integrative Psychiatrie" - ZIP) in Kiel. The Center for Integrative Psychiatry is a subsidiary company of the University Medical Center Schleswig-Holstein ("Universitätsklinikum Schleswig-Holstein" – UKSH) – one of the largest European centers for medical care and the only maximum care provider in Schleswig-Holstein, that covers the entire spectrum of modern medical care and health. The study took place in two sections of the ZIP: the outpatient center of the clinic for psychiatry and psychotherapy and the clinic of psychosomatics and psychotherapy. The outpatient center offers diagnostics and treatments according to the guidelines and the current standards for psychiatry. The disorder-specific and high-quality treatments are realized by a multiprofessional team of psychiatrists, psychotherapists, nurses, ergotherapists, physiotherapists and social workers. The clinic for psychosomatics and psychotherapy is specialized in the treatment of patients with personality disorders and comorbid mental disorders (e.g. PTSD, Depression). The offered treatments conform to international scientific standards of current research and represent current state-of-the-art in this field. The participants were recruited from the pool of patients seeking treatment during a predefined timeframe.

Instruments / ratings

Participants were diagnosed by a standardized and structured clinical interview based on the Mini International Neuropsychiatric Interview (MINI) (Sheehan et al. 1998) and the Structured Clinical Interview approaches (SCID II) (Fydrich et al. 1997). Following the initial diagnosis and prior to starting therapy, the Posttraumatic Stress Diagnostic Scale was applied as an interview (PSSI/PDS) (Foa 1995, Ehlers et al. 1996). This instrument is a 17-item questionnaire considering the core criteria for the diagnosis of PTSD in accordance to DSM-IV as well as symptom severity. The characteristics and severity of the BPD symptoms were evaluated by self-assessment using a short version of the Borderline Symptom Checklist (BSL-23) (Bohus et al. 2009). As secondary outcome measures, symptoms of depression were rated by an external assessment using the Hamilton Depression Rating Scale (HAMD) (Hamilton 1960, Hamilton 1967), as well as the Hopkins Symptom Checklist 25 (HSCL-

25) as self-report (Parloff et al. 1954, Hesbacher et al. 1980, Winokur et al. 1984). Dissociative symptoms were recorded by means of the German short version (Fragebogen für dissoziative Symptome – FDS) of the Dissociative Experience Scale (DES) (Bernstein and Putnam 1986, Freyberger et al. 1998). The data from the PDS, HAMD, HSCL-25, BSL-23 and DES were collected again at a six-month and 12-month follow-up after the end of the treatment. While an independent researcher recorded HAMD and PDS data via interview, the BSL-23, HSCL-25 and FDS data was collected using a self-rating procedure. At the follow-up survey, participants were asked about important events that had occurred since the end of therapy.

Treatments

Narrative Exposure Therapy (NET)

After a structured clinical interview and provision of detailed psychoeducation, the therapy starts by asking the patients to place the most important events in their lives into rough chronological order using a "lifeline", a symbolic representation of a patient's life along a piece of string. 'Flowers', along the lifeline symbolically mark the events that were especially positive and thus offer resources, while 'stones' symbolize adverse or traumatic events. During the following therapy sessions the patient is guided through a chronological narration of his/her life starting from birth and working through to the present day. While the therapist's task is to write down key elements of the patient's autobiography, the focus is on documenting the emotional details that closely envelop each experience. During in sensu exposure of the traumatic events, the patient is prompted to provide a slow, strictly chronological, detailed and logical account, while the therapist adopts a caring and structuring role, thereby encouraging the patient to reprocess the traumatic and often "muted" (i.e., difficult to narrate) memories. In a secure and comfortable therapeutic environment, the patient, by activating the sensory-perceptual memories, can intensively relive the events of the past and describe his/her experiences in a contextual and chronological manner. In this way, it is possible to link the various components (thoughts, emotions, body reactions, contextual information) and integrate them into the patient's biography see (Schauer et al. 2005, 2011).

Treatment by Experts for Borderline Personality Disorder (TBE)

The TBE consists of either psychiatric outpatient care, which was carried out by an experienced female psychiatrist and medical psychotherapist, or of inpatient care in the psychosomatic and psychiatric clinic. The same therapists as the patients of the NET-group treated all patients, except one. The outpatient treatment included DBT-elements and other cognitive behavioral therapeutic (CBT) elements, representative of the current standard treatment provided for this particular target group, such as psychoeducation, supportive counselling, strengthening the participants' individual resources, providing assistance in solving daily problems, improvement of coping skills and crises intervention. The inpatient intervention comprised the typical routine treatment program patients undergo when admitted to the clinic for psychosomatics and psychotherapy of the ZIP. This treatment is closely

based on DBT and focused on the BPD symptoms. The therapy protocol includes weekly sessions of mainly individual psychological therapy and group therapy. In addition patients are offered occupational therapy, physiotherapy, sports, relaxation exercises, supportive caregiving in crises, behavioral analysis, skills groups and support by social workers if needed. This was made possible through the block-assignment of the patients in the two groups. For patients of this group we ascertained that no trauma-focused interventions had been started so far. While trauma-focused treatment may be included in DBT, it is not mandatory and in fact is frequently not offered. We suspect that this may be because few therapists have been trained to cope with the potential for a dissociative shut-down of a patient during exposure (Schauer and Elbert 2010).

Procedure

To evaluate our hypothesis we used a 2 x 3 experimental design. Prior to the start of the treatment, patients received a detailed explanation about the purpose of the investigation, the proposed procedure and they were given a written consent form to sign. After accepting the given conditions and based on the individual results of the tests, all participants received a comprehensive psycho-education. After this, the assigned therapy started. NET was carried out in accordance with the manualized guidelines (Schauer et al. 2011) by otherwise experienced clinicians who had been trained in addition for two days in Narrative Exposure Therapy by a team of NET professionals. Treatment adherence in accordance with the manual was assured through weekly team-meetings, peer supervision and bi-annual supervision. Even though TBE is offered routinely at the UKSH hospital, the therapists of this group received the same amount of peer-support and supervision and attention to the protocol than the NET therapists to assure quality and motivation. For the NET group, the narration produced during the therapy provided additional evidence for treatment adherence as well as random videotaping of the sessions. Each individual session of the NET-group generally lasted for 90 minutes and took place once or twice a week, depending on prior agreement. The participants of the TBE treatment group received nearly the same number and frequency of sessions (90 minutes), which was carried out by experienced therapists, extensively trained and supervised in the DBT modules. The study was approved by the local ethics committee and conforms to the Helsinki declaration.

Statistics / data analysis

The results were calculated with the aid of the statistics program "IBM SPSS Statistics Version 20 for Mac". Data from the drop-out-participants were considered by using a last-observation-carried-forward-procedure. The method gives a conservative estimate but has the advantage to minimize the number of the subjects who are excluded from the analysis and it allows readers more easily to see the limitations of the model and the analyses. The efficacy of the interventions (NET and TBE) was valued by calculating changes of symptoms from baseline measures over time in the psychometric scales (PDS/PSSI, HAMD, HSCL-25, BSL 23, FDS). For group characteristics and outcome variables we calculated means (M) and standard deviation (SD). To define relevant group differences,

we used the Analyses of Variances (ANOVA). The between-subject factor was "group" and the within-subject factor was "time". If sphericity was violated, we used the Greenhouse-Geisser correction. The level of significance was set to $p < .05$. In addition, we analyzed the data by using a mixed models procedure with patient (nested in treatment) as random effect and treatment and time (i.e. pre-test, 6 months and 1 year follow-up interview) as fixed factors.

Within-treatment effect sizes (Hedges'g) were calculated as the difference between the baseline and each of the follow-up points (6-months follow-up, 1-year follow-up) divided by the corrected pooled standard deviation.

Participants

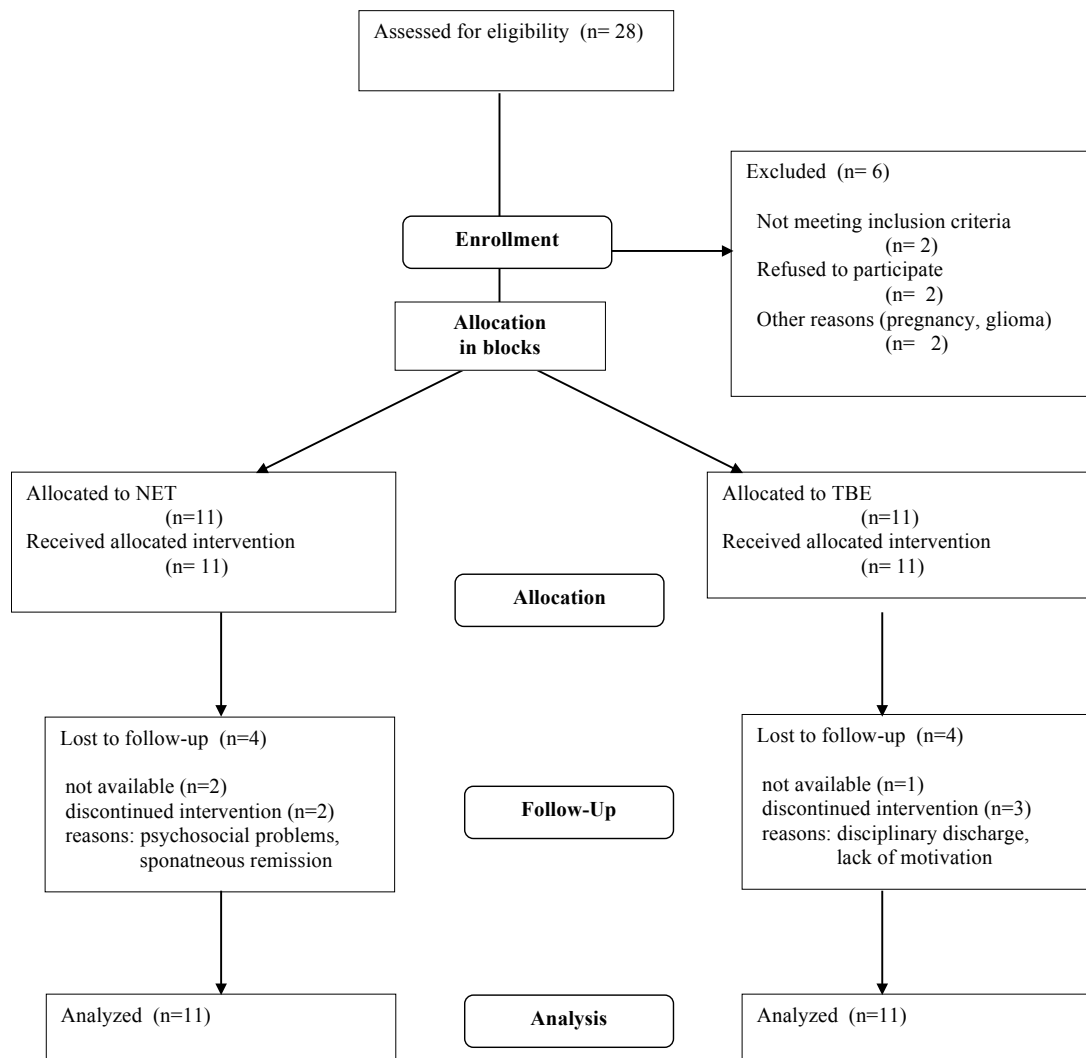
Participants were referred by practitioners, psychiatrists or sought help directly at the clinic. Inclusion criteria were: age ≥ 18 years, diagnoses of BPD and PTSD, informed consent and compliance with a covenant concerning the treatment including a non-suicide contract. Self-injurious patients were not excluded. Exclusion criteria were: severe mental disorders (i.e., those with comorbidities such as drug abuse, psychoses), acute consumption of psychoactive substances (other than prescribed for medical purposes), simultaneous participation in other studies, pregnancy or breastfeeding, acute suicidal behavior, (serious) suicide attempts during the last 8 weeks, patients in an outpatient setting who were being currently continuously sexually or severely physically violated (ongoing perpetrator violence) and a BMI lower than 18 (due to the uncontrollability of dissociation and 'shut down'/faintness tendencies in these cases).

Altogether 22 female participants were allocated to the two different groups (NET or TBE) in an approximately matched style. Within a period of 2 ½ years (January 2009 – June 2011) they received either NET treatment (N=11, age M=30.36, SD=8.64, range 20-45 years) or TBE (N=11, age M=29.45, SD=11.57, range 19-54 years). The participants of both groups had experienced an average of 5 (NET: range 1-7, TBE: range 1-8) different types of traumatic events (from the PDS event list), whereby physical and sexual abuse occurred repeatedly and/or over a longer period. The most common traumatic event types reported by the women in the both groups were assault by a family member or an acquaintance (NET: 9 participants, TBE: 9 participants) and sexual abuse or assault by a family member or an acquaintance (NET: 9 participants, TBE: 8 participants). In each of these groups at least six women underwent therapy in an inpatient setting, four women in an outpatient setting and one woman started the treatment in the hospital but continued and finished therapy as an outpatient. In the NET group, 2 participants (one inpatient, one outpatient) discontinued the therapy after 3 or 5 sessions, whereas 3 patients (all of them inpatient) terminated the Treatment by Experts for Borderline Personality Disorder (TBE) early after 4, 7 or 8 sessions. The reason for discontinuing treatment was experience of psychosocial problems (problems within their partnerships) and substantial remission (meaning that there was no need to run through the whole protocol) within the NET-group, and due to disciplinary discharge (because of ongoing drug consumption) or lack of motivation within the TBE group. Of those who finished therapy, the participants of the NET-group received an average 17.2 ± 7.4 sessions (range 10-30), while the participants of the TBE group

received an average 14.4 ± 3.6 sessions (range 8-19). (See **figure 1** for a flow chart of study participants). In this study it was not intended to intervene with medical treatment but due to the severity of the disorder medication was inevitably prescribed in some cases. If necessary, the patients received antidepressants and/or

Table 2 presents the means and standard deviations of the outcome variables before therapy, 6 month after therapy and 12 month after therapy, recorded by the listed questionnaires. Effect-sizes presented in **figure 2** are large and indicate a substantial improvement for both groups.

Figure 1. Flow chart of study participants



neuroleptics, but the medication was adjusted prior to therapy and remained unchanged during the treatment (see **table 1** sample description and medication). An administration of benzodiazepines was avoided as much as possible and given in only a few cases briefly. All participants had already experienced some form of psychological therapy and pharmacotherapy, whereas none had received trauma-focused treatment before.

Results

Scores

For the PDS we found a significant main-effect of time ($F(2,14.3)=12.5$; $p<.001$) while neither the interaction-effect of time x group nor the main-effect of group was significant. Similarly we found a significant main-effect of time for the HAM-D ($p<.01$), the HSCL-25 ($p<.01$), the BSL ($p<.01$), and for the FDS ($p<0.05$).

Observations

After the various testing sessions with the instruments, the therapist scheduled individual feedback sessions with the patients to not only obtain results from the structured psychological interviews, but also to receive personal feedback from the patients and to explore other information (e.g. new events that had happened). None of the patients reported to having received additional psychotherapy during the follow-up period. **Table 3** shows the changes attributable to NET, derived from data collected by observing behavior during therapy, received from the therapist and nursing staff or taken from the follow-up examinations.

Discussion

Borderline patients present complex combinations

Table 1. Sample description and medication

	therapy sessions	school years	age	in-/out-patient	dropout	medication during therapy	medication 6 months after therapy	medication 1 year after therapy
NET01	12	8	37	in	0	SNRI + TeCA	SNRI + TeCA	SNRI + TeCA
NET02	3	8	23	out	1			
NET03	18	10	20	in	0	TeCA	0	0
NET04	10	8	28	out	0	SSRI	SSRI	SSRI
NET05	11	8	20	in	0	SNRI + AAP + hpTAP + lpTAP	SNRI + AAP + lpTAP	AAP
NET06	18	10	37	out	0	MAOI	MAOI	MAOI
NET07	30	10 + tc	31	in / out	0	SSRI	SSRI	SSRI
NET08	28	10	29	in	0	SSRI + lpTAP	SNRI + lpTAP	SSRI
NET09	11	8	45	in	0	SSRI + TeCA + BZD + lpTAP + AAP	TeCA + SNRI	TeCA + SNRI
NET10	17	8	41	out	0	SSRI	SSRI	SSRI
NET11	5	10	23	in	1			
	M = 17.22 ± 7.40 range 10-30		M=30.36 SD=8.64 range 20-45					
CG01	7	10	20	in	1			
CG02	15	12 + hs	27	in	0	SNRI	SNRI	0
CG03	11	12	54	out	0	0	0	0
CG04	8	8	19	in	1			
CG05	18	8	23	in	0	AAP + lpTAP + SSRI	AAP + SSRI	AAP + lpTAP + BZD
CG06	15	8	20	in	0	0	0	n.a.
CG07	13	8	27	out	0	SNRI	SNRI	0
CG08	19	12	27	in / out	0	SNRI + TCA	AED	AED + SSRI + lpTAP
CG09	4	10	46	in	1			
CG10	16	12	38	out	0	SSRI	SSRI + lpTAP	SNRI + lpTAP
CG11	8	10	23	out	0	0	TCA	0
	M = 14.38 ± 3.62 range 8-19		M=29.45 SD=11.57 range 19-54					

(Abbreviations: CG Control Group (means TBE), SNRI Serotonin–norepinephrine reuptake inhibitor, SSRI Selective serotonin reuptake inhibitor, TeCA Tetracyclic antidepressant, TCA Tricyclic antidepressant, lpTAP low potency typical antipsychotic, hpTAP high potency typical antipsychotic, AAP atypical antipsychotics, BZD Benzodiazepine, AED antiepileptic drug, MAOI Monoamine oxidase inhibitor, n.a. not applicable; tc technical college, hs high school)

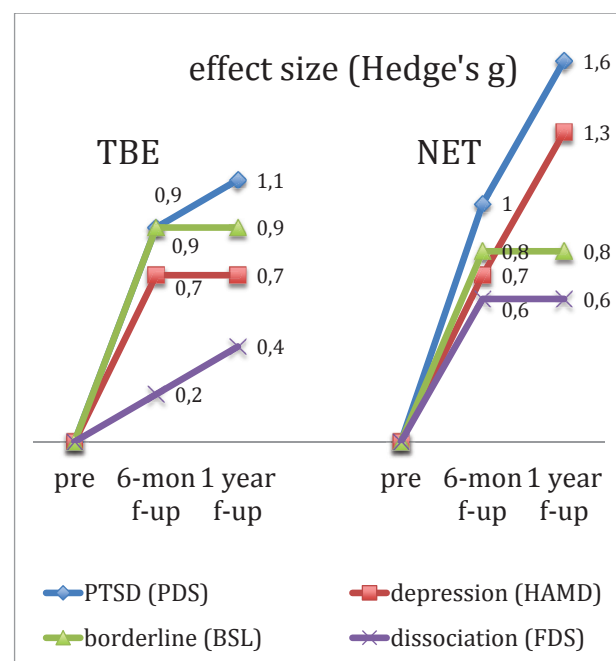
of disabling symptoms that have shown limited responsiveness to long-term therapy (Bohus and Schmahl 2007, Bohus et al. 2011). The present study demonstrates that a team of hospital clinicians (in- and outpatient clinic psychologists and psychiatrists) who received a 2-day basic training in Narrative Exposure Therapy (NET), can achieve a marked improvement in borderline patients with comorbid PTSD using NET (with 17.2 ± 7.4 sessions). Thus, the findings provide evidence that NET can be used with borderline patients in a standard clinical setting. NET allows the patient to consciously recollect the abusive and stressful experiences of the past and can therefore be used for patients suffering from both BPD with PTSD and

patients who's adverse parental bonding experiences and shattered attachment constructs need mending back in time (Schauer et al. 2011). Accordingly, it was possible to significantly reduce PTSD and dissociative symptoms, as well as symptoms associated with depression and borderline personality pathology.

The present study also indicates that the treatment by experts for Borderline Personality Disorder (TBE) at a German university clinic which meets the best prevailing standards for patients with borderline personality disorder and is carried out by experienced mental health professionals, also considerably reduces symptoms related to PTSD, Depression, Dissociation and BPD, but requires the psychologists to have had

Table 2. Symptom levels at baseline (prior to therapy) and during follow-up: means and standard deviations

	pre therapy M (SD)	6 month after therapy M (SD)	1 year after therapy M (SD)
PTSD-Symptoms			
PDS			
NET	36.7 (5.9)	29.0 (9.2)	23.0 (10.8)
TBE	36.9 (5.9)	27.8 (13.8)	25.4 (12.9)
Depression			
HAMD			
NET	29.8 (6.5)	24.5 (8.7)	18.6 (9.8)
TBE	23.2 (6.7)	18.0 (8.9)	17.5 (9.9)
HSCL			
NET	2.9 (0.5)	2.6 (0.6)	2.4 (0.7)
TBE	2.9 (0.4)	2.4 (0.7)	2.3 (0.7)
Borderline Symptoms			
BSL-23			
NET	59.4 (11.5)	49.2 (15.1)	43.8 (25.5)
TBE	60.2 (15.9)	41.2 (25.6)	39.4 (26.6)
Dissociation			
FDS			
NET	22.5 (11.7)	15.6 (10.6)	16.1 (10.3)
TBE	27.2 (10.9)	24.3 (13.5)	23.0 (13.4)

Figure 2. Effect sizes for 6-months and one year follow-up assessments in relation to pre-treatment for the different symptom clusters. Results for the Treatment by Experts (TBE) group are presented on the left and results for the NET group are presented on the right side

many training sessions in DBT and other techniques (Linehan et al. 1991). The fact that there was also a decrease of trauma-related symptoms in the TBE condition was expected from the literature (Bohus et al. 2004). In the TBE group the patients were taught how to cope with symptoms of BPD and PTSD, thus the results could possibly reflect new competences in symptom control and self-regulation rather than etiologically oriented treatment of these symptoms. Following our

core assumptions about the co-occurrence of BPD and PTSD as well as different approaches described above, future studies might test if TBE treatments helps to reduce or mask the symptoms of PTSD temporarily, while NET targets the underlying associative fear structure and leads to a reorganization and therefore a permanent reduction of PTSD-related complaints. The same seems to be true for dissociative symptoms. The reduction of the BPD-related symptoms under the

Table 3. *Changes during the course of the NET*

Observations and reported changes
<ul style="list-style-type: none"> ➤ More complete recollection, reflection and integration of traumatic events into a patient's biography ➤ Possible to speak about the "unspeakable" and this resulted in a sense of relief ➤ Overcoming of apparent amnesia relating to traumatic events; remission of dissociation ➤ Reduction of the urge to inflict pain/injury on oneself with the start of remission of PTSD symptoms ➤ Realization: "Life does not just consist of trauma, fear, anger, shame and guilt" ➤ (Re)-discovery of one's own capabilities and likeable personality traits ➤ Increase in the ability to experience mood swings and a variety of feelings ➤ Restructuring of dysfunctional thoughts (e.g. "It's my own fault") ➤ Reduction of avoidance behavior (e.g. go to a café; meet friends) ➤ Return to a normal span of attention / ability to concentrate ➤ Increased ability to differentiate appropriately ➤ Increase in self-esteem (e.g. well-groomed) ➤ Temporary increase in problem behavior and suicidal thoughts – no suicide attempt ➤ Reduction of accompanying symptoms (e.g. eating disorders)

NET-condition is in line with preliminary findings (see above), that Narrative Exposure Therapy (NET) changes the associative fear network, with a reduction of PTSD-symptoms (e.g. intrusions, avoidance, uncontrollable fear and tension, numbing or emptiness, irritability), and also that in addition, NET reduces dissociation, therefore fostering stabilization of self and identity. The results indicate that this may lead to a reduction of the (overlapping) BPD-Symptoms and to a decrease of emotional instability. It also seems plausible that both treatments may be improving a common mechanism underlying both PTSD and BPD such as emotion dysregulation/negative affectivity.

The results are noteworthy with regard to the course of BPD. Current evidence suggests a sizeable rate of

Limitations

The design was an open trial with a limited sample size. The limited sample size poses a problem for the detection of potential and differential effects on the change in symptoms, especially as there is a considerable variance in the symptom profiles of these patients. The sample size is also too small to allow general statements about the safety of the treatments. The organization of the trial within the clinic meant that it was not possible for assessors to be blind with respect to the group assignment. This may have biased their ratings in either direction. However, the parallel change in the self-report of the patients suggests that this effect was controlled. The treatment adherence was ascertained by weekly

Table 4. *Conclusions for practical use*

Consequences for treatment
<ul style="list-style-type: none"> • NET can be used as a trauma-focused short-term intervention to treat (female) patients suffering from borderline personality disorders. • Memory and self-healing processes are stimulated. • NET is possible for both in-hospital and outpatients. • NET is a valuable tool for the treatment of BPD.

remission and PTSD is a risk factor for chronicity (Bohus and Schmahl 2007). The absence of PTSD is a positive predictor of time to remission (Zanarini et al. 2006). Accordingly a substantial reduction of PTSD-symptoms might favor a more positive course in the development of this disorder.

The results further indicate a progressive decline of symptoms over a period of one year for both treatment groups. Previous investigations with survivors of multiple and continuous trauma demonstrated that Narrative Exposure Therapy more successfully reduced PTSD-related symptoms than any of the more unspecific therapeutic interventions (such as supportive counselling, psychoeducation alone, or stabilisation-based treatments that are typically offered for this target group in different health care systems) (Neuner et al. 2004, Jongedijk et al. 2011). Dialectical Behavior Therapy, the most empirically supported treatment available for BPD, recommends the use of exposure to treat PTSD, but does not include a protocol specifying when or how to do this (Harned et al. 2012). Inclusion of NET within a DBT treatment may thus be an option for future studies.

team-meetings, peer supervision, and (in the case of NET) examination of narrations as well as randomly monitoring individual sessions on tape to control the statements of the therapists.

Conclusions

Results suggest that Narrative Exposure Therapy is a highly accepted treatment for patients with BPD and PTSD (see **table 4**). The intervention shows promising results for this complex and high-risk patient population. Even with less training and treatment sessions than standard treatment, NET seems as effective as the currently offered best practice standard treatment for Borderline Personality Disorder in Germany in reducing PTSD-Symptoms and symptoms of depression, dissociation and typical symptoms associated with BPD (e.g. pervasive affective dysregulation). Future trials need to determine the point at which the NET module is most effective within the overall treatment regime of severe and complex trauma survivors.

List of abbreviations

BPC	Borderline Personality Characteristics
BPD	Borderline Personality Disorder
TBE	Treatment by Experts for Borderline Personality Disorder
BSL-23	Borderline Symptom List 23
CBT	Cognitive Behavioral Therapy
DBT	Dialectical Behavior Therapy
DES	Dissociative Experience Scale
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders (4 th Edition)
EMDR	Eye Movement Desensitization and Reprocessing
FDS	Fragebogen zu dissoziativen Symptomen
HAMD	Hamilton Depression Scale
HSCL-25	Hopkins Symptom Checklist
M.I.N.I.	Mini International Neuropsychiatric Interview
NET	Narrative Exposure Therapy
PDS	Posttraumatic Stress Diagnostic Scale
PSSI	PTSD Symptom Scale – Interview
PTSD	Posttraumatic Stress Disorder
SCID-II	Structured Clinical Interview for DSM-IV
UKSH	Universitätsklinikum Schleswig-Holstein
ZIP	Zentrum für Integrative Psychiatrie

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Author's contributions

A. Pabst: scientific administration, therapist, study design, data analysis, manuscript preparation.

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