

## DAY HOSPITAL TREATMENT AS A MISSING LINK FOR SINGLE PATIENTS WITH POSTTRAUMATIC STRESS DISORDER (PTSD): A PRELIMINARY STUDY

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### SUMMARY

**Background:** The aim of this study was to examine the day hospital treatment outcome on severity of clinical manifestations, general neuroticism and coping mechanisms in patients suffering from chronic combat-related PTSD.

**Subjects and methods:** The sample consisted of 38 consecutive patients admitted to the Day Hospital treatment of PTSD during one year observation period. The average age of the sample was 46.03 years. The patients completed 3 self-report measures upon admission to the hospital and upon discharge: The Mississippi scale for combat-related PTSD (M-PTSD), The Crown-Crisp experiential index (CCEI), and The COPE inventory.

**Results:** There was no significant change in the severity of clinical manifestations of PTSD, general neuroticism and coping mechanisms among the whole sample. However, compared to married participants and participants with children, single participants and those without children reported higher levels of anxiety when admitted to the hospital, but lower levels at discharge. In addition, patients without children reduced their avoidance behavior during the treatment.

**Conclusion:** This preliminary study showed that single patients and those without children may benefit more from the day hospital treatment program. Our findings emphasize the importance of social support in the recovery process of severely traumatized persons, and may assist with the development of more effective therapeutic approaches.

**Key words:** PTSD - day hospital treatment - therapeutic intervention - single patients - coping

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### INTRODUCTION

Posttraumatic stress disorder (PTSD) is a psychological response to excessive, extreme and unusual stressful events. Along with the PTSD symptom cluster triad (re-experiencing the trauma, avoidance and arousal symptoms), Wilson and Keane (2004) added 2 more clusters of symptoms that were not present before the trauma: damage to self and damage to interpersonal relationships (attachment, intimacy). Solomon et al. (1992) showed that PTSD contributes to impaired marital and family relations, and Negrusa & Negrusa (2014) found that PTSD symptoms are associated with increased odds of divorce. Thus, PTSD impairs physical, mental, and behavioral functioning, as well as the quality of social relations, and the treatment should therefore cover all these aspects (biopsychosocial approach) (Foa et al. 2000, Jaksic et al. 2015). On the other hand, different studies showed that low perceived social support is a significant predictor of greater manifestations of PTSD symptoms (Boscarino 1995, Klaric et al. 2008), and that perceived social support reduces the impact of PTSD symptoms on suicidal behavior (Jakovljevic et al. 2012, Panagioti et al. 2014). Therefore, adequate social support is of great significance for effectiveness of clinical interventions among victims of traumatic stress.

Day hospital programs usually combine different types of treatments in order to increase patients' quality of life, and are widely used in treating PTSD. Creamer et al. (2002) underlined the advantages of such treatments: patients benefit from staying in a day hospital because they get help in a crisis and more easily adapt to family life after the treatment ends. In addition, day hospital treatments reduce their feeling of being stigmatized and cut the costs of treatment by approximately 20-50%.

Patients with PTSD have been treated at the Psychiatric Hospital "Sveti Ivan" ever since 1995, i.e. after the end of the Homeland War in Croatia (Kezic et al. 2005). Veterans seeking help at the hospital are severely traumatized persons with poor social functioning. They are often admitted to hospital in a decompensated state. Day hospital program combines psychotherapy and sociotherapy together with psychoactive medications. The program includes psychodynamic group psychotherapy, psychoeducational workshops, progressive muscle relaxation (PMR) sessions, as well as sociotherapy carried out through occupational activities and recreation (visiting exhibitions, theatre, etc.). Psychopharmacological treatment is based on use of different medications, i.e. anxiolytics, antidepressants, atypical antipsychotics and mood stabilizers. The

program is aimed at treating specific states of crisis (triggered by anniversaries of traumatic events, conflicts at home or work, etc.), thus helping patients to reintegrate into their family life, as well as into their work and social environments (Kezic et al. 2006).

The aim of this preliminary study was to examine the day hospital treatment outcome on the patients' clinical manifestations of PTSD, their emotional states, and coping mechanisms. Positive changes are expected within given self-reported measures (M-PTSD, CCEI, COPE) upon discharge. Hopefully, the findings will add to better comprehension of the patients' recovery process, and will help to create more effective therapeutic approaches.

## SUBJECTS AND METHODS

### Subjects

The total of 47 male patients diagnosed with combat-related PTSD (according to the ICD-10 diagnostic criteria (WHO, 1992)) had been admitted to the Day Hospital at Sveti Psychiatric Hospital in Zagreb during the one year observation period. Informed consents for participation in the study were obtained for all participants, but later on 9 decided not to continue with the study. Hence, the final sample consisted of 38 participants. Their socio-demographic and clinical characteristics are presented in Table 1. The dropouts were not different from the others in terms of socio-demographic and clinical characteristics. Patients manifesting enduring personality change after catastrophic events, those affected by a neurological disorder, with comorbid

addictions or personality disorders, and those with low comprehension skills were not included in the study.

### Instruments and procedures

The patients fulfilled 3 self-report measures upon the admission as well as upon discharge from the day hospital.

The Mississippi scale for combat-related PTSD (M-PTSD) (Keane et al. 1988) was used to examine the severity of clinical manifestations of PTSD. The Scale was designed on the basis of the DSM-III criteria for PTSD, as a 35-item self-report scale. Its validity and reliability are well established (Keane et al. 1988, Kuterovac-Jagodić & Bunjevac 1997).

The Crown-Crisp experiential index (CCEI) (Crown & Crisp 1994) measures general emotionality or neuroticism. The 6 sub-scales measure free-floating anxiety (A), phobic anxiety (P), obsession (O), somatic anxiety (S), depression (D) and hysteria (H). This instrument proved to be suitable for measuring changes before and after treatment, and has satisfactory reliability and validity (Crown & Crisp 1994).

Coping styles were assessed by an adapted version of The Coping Orientation to Problems Experienced (COPE), created by Carver et al. (1989). Hudek-Knezevic and Kardum (1993) adapted the questionnaire to suit Croatian settings. The adapted COPE consists of 71 items in 17 empirically derived scales. There are 3 coping styles proposed by the COPE: problem-focused coping, emotion-focused coping, and avoidance. The instrument showed adequate psychometric properties (Hudek-Knezevic & Kardum 1993).

**Table 1.** Socio-Demographic Characteristics and Previous Psychiatric Hospital Treatment (N=38)

Age	36-40 years (n=10); 41-45 (n=9); 46-50 (n=9); >50 (n=10)
Educational level	Primary school (n=1); Secondary school (n=32); University degree (n=4)
Employment status	Employed (n=4); Unemployed (n=5); Retired (n=29)
Marital status	Married (n=31); Single (n=6); Divorced (n=1)
Parenthood	Children (n=28); No children (n=10)
Previous hospitalisations	No hospitalisation (n=9); One or two (n=14); Three or more (n=15)
Number of days spent in the hospital	Up to 50 days (n=18); More than 50 days (n=20)

**Table 2.** Descriptive Statistics and Differences in Patients' State on Admission and upon Discharge

	Admission M (SD)	Discharge M (SD)	t-test	p
M-PTSD	143.61 (17.34)	142.05 (20.79)	0.85	0.403
A	12.55 (4.20)	12.00 (2.49)	0.73	0.470
P	9.21 (2.72)	9.95 (3.25)	1.90	0.065
O	8.63 (2.48)	8.53 (2.69)	0.29	0.774
S	11.76 (3.12)	11.03 (3.11)	1.90	0.065
D	11.63 (2.59)	11.37 (2.80)	0.64	0.526
H	3.74 (2.15)	4.13 (2.58)	1.02	0.313
F1	63.89 (16.42)	59.87 (14.00)	2.01	0.052
F2	23.68 (7.73)	23.82 (8.69)	0.16	0.874
F3	105.74 (15.17)	104.79 (14.64)	0.28	0.784

M-PTSD – the severity of PTSD symptom manifestations; A – anxiety; P – phobia; O – obsessiveness; S – somatic anxiety; D – depression; H – hysteria; F1 – problem-focused coping; F2 – emotion-focused coping; F3 – avoidance

## RESULTS

Table 2 shows descriptive statistics and the results of comparison of participants' state prior to treatment and their state upon discharge.

On average, participants were found to be suffering from a severe form of PTSD, as indicated by mean M-PTSD scores both upon the admission and upon discharge from the day hospital. The most prominent dimensions on CCEI questionnaire at both measurement points were anxiety, depression, and somatic anxiety. Avoidance was most frequently used coping mechanism (COPE inventory) during the treatment.

Paired samples t-test showed that the patients' clinical manifestations of PTSD, general neuroticism and use of problem-focused coping, emotion-focused coping and avoidance did not change significantly during the day hospital treatment.

In order to test the potential effects of marital status and parenthood on day hospital treatment outcomes, mixed ANOVA was used to examine the interaction effects between these socio-demographic variables (between-subject factor) and time points of measurement (within-subject factor). Significant interaction effect was found between marital status and anxiety ( $F(1,35)=6.15$ ;  $p=0.018$ ), marital status and somatic manifestation of anxiety ( $F(1,35)=4.82$ ;  $p=0.035$ ): compared to the married participants, singles had higher scores on anxiety and somatic manifestation of anxiety when admitted to the hospital, but they had lower scores upon discharge. Similarly, the results showed a significant interaction effect between parenthood and anxiety ( $F(1,36)=4.82$ ;  $p=0.035$ ), and between parenthood and avoidance behavior ( $F(1,36)=6.58$ ;  $p=0.015$ ): compared to those participants with children, those without children had higher scores on anxiety and avoidance behavior scales when admitted to the hospital, but they had lower scores upon discharge.

## DISCUSSION

So far there is no evidence for effectiveness of our treatment for all PTSD patients. However, our results showed that the day hospital treatment may be effective for some PTSD patients. Namely, findings have shown that compared to married participants and participants with children, single participants and those without children reported higher levels of anxiety when admitted to the day hospital, but lower levels upon discharge. Moreover, patients without children reduced their use of avoidance after the treatment. Therefore, it is suggested that single participants and those without children may benefit more from the day hospital treatment, possibly due to perceiving a day hospital as a substitute for the family, while outside the hospital they lack sufficient social support. It is known that family and social functioning is significantly associated with the intensity of the expression of the PTSD symptoms (Solomon et al. 1988, Evans et al. 2009, Robinaugh et al. 2011).

Hence, targeting family relationships and social support for treatment may be important for veterans with PTSD. It seems that the day hospital treatment was a missing link for single participants and those without children.

Contrary to our expectations, the results of this study did not show significant changes in the severity of clinical manifestations of PTSD, neuroticism, and coping mechanisms among the whole sample of patients with chronic PTSD upon discharge from the day hospital. This might be due to the preliminary nature of this study, i.e. the small sample size, or it may be that our program (or some of its essential components) is indeed without therapeutic benefit. Bravo-Mehmedbasic et al. (2010) suggest that patients suffering from chronic PTSD need longer and more diverse treatment programs in order to increase their quality of life. Therefore, it is possible that our program should be extended and enriched with additional contents such as marital therapy and family therapy. However, this cannot be presumed with certainty without a matched control group that was not exposed to this type of treatment. Also, it might be that the period of time between the two evaluations was too short to make a significant change come to the fore. Further research in the potential effects of the program should be conducted, taking into account the abovementioned limitations.

On the other hand, the lack of significant positive effects might be due to the high levels of PTSD symptoms reported in our sample, i.e. it may have been a highly selective group of patients who do not respond to any treatment. Namely, in a study conducted in former Yugoslavian countries after the war, Priebe et al. (2010) found that PTSD treatment outcome was particularly unfavorable for war veterans and those with higher levels of PTSD symptoms at baseline. Indeed, different studies show that treatment of chronic PTSD is entirely successful only in 30% of the patients and partially successful in other 30%, while the rest of the patients do not show any positive treatment results (Creamer et al. 2006). Other studies demonstrate that while psychiatric treatment improves patients' adaptation and social functioning (Johnson et al. 1996, Britvic et al. 2006), the intensity of PTSD symptoms is treatment refractory (Ljubotina et al. 2007) and the course of the disorder is most often chronic (Hammarberg & Silver 1994). In their follow-up study on patients with similar symptoms of chronic PTSD, Britvic et al. (2007) neither found significant changes in the severity of clinical manifestations and quality of life, but the patients had intensified the use of problem-focused coping and avoidance after an intensive psychotherapeutic treatment.

## CONCLUSION

No significant changes were found in the severity of clinical manifestations of PTSD, neuroticism, and coping mechanisms upon discharge from the day hospital. Nevertheless, the findings suggested that participants without children and single participants may benefit

more from the program. Further evaluations and modifications of the program are needed in order to provide more effective treatment to all patients with PTSD.

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## References

1. Boscarino JA: Post-traumatic stress and associated disorders among Vietnam veterans: the significance of combat exposure and social support. *J Trauma Stress* 1995; 8:317-36.
2. Bravo-Mehmedbasic A, Kucukalic A, Kulenovic-Dzibur A & Suljic E: Impact of chronic posttraumatic stress disorder on the quality of life of war survivors. *Psychiatr Danub* 2010; 22:430-5.
3. 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; 47:76-84.
4. Britvic D, Anticevic V, Urlic I, Dodig G, Lapenda B, Kekez B et al.: Psychotherapeutic Treatment Program for Post-traumatic Stress Disorder: Prospective Study of 70 War Veterans. *Group Analysis* 2007; 40:507-22.
5. Carver CS, Weintraub JK & Scheier MF: Assessing Coping Strategies: A Theoretically Based Approach. *J Pers Soc Psychol* 1989; 56:267-83.
6. Creamer M, Forbes D, Biddle D & Elliot P: Inpatient Versus Day Hospital Treatment for Chronic, Combat-Related Posttraumatic Stress Disorder: A Naturalistic Comparison. *J Nerv Ment Dis* 2002; 183-9.
7. Creamer M, Elliot P, Forbes D, Biddle D & Hawthorne G: Treatment for Combat-Related Posttraumatic Stress Disorder: Two-Year Follow-Up. *J Traumatic Stress* 2006; 19:675-85.
8. Crown S & Crisp AH: *Manual of the Crown-Crisp Experiential Index*. Naklada Slap. Jastrebarsko, 1994.
9. Evans L, Cowlshaw S & Hopwood M: Family functioning predicts outcomes for veterans in treatment for chronic post-traumatic stress disorder. *J Fam Psychol* 2009; 23:531-9.
10. Foa EB, Keane TM & Friedman MJ: *Effective Treatments for PTSD, Practice Guidelines from the International Society for Traumatic Stress Studies*. The Guilford Press. New York, London, 2000.
11. Hammarberg M & Silver SM: Outcome of treatment for post-traumatic stress disorder in a primary care unit serving Vietnams veterans. *J Trauma Stress* 1994; 7:195-216.
12. Hudek-Knezevic J & Kardum I: The inventory of dispositional and situational coping with stress and its psychometric features. *Godišnjak Zavoda za psihologiju* 1993:43-60.
13. Jakovljevic M, Brajkovic L, Jaksic N, Loncar M, Aukst Margetic B, Lasic D: Posttraumatic stress disorders (PTSD) from different perspectives: a transdisciplinary integrative approach. *Psychiatr Danub* 2012; 24:246-255.
14. Jaksic N, Aukst Margetic B, Marcinko D, Brajkovic L, Loncar M, Jakovljevic M: Temperament, character, and suicidality among Croatian war veterans with posttraumatic stress disorder. *Psychiatr Danub* 2015; 27:60-63.
15. Johnson DR, Rosenheck R, Fontana A, Lubin H, Charney D & Southwick S: Outcome of intensive inpatient treatment for combat-related posttraumatic stress disorder. *Am J Psychiatry* 1996; 153:771-7.
16. Keane TM, Caddell JM & Taylor KL: Mississippi Scale for Combat-Related Posttraumatic Stress Disorder: three studies in reliability and validity. *J Consult Clin Psychol* 1988; 56:85-90.
17. Kezic S, Babic G & Mayer N: Utjecaj čimbenika socijalne dezintegracije na učestalost prijama u Psihijatrijskoj bolnici „Sveti Ivan“. *Soc Psihijat* 2005; 33:122-6.
18. Kezic S, Mihanovic M, Molnar S & Šain I: Psihološke teškoće psihoterapeuta u radu s oboljelima od posttraumatskog stresnog poremećaja. *Act Med Croat* 2006; 60:385–8.
19. Klaric M, Franciskovic T, Klaric B, Kresic M, Grkovic J, Lisica ID et al.: Social support and PTSD symptoms in war-traumatized women in Bosnia and Herzegovina. *Psychiatr Danub* 2008; 20:466-73.
20. Kuterovac-Jagodic G & Bunjevac T: The questionnaire on traumatic combat and war experiences: Psychometric properties and its relationship to PTSD symptoms. *Second World Conference of International Society for Traumatic Stress Studies*. 1997.
21. Ljubotina D, Pantic Z, Franciskovic T, Mladic M & Priebe S: Treatment outcomes and perception of social acknowledgment in war veterans: follow-up study. *Croat Med J* 2007; 48:157-66.
22. Negrusa B & Negrusa S: Home front: post-deployment mental health and divorces. *Demography* 2014; 51:895-916.
23. Panagioti M, Gooding PA, Taylor PJ & Tarrier N: Perceived social support buffers the impact of PTSD symptoms on suicidal behavior: Implications into suicide resilience research. *Compr Psychiatry* 2014; 55:104-12.
24. Priebe S, Janković Gavrilović J, Matanov A, Frančišković T, Knežević G, Ljubotina D et al.: Treatment Outcomes and Costs at Specialized Centers for the Treatment of PTSD After the War in Former Yugoslavia. *Psychiatr Serv* 2010; 61:598-604.
25. Robinaugh DJ, Marques L, Traeger LN, Marks EH, Sung SC, Gayle Beck J, et al.: Understanding the relationship of perceived social support to post-trauma cognitions and posttraumatic stress disorder. *J Anxiety Disord* 2011; 25:1072-8.
26. Solomon Z, Mikulincer M & Avitzur E: Coping, locus of control, social support, and combat-related posttraumatic stress disorder: A prospective study. *J Pers Soc Psychol* 1988; 55:279-85.
27. Solomon Z, Waysman M, Levy G, Fried B, Mikulincer M, Benbenishty R et al.: From front line to home front: a study of secondary traumatization. *Fam Process* 1992; 31:289-302.
28. Wilson JP & Keane TM: *Assessing Psychological Trauma and PTSD, Second Edition*. The Guilford Press. New York, London, 2004.
29. World Health Organization: *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision*. WHO. Geneva, 1992.

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