
Comorbidity of Deployment-Related Posttraumatic Disorders and Their Treatment with Cognitive-Behavioral Group

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14. ABSTRACT In this pilot-study from the Center of Mental Health Research and Treatment in Berlin a systematic analysis of comorbid mission-related psychiatric diseases in 31 German soldiers was done using clinical impression and the SCID-II questionnaire (Structural Clinical Interview for DSM-IV1) for personality disorders. 89% showed clinical evidence of one or more comorbid psychiatric disorders, 74% had pathological findings in the SCID-II. Based on these experiences a cognitive behavioural group therapy, newly developed in Berlin, for traumatised soldiers will be presented in this article. Initial experiences with the group therapy program will be discussed.			
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In this pilot-study from the Center of Mental Health Research and Treatment in Berlin a systematic analysis of comorbid mission-related psychiatric diseases in 31 German soldiers was done using clinical impression and the SCID-II questionnaire (Structural Clinical Interview for DSM-IV¹) for personality disorders.

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Based on these experiences a cognitive behavioural group therapy, newly developed in Berlin, for traumatised soldiers will be presented in this article. Initial experiences with the group therapy program will be discussed.

1. INTRODUCTION

The amount of stress placed on German soldiers in a growing number of operations has increased the need for treatment of deployment-related psychological conditions in Bundeswehr hospitals. In-patient and out-patient treatment for psychiatric disorders has increased considerably between the years 2000 and 2006 [1]. In 2008, 245 soldiers received in-patient and out-patient treatment for post-traumatic stress disorders (PTSD) in Bundeswehr hospitals. In 2009, the number of affected soldiers rose to 466 (source: Centre for Psychiatry and Psychotraumatology of the Bundeswehr). Deployment-related stress disorders account for a growing percentage of therapeutic resources required in this context.

American and Canadian studies document a high prevalence of psychiatric disorders following deployments abroad (11%–17%) [2, 3, 4, 5]. Depression and anxiety are the most common among these with depression accounting for 30%, anxiety disorders for 13% and PTSD for 45% of disorders [4, 5, 6]. Prevalence of personality disorders is high among veterans of U.S. combat operations. International studies estimate it at 45% to 79% [2, 3]. According to an interview based on the SCID-II questionnaire (Structural Clinical Interview for DSM-IV), 29% of these soldiers are diagnosed with *one* personality disorder, 21% with *two*, 15% with *three* and 12% with *four or more* personality disorders [2].

What is more, tests conducted by the U.S. Army show that the risk of suicidal tendencies increases in combination with PTSD and rises even further if two or more comorbid disorders are present [7].

In view of the high prevalence of deployment-related psychological conditions including comorbid disorders, it is thus important to develop and evaluate methods of treatment that are effective, time-saving and cost-efficient.

At the Berlin Bundeswehr hospital, soldiers suffering from deployment-related trauma have been receiving cognitive-behavioural group therapy in a one-on-one setting in addition to trauma therapy since mid-2009. This group therapy has been developed based on the needs of soldiers traumatised on operations and is being applied for the first time.

31 patients have been treated so far in this group. All patients were suffering from deployment-related psychotrauma. Also, comorbid psychological issues became evident repeatedly during clinical examination. This observation is of particular significance since the prognosis of secondary disorders following trauma depends to a considerable extent on comorbid psychological conditions [8].

Based on these data, a systematic evaluation of comorbid disorders of deployment-related psychological conditions has been conducted in an in-patient therapeutic setting. In addition, the concept underlying cognitive behavioural group therapy as applied at the Berlin Bundeswehr hospital, as well as initial lessons learned using the new group concept will be discussed.

¹ Diagnostic and Statistical Manual of Mental Disorders

2. METHOD

2.1 Description of patient populations

Between December 2009 and March 2010, a total of 31 in-patients of the Berlin Bundeswehr hospital participated in cognitive behavioural group therapy of deployment-related disorders. 4 groups, each of which met for 3 weeks, were treated in this period of time. The average group size was 7 to 8 patients. 27 of the participating soldiers were male and 4 were female. The average age of the soldiers was 38 years. The mean period of hospitalisation was 5 weeks.

In preliminary diagnostic consultations, the type of trauma was discussed (Table 1). The clinical and specialist diagnosis was based on ICD-10² and DSM-IV. 13 soldiers reported having participated in more than one operation, some of them suffering from multiple trauma.

2.2 Diagnostic instruments

On the day before the start of group therapy, the soldiers were examined using the Post-Traumatic Diagnostic Scale (PDS) to identify trauma. A German version of the PDS questionnaire was used. It records basal PTSD symptoms such as intrusive symptoms, symptoms of avoidance and hyperarousal as well as their overall severity. One item inquires about the duration of symptoms (Criterion E), thus making a classification into acute (up to 3 months) and chronic PTSD (more than 3 months) possible. Another item inquires for delayed-onset PTSD, i.e. identifies trauma symptoms that occur six months or later following the trauma. In part IV, questions are asked about adverse effects in 9 different areas of life, which corresponds to Criterion F.

In addition to the PDS, all patients were asked to complete the SCID-II questionnaire (Axis IV, personality disorders). This is an instrument that records personality disorders based on the DSM-IV classification. It is not intended as a stand-alone diagnosis tool, but must be combined with the clinical diagnosis of the attending primary therapist.

3. RESULTS

3.1 Descriptive results of diagnostic instruments

Table 2 documents the disorders clinically identified by therapists in order of frequency. Of 31 traumatised soldiers, 28 were diagnosed with PTSD as the principal diagnosis; 3 suffered from an anxiety disorder. While 18 soldiers (64%) were clinically diagnosed with one comorbid disorder, 7 were found to have two comorbid disorders.

The most common disorders diagnosed in addition to PTSD were personality disorders (32.2%) and depressive conditions (22.5%).

In accordance with PDS criteria, 29 patients were suffering from PTSD. (One soldier was diagnosed with PTSD by the PDS, but not by the therapist.)

In 23 (79.3%) of cases, PTSD occurred within 6 months from the critical incident in question (onset not delayed). Of 29 soldiers fulfilling the PDS criteria, 22 (75.8%) reported that their symptoms had been present for more than 3 months (chronic PTSD).

In addition to clinically diagnosed personality disorders, abnormal findings in accordance with the SCID-II were detected in 23 (74%) of the 31 subjects of the study. The most frequent among these (51.5%) was the obsessive-compulsive personality disorder. All disorders and their occurrence are listed in Table 3.

² International Statistical Classification of Diseases and Related Health Problems

3.2 Description and aims of cognitive behavioural group therapy

During the observation period, 31 Bundeswehr soldiers participated in trauma-related cognitive behavioural group therapy at the Berlin Bundeswehr hospital. Group therapy was integrated into a multi-modal in-patient treatment setting.

I. Aims of trauma-related group therapy for military personnel

1. Anxiety management, stabilisation and mobilisation of psychological resources,
2. recognising and working with specific deployment-related and personal coping mechanisms,
3. changing maladaptive cognitions that cause dysfunctional behaviour and coping with painful feelings,
4. improving social skills following deployment-related trauma (including anger management).

II. The trauma group

Deployment-related cognitive behavioural group therapy consists of 3 major parts (s. Table 4). It is led by a trained trauma and group therapist and a co-therapist, both of whom are qualified in accordance with guidelines published by the relevant specialist associations. Over the course of 3 weeks, group sessions are held daily. After each session, participants are given homework and/or information material that can be used for self-study.

Part 1 includes psychoeducation on the subjects of trauma and PTSD. Soldiers are presented with a model of dysfunction that identifies the characteristics of deployment-related trauma. From the start of therapy, the stress that soldiers are faced with on operations is acknowledged and mutual understanding is emphasised in order to promote group coherence.

Even in this first phase, the aim is to “de-catastrophise”, i.e. to disarm fears such as “I’ve gone crazy and I’m losing control”. Patients must be informed that while PTSD is caused by trauma, dysfunctional cognitions and emotional coping mechanisms can have a negative influence on the post-traumatic process and lead to chronification. Mechanisms like this are changed as part of the group process. Mindfulness and grounding exercises as well as conversations are conducted within the group to promote self-care during *Part 1*. Especially after multiple traumatic operations abroad, patients need to change their thinking patterns and concentrate on their psychological resources and how to use them. Self-care plays an important role here. A change in values brought about by deployment as well as the rediscovery and utilisation of these values in the healing process are discussed.

Part 2 focuses on maladaptive personality-, trauma- and job-related cognitions as well as their analysis and processing. Using personal experience, internal dialogue and self-verbalisation techniques or Socratic dialogue, soldiers learn to identify and work on cognitive blocks. Typical military, often stereotypical cognitions are challenged, such as “if only I’m hard enough on myself I will come to terms with my trauma” or the fear of losing the positive reinforcement of the group (“we don’t need sissies in the Army”). In this phase, it is essential for participants to critically assess their own emotions and PTSD symptoms as well as the development of generalised, negative convictions (“the world is dangerous, no matter where I go”). Soldiers learn that the threat currently perceived by them is caused by dysfunctional cognitions, which usually lead to agoraphobic avoidance behaviour (“the situation at the train station is unclear and beyond my control”). If necessary, a reduction of anxiety behaviour is further facilitated in vivo with the support of a therapist. For homework, participants analyse their own or predefined examples using Ellis’ ABC model (A: Acting events, B: Belief, C: Consequences) [9].

In *Part 3* of group therapy, changes in social relations brought about by deployment and trauma are discussed. Soldiers analyse changes they identify in themselves and others and how these may be influenced by post-traumatic processes. They learn about the significance of improving social skills in their close relations for the post-traumatic healing process. Sessions include subjects such as “asking for help”, “talking about feelings as partners”, “how to set personal boundaries” and “approaching others when you are not well”.

Role play is used to practice social contact and conflict situations. This includes discussing adequate ways of expressing anger and rage. Irritability and aggression in the soldiers’ families, break-ups and social problems are painful side effects of deployment-related trauma and play a significant role in the chronification of traumatic disorders.

In this part, too, participants have homework, in which they study healthy and dysfunctional attitudes in relationships with other people. In the last group session, results are summarised, future developments are discussed and participants bid farewell to one another.

III. In-patient treatment and parallel therapy

Traumatized soldiers find themselves in a special situation. They have suffered a trauma while doing their job, which is why the traumatization is tied closely to their professional self-image and their role as a soldier. The confrontation with war profoundly shakes the ability to control and to act of those involved, their sense of security, trust and, not least, their moral and ethical values.

It is thus all the more necessary to address soldiers on various levels of their external and self-perception and give them a sense of security as part of their in-patient treatment.

Processing of traumatic experiences is done in one-on-one sessions using Eye Movement Desensitisation and Reprocessing (EMDR), cognitive-behavioural and imagination techniques.

In addition, various relaxation exercises are offered (progressive muscle relaxation, breathing and imagination exercises). If they wish, soldiers can use acupuncture and aromatherapy. Occupational therapy, sports, water aerobics and ward excursions are standards, as is sociotherapeutic treatment. Apart from this, a typical week will include medical care and visits by doctors.

4. DISCUSSION

In this pilot study, comorbid psychological conditions in connection with deployment-related trauma have for the first time in the Bundeswehr been clinically evaluated and systematically assessed using the SCID-II questionnaire. The resulting percentage was astoundingly high, but is comparable to figures of other international forces as regards frequency and distribution [2, 3]. This study, too, identified a considerable share of obsessive-compulsive and avoidant personality disorders in connection with PTSD.

Also, studies conducted by other armed forces suggest an interrelation between the forming of psychiatric symptoms (and thus comorbidities) in soldiers and their social networks. Soldiers returning from longer military operations often find it difficult to readjust to their social environment, as evidenced by studies of Vietnam veterans. Aggressiveness, isolation, maladjusted behaviour or addictions may result [10, 11].

With developments like these, the significance of group therapy treatment for soldiers has become increasingly clear [12, 13]. It facilitates understanding of pathological interaction patterns as described above and makes changing them possible.

For this reason, the Berlin Bundeswehr hospital has developed a cognitive behavioural group therapy tailored to soldiers with deployment-related trauma and presented it in this study in connection with the target symptoms of psychiatric comorbidities. Methods to specifically activate psychological resources, elements of cognitive behavioural therapy, impulse control techniques and the improvement of social skills are applied with military patients in mind.

Deliberately strengthening values, focusing on military cognitions and working with specific changes brought about by operational experiences are special characteristics of this group therapy, which thus differs from civilian therapies.

In recent years, a number of treatment approaches based on behavioural therapy, depth psychology and other relevant theories have been evaluated, by means of which the prognosis of various psychiatric disorders in soldiers, including post-traumatic stress disorders, was improved noticeably [12, 13, 14, 15]. In studies of soldiers from other armed forces suffering from trauma, group therapy was identified as providing valuable support to the overall therapeutic concept [15, 16, 17, 18]. Evidently, the effects of the therapeutic group experience lie mainly in restoring the capacity to maintain social relationships that trauma so often interferes with. The group gives participants a sense of being understood, of reciprocity, of safety and trust. It offers them an opportunity to discuss ethical and moral issues, which is important particularly in the light of their having experienced violence and distress [19, 20]. This therapeutic option is significant especially given the frequently persisting, clinically relevant residual symptoms of soldiers suffering from trauma.

The homogeneity of a group of soldiers may, among other things, be effective because it is strengthening group cohesion, a factor that has proved significant in many group settings. A certain responsiveness in soldiers to this therapeutic factor can be assumed, since group cohesion in stressful situations is presented as an essential training element early on in the military socialisation process and plays an equally important role for the stability of soldiers during operations abroad.

5. CONCLUSION

Based on the clinical lessons from the first treatment cycles, the connection presented here between psychiatric comorbidities and an especially developed group therapy looks promising for the treatment of deployment-related trauma in soldiers.

A scientific evaluation of said group therapy, taking into account specific deployment-related predictors in post-traumatic processing, is necessary and is already being planned. Another factor to be considered is in how far comorbid personality disorders influence therapeutic response and the reduction of deployment-related symptoms and conditions. Available therapeutic options should in future be tailored more to the reality of existing personality disorders and deployment-related comorbidities.

Table 1: Factors in deployment-related trauma (N=31, multiple answers possible)

Factors in deployment-related trauma	N	%
Experience of or participation in attack	24	77.4
Confrontation with dead bodies	16	51.6
Confrontation with injured persons	25	80.6
Confrontation with parts of dead bodies	13	41.9

Table 2: Diagnosis in accordance with ICD-10 (N=31, multiple answers possible)

ICD-10	N	%
Post-Traumatic Stress Disorder (F43.1)	28	90.3
Anxiety disorders (F40; F41)	3	6.4
Depression (F32; F33; F34)	7	22.5
Somatoform disorders (F45)	4	12.9
Personality disorders (F60; F61)	10	32.2
Addictions (F10)	3	9.6
Depressive exhaustion (F48)	5	16.1

Table 3: SCID-II results (N=31, multiple answers possible)

Scales SCID-II	N	%
Avoidant	12	38.7
Dependent	3	9.6
Obsessive-compulsive	16	51.6
Passive-aggressive	6	19.3
Depressive	10	32.2
Paranoid	11	35.4
Schizotypal	1	3.2
Schizoid	4	12.9
Histrionic	2	6.4
Narcissistic	0	0
Borderline	8	25.8
Antisocial	1	3.2

Table 4. Group sessions schedule

	Session	Subjects
Part 1	1.-2.	<ul style="list-style-type: none"> • Trauma education and presentation of models of dysfunction and change • The group agrees on rules. • <u>Objective</u>: participants are neither weak nor crazy; symptoms following critical incidents = survival strategies
	3.-5.	<ul style="list-style-type: none"> • Anxiety management using grounding and self-distancing exercises • Improving personal psychological resources by learning self-care and mindfulness strategies and using positive activities • Working on values and changing values as a way of increasing psychological resources following deployment • <u>Objective</u>: increasing self-efficacy and emotional stabilisation
Part 2	6.-10.	<ul style="list-style-type: none"> • Working on dysfunctional cognitions and personal patterns following trauma • Changing overgeneralisations of emotional conclusions, unjustified responsibility and guilt cognitions following deployment • Creating new, helpful convictions in preparation of integrating the trauma into the personal history • <u>Objective</u>: emancipation achieved by self-compassion rather than harshness and self-destruction
Part 3	11.-14.	<ul style="list-style-type: none"> • Anger management • Improving social skills following deployment-related trauma (e.g. role play) • Reviewing dysfunctional convictions regarding private or professional relationships following trauma • <u>Objective</u>: improvement of social skills and reintegration after deployment
		<ul style="list-style-type: none"> • Conclusion, next steps

REFERENCES

1. Zimmermann P, Hahne HH, Stöhle A: Psychiatrische Erkrankungen bei Bundeswehresoldaten: Veränderungen in der Inanspruchnahme medizinischer Versorgungssysteme im Vergleich der Jahre 2000 bis 2006. *Trauma und Gewalt* 2009; 3(4): 316-327
2. Bollinger AR, Riggs DS, Blake DD, Ruzek JI: Prevalence of Personality Disorders Among Combat Veterans with Posttraumatic Stress Disorder. *Journal of Traumatic Stress* 2000; 13(2), 255-270
3. Dunn NJ, Yanasak E, Schillaci J, Simotas S, Rehm LP, Soucek J, Menke T, Ashton C, Hamilton JD: Personality Disorders in Veterans with Posttraumatic Stress Disorder and Depression. *Journal of Traumatic Stress* 2004; 17(1), 75-82
4. Wojcik BE, Akhtar FZ, Hassell H: Hospital Admissions Related to Mental Disorders in U.S. Army Soldiers in Iraq and Afghanistan. *Mil Med* 2009; 174(10), 1010-1018
5. Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL: Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care. *N Engl J Med* 2004; 351(1): 13-22
6. Sareen J, Belik SL, Afifi T, Asmundson G, Cox B, Stein M: Military Personnel's Population Attributable Fractions of Mental Disorders and Mental Health Service Use Associated with Combat and Peacekeeping Operations. *American J of Public Health* 2008; 98(12): 2191-2198
7. Jakupcak M, Cook J, Imel Z, Fontana A, Rosenheck R, McFall M: Stress Disorder as a Risk Factor for Suicidal Ideation in Iraq and Afghanistan War Veterans. *Journal of Traumatic Stress* 2009; 22(4): 303-306
8. Brewin CR, Andrews B, Valentin JD: Meta-analysis of factors for posttraumatic stress disorder in trauma-exposed adult. *Journal of Consulting and Clinical Psychology* 2000; 68(5): 748-766
9. Schwartz, Dieter (2004). *Vernunft und Emotion: Die Ellis-Methode* (4. Auflage). Dortmund: Borgmann.
10. Rothberg JM, Koshes RJ, Shanahan J, Christman K: Desert shield deployment and social problems on a US Army combat support post. *Mil Med* 1994; 159(3): 246-8

11. Rosen LN: Live events and symptomatic recovery of army spouses following operation desert storm. *Behav Med* 1995; 21(3): 131–9
12. McCarroll JE, Ursano RJ, Newby JH, Liu X, Fullerton CS, Norwood AE, Osuch EA. Domestic violence and deployment in US Army Soldiers. *J Nerv Ment Dis* 2003; 191(1): 3 – 9
13. Viola JM, McCarthy DA. An eclectic inpatient treatment model for Vietnam and Desert Storm veterans suffering from posttraumatic stress disorder. *Mil Med* 1994; 159(3): 217 – 20
14. Mester R. On the use of group therapy in non-combat military psychiatry. *J Army Med Corps* 1987; 133(3): 143 – 5
15. Kanas N. Group therapy for patients with chronic trauma-related stress disorder. *Int J Group Psychother* 2005; 55(1): 161 – 165
16. Britvic D, Radelic N, Urlic I. Long-term dynamic-oriented group psychotherapy of posttraumatic stress disorder in war veterans: prospective study of five year treatment. *Croat Med J* 2006; 47(1): 76 – 84
17. Schnurr PP, Friedman MJ, Lavori PW, Hsieh FY. Design of Department of Veterans Affairs Cooperative Study no. 420: group treatment of posttraumatic stress disorder. *Control Clinical Trials* 2001; 22(1): 74 – 88
18. Van der Kolk B. Group psychotherapy with posttraumatic stress disorders. In: Kaplan, HJ.; Sadock, BS (Hg.): *Comprehensive Group Psychotherapy*. Baltimore: Williams and Wilkins, 1993: 550 – 560
19. Van der Kolk B, McFarlane AC, van der Hart, O. A general approach to treatment of posttraumatic stress disorder. In: van der Kolk B, McFarlane AC, Weisaeth L (Hg.): *Traumatic Stress. The Effects of Overwhelming Experience on Mind, Body and Society*. New York: Guilford Press, 1996: 417 – 440
20. Klein RH, Schermer VL (Hg.). *Group psychotherapy for psychological trauma*. New York: Guilford Press, 2000