

Psychological Characteristics of Wounded and Disabled Croatian War Veterans

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Objective: Evaluation of the psychological state of a group of 119 Croatian disabled war veterans who suffered grave traumatic war experiences during the war in Croatia (1991–1992). **Methods:** Semistructured Clinical Interview, Profile Index Emotions test, and Zung's Self-Rating Depression Scale were used to assess disabled war veterans accommodated in special institutions for rehabilitation. **Results:** Changes in psychological functioning were established in 63.8% of disabled war veterans, the most frequent among them being indisposition, irritability, anxiety, and fear. In nearly half of the veterans there were changes in their relationships with close persons, difficulties in accepting the reality of their situations, and increased aggressiveness. Higher average values on the depression index (0.52) were also established. **Conclusion:** The established change in the psychological profile of disabled Croatian war veterans was lower than expected. However, because of their great vulnerability, it is necessary to increase efforts to secure their complete psychosocial recovery.

Introduction

Throughout history, soldiers have suffered the psychological consequences of war. Current investigations point to numerous factors that influence changes in the psychological profiles of soldiers in war.^{1,2} Injury and disability greatly change the psychological profile of an individual insofar as injury generally causes physical pain and disability harshly and abruptly changes a person's established image of him- or herself, his or her body, psychological attributes, and character traits.^{3,4}

Before the war in Croatia, the two opposing sides were based on the Communist ideology of the state of Serbia and the new democratic ideology of Croatia. Serbia had territorial ambitions that can most simply be expressed by the phrase "either Yugoslavia under our power or a great part of the Croatian territory annexed to Serbia." The fight was carried on between the Serbs and Serbia and extremist Serbs from Croatia supported by the Yugoslav Federal Army on one side and the Croatian police and National Guard on the other.⁵ As a result of Serbian aggression, at the end of 1991 about one-third of Croatia was occupied by Yugoslav Federal Army and Serbian rebel forces.^{6,7}

This study is an attempt to assess the psychological condition and determine some psychological characteristics of Croatian

soldiers who were exposed to particularly difficult traumatic war experiences during the fighting in 1991 and 1992. Data collected in investigations such as this one may be useful when organizing the care, especially the psychological care, of wounded soldiers.

Patients and Methods

The study involved 119 disabled Croatian war veterans staying at two special rehabilitation institutions: Kalos (in Vela Luka, on the island of Korčula) and Biokovka (in Makarska, a small city near Split). All of them were wounded on the southern Croatian battleground during the war in Croatia in 1991 and 1992. The causes of wounding were most frequently mortar shell fragments, rifle and gun bullets, and rarely fragments of bombs and tank and cannon projectiles. All of the veterans had extremely severe injuries with extensive mutilations. The wounded soldiers received the basic procedures of medical aid on the battlefield: hemostasis, hemodynamic substitution, immobilization, and analgesia.⁸ After receiving first aid, wounded soldiers were evacuated as quickly as possible to one of the well-organized war hospitals or outside of the combat zone to the University Hospital Split (the main evacuation hospital in this area). Afterward, they were sent to the special rehabilitation institutions. Their participation in this study was voluntary. All were males; the median age was 28.8 years (range, 17–57 years). All were of Croatian nationality, belonged to the lower or middle socioeconomic class, and came mainly from rural areas, with some of them coming from the towns of southern Croatia. They were predominantly volunteer soldiers, noncommissioned officers, and officers of lower rank. More than half of them were married. All war veterans were physically and psychologically completely healthy before wounding. The majority of them, 115 (96.6%), were wounded on the front line, and only 4 (3.4%) were wounded outside the war zone.

The following instruments were used in this investigation: the Semistructured Clinical Interview (constructed especially for this investigation), the Profile Index Emotions (PIE) test,⁹ and Zung's Self-Rating Depression Scale.¹⁰

Semistructured Clinical Interview

The Semistructured Clinical Interview collected the basic data about sociodemographic characteristics of the wounded soldiers, their personal attitude toward the investigation, and the quality of health care, as well as data about changes in their mental functioning concerning difficulties in relationships, their general psychological conditions, and their personal views on their future.

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TABLE I

TYPES OF CHANGES IN PSYCHOLOGICAL FUNCTIONING FOUND IN 119 VETERANS

| Type of Change | Number of Veterans | Percentage |
|------------------------|--------------------|------------|
| Indisposition | 48 | 40.3 |
| Absentmindedness | 3 | 2.5 |
| Fear | 15 | 12.6 |
| Nightmares | 4 | 3.3 |
| Anxiety | 24 | 20.1 |
| Indifference | 3 | 2.5 |
| Irritability | 25 | 21.0 |
| Impulsiveness | 4 | 3.3 |
| Feeling of inferiority | 2 | 1.6 |

TABLE II

CHANGES IN RELATIONS OF WOUNDED VETERANS WITH CLOSE PERSONS (N = 119)

| Existence of Change | Number of Veterans | Percentage |
|---------------------|--------------------|------------|
| Yes | 54 | 45.38 |
| No | 43 | 36.13 |
| No response | 22 | 18.49 |

Profile Index Emotions

PIE is a personality test that provides data on specific characteristics of personality as well as emotional dispositions. In constructing the test, the authors started with the hypothesis that a determined correlation exists between personality and emotional characteristics. The final form of the test consists of 62 pairs of terms representing personality characteristics, and the patient's task is to mark the term in each pair that better describes him. The form of the test is such that each personality characteristic consists of two emotions, and in choosing one of the emotions, the patient expresses something about his emotional disposition.

Thus, the instrument includes the following dimensions:

- reproduction, reflecting the emotional state of joy;
- incorporation, reflecting the emotional state of acceptance;
- lack of control, reflecting the emotional state of impulsiveness;
- self-defense, reflecting the emotional state of fear;
- deprivation, reflecting the emotional state of sadness;
- oppositionism, reflecting the emotional state of refusal;
- exploration, reflecting the emotional state of expectation or planning; and
- aggressiveness, reflecting the emotional state of embitterment.

The so-called BIAS scale, which tests the patient's tendency to present himself in a socially desirable or undesirable light, was also included in the instrument.⁹ In application of instruments for investigation the patients were given the test list with the imprint of pair words. For analysis of test results, special forms were used that enable simple and fast determination of the results on each of the PIE dimensions.

Zung's Self-Rating Depression Scale

Zung's Self-Rating Depression Scale consists of 20 items representing what is most characteristic of depressive disorders.

TABLE III

ATTITUDE TOWARD QUALITY OF CARE OF WOUNDED VETERANS (N = 119)

| Quality of Care | Number of Veterans | Percentage |
|-----------------|--------------------|------------|
| Satisfactory | 74 | 62.18 |
| Unsatisfactory | 29 | 24.37 |
| No response | 16 | 13.45 |

TABLE IV

SELF-ESTIMATE OF THE FUTURE IN 119 VETERANS

| Self-Estimate | Number of Veterans | Percentage |
|--------------------|--------------------|------------|
| Good and very good | 23 | 19.3 |
| Moderate | 13 | 10.9 |
| Bad | 48 | 40.3 |
| "I don't know" | 12 | 10.1 |
| No response | 23 | 19.3 |

TABLE V

ARITHMETIC MEANS AND STANDARD DEVIATIONS OF RESULTS ON PROFILE INDEX EMOTIONS TESTS (N = 44)

| Dimension | Arithmetic Means | Standard Deviation |
|-----------------|---------------------------|--------------------|
| Reproduction | 13.0 (65.0%) ^a | 5.1 |
| Incorporation | 18.8 (69.8%) | 7.2 |
| Lack of control | 7.9 (39.9%) | 4.3 |
| Self-defense | 13.8 (51.2%) | 4.1 |
| Deprivation | 9.7 (48.5%) | 4.4 |
| Opposition | 10.2 (37.9%) | 4.9 |
| Exploration | 12.8 (40.0%) | 5.8 |
| Aggressiveness | 14.2 (40.6%) | 6.2 |
| BIAS | 29.6 (58.0%) | 8.6 |

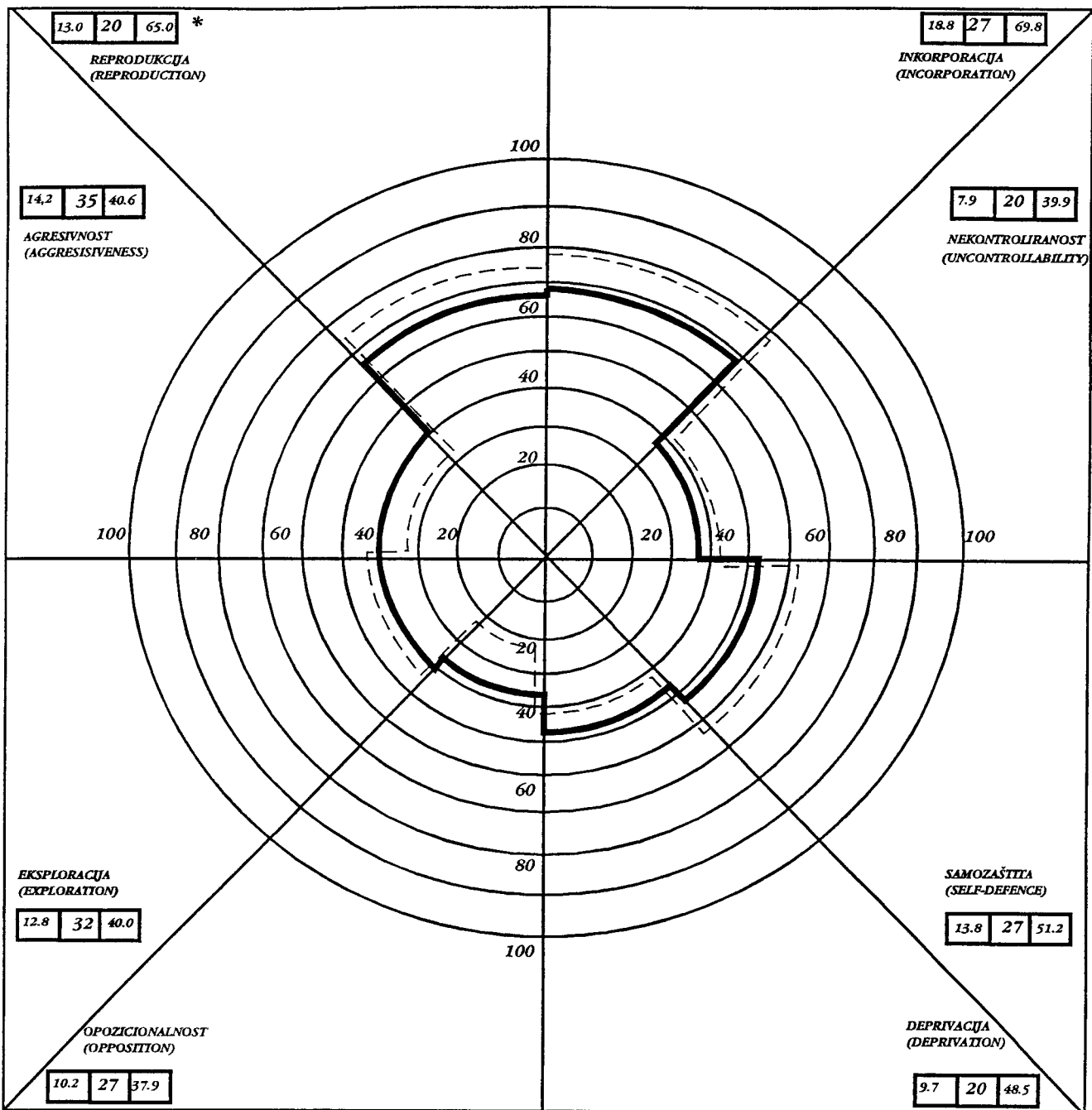
^aArithmetic mean presented as percentage with regard to the maximal result on the dimension.

These are presented in the form of statements. The patient's task is to estimate for each assertion whether that manifestation occurs in their case very rarely, occasionally, frequently, or permanently. Each category has a definite numerical value, ranging from 1 to 4, so that 1 indicates the slightest and 4 the most frequent presence of a particular symptom. Ten assertions are formulated in such a way that they can be called "symptomatically positive," and 10 as "symptomatically negative," which should be taken into consideration at examination. By adding the points for each particular fragment, the total result on the instrument is obtained.

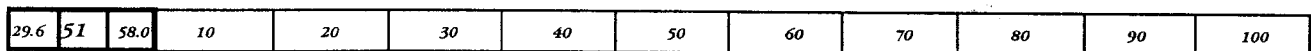
The result is expressed as the fraction of the total possible score (80). The results obtained for each applied instrument (Semistructured Clinical Interview, Profile Index Emotions test, and Zung's Self-Rating Depression Scale) were analyzed and are presented in the tables and figures.

Results

By application of the Semistructured Clinical Interview, data were collected in addition to data regarding changes in psychological functioning. Changes in psychological functioning were found in 76 of the 119 veterans (63.8%). No changes were re-



BIAS



- Profile based on results obtained by disabled veterans on the instrument
- - - - -** Profile based on results obtained on the instrument by mentally and physically healthy persons (data from the manual) (5)
- * In the first square there is the average value, in the middle square the maximal result on a definite dimension, and in the last square there is the average value expressed as percentage with regard to the maximal possible result on the dimension

Fig. 1. Average values of results from the Profile Index Emotions test.

TABLE VI

ARITHMETIC MEANS AND STANDARD DEVIATIONS OF RESULTS ON ZUNG'S SELF-RATING DEPRESSION SCALE (N = 87)

| | Arithmetic Means | Standard Deviation |
|--------------|------------------|--------------------|
| Total result | 41.73 | 11.45 |
| Index | 0.52 | 0.14 |

ported by 17 veterans (14.3%), and 26 veterans (21.8%) did not respond. Data on the types of changes in psychological functioning are shown in Table I.

Changes in relationships with close persons were reported by 54 veterans (45.4%) and denied by 43 veterans (36.1%); 22 veterans (18.5%) did not answer the question (Table II).

Tables III and IV give data about the veterans' attitudes toward the quality of their care and their comprehension of the future.

The Profile Index Emotions test was correctly completed by 44 veterans. On the basis of the veterans' individual results, arithmetic means and standard deviations were determined for each dimension of the instrument (Table V). With the help of a special table in the manual, the average values have been expressed as percentages, with regard to the maximal possible result on each particular dimension, and are graphically presented as a profile in Figure 1.

Zung's Self-Rating Depression Scale was correctly completed by 87 veterans. The average total results on the scale (arithmetic means = 41.7; standard deviation = 11.5) as well as the total index (0.52) were determined (Table VI). Arithmetic means and standard deviations of the results on each particular item of Zung's Self-Rating Depression Scale are shown in Table VII.

The average values of the fragments indicating the presence of depressive symptoms (symptomatically positive) and those in-

dicating the absence of depressive symptoms (symptomatically negative) are presented in Figures 2 and 3.

Discussion

A small number of investigations have confirmed that war trauma and consequent disability (in previously healthy soldiers) damage and change the psychological profile of the wounded, placing them into a different psychological relationship toward themselves and their environment.^{3,4,11-15} Several authors have published results describing different aspects of psychological and psychiatric findings concerning special populations such as refugees, displaced persons, and Croatian prisoners during the war in Croatia.¹⁶⁻¹⁹ So far, though, there has been no systematic investigation of the psychological characteristics of wounded and disabled Croatian war veterans. Therefore, we found it interesting to investigate that aspect.

Some authors, such as Babaja and Stremšek,²⁰ have discussed the psychological approach to ex-prisoners of war, among them a large number of Croatian police officers. They found that anxiety was the predominant form of their reactions and that the ex-prisoners had difficulty verbally expressing their emotional experiences.

However, in our study we found that psychological manifes-

TABLE VII

ARITHMETIC MEANS AND STANDARD DEVIATIONS OF RESULTS ON EACH PARTICULAR ITEM OF ZUNG'S SELF-RATING DEPRESSION SCALE (N = 87)

| Item | Arithmetic Means | Standard Deviation |
|------|------------------|--------------------|
| 1 | 1.9 | 0.9 |
| 2 | 2.8 | 1.0 |
| 3 | 1.3 | 0.8 |
| 4 | 2.1 | 1.0 |
| 5 | 2.1 | 1.2 |
| 6 | 1.9 | 1.0 |
| 7 | 1.5 | 0.9 |
| 8 | 1.3 | 0.9 |
| 9 | 1.4 | 0.8 |
| 10 | 1.7 | 0.9 |
| 11 | 1.8 | 1.2 |
| 12 | 2.9 | 1.1 |
| 13 | 2.2 | 1.1 |
| 14 | 2.4 | 1.1 |
| 15 | 2.2 | 1.1 |
| 16 | 2.5 | 1.1 |
| 17 | 2.3 | 1.1 |
| 18 | 2.6 | 1.1 |
| 19 | 1.4 | 0.9 |
| 20 | 2.8 | 1.1 |

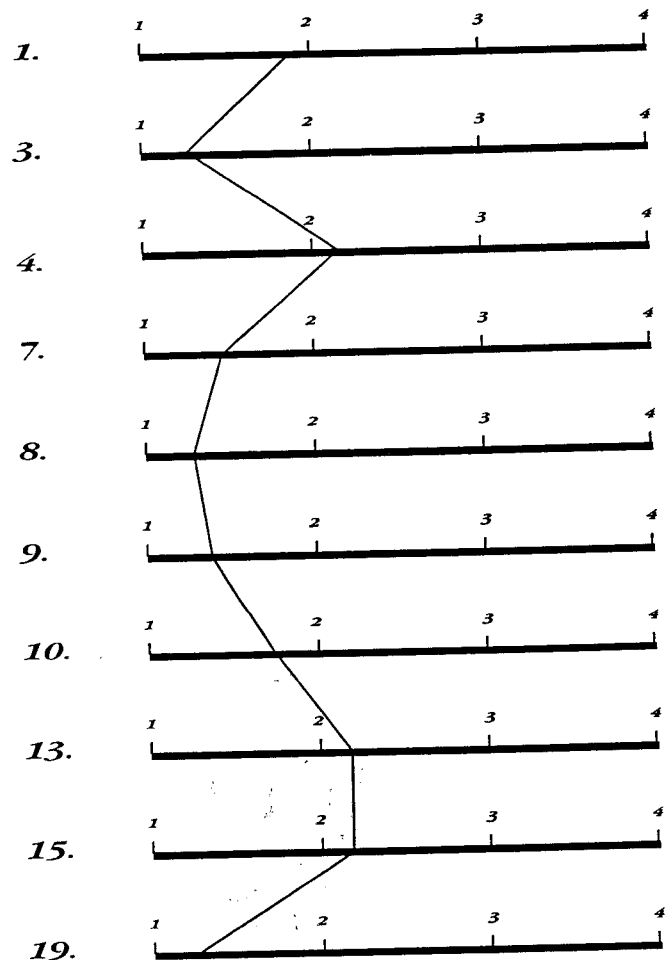


Fig. 2. Average values of results on symptomatically positive items from Zung's Self-Rating Depression Scale.

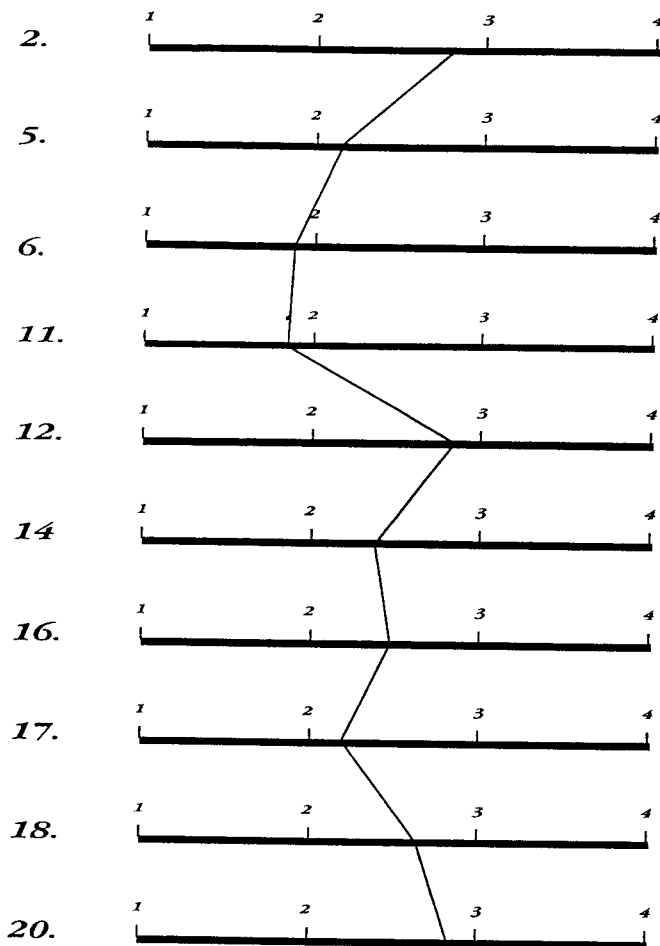


Fig. 3. Average values of results on symptomatically negative items from Zung's Self-Rating Depression Scale.

tations among the veterans were different and more diverse. The majority of our war veterans showed specific changes in psychological functioning, the most frequent of which were indisposition, irritability, anxiety, and fear. Those differences may be understandable in different patient populations. In our study, we did not have any war veterans who had been captured and imprisoned by the enemy. The second reason for these differences could be that the data in the investigation of the psychological consequences of the ex-prisoners were collected immediately after the prisoners' liberation. Our data concerning wounded war veterans were collected after a longer period from the time of injury. Some authors have presented similar findings regarding the level of anxiety of disabled war veterans who did not have post-traumatic stress disorder.²¹

Furthermore, by comparing the PIE of war veterans with that of mentally and psychically healthy persons,⁹ considerable differences were established. Our population showed a decreased sense of joy for life, decreased ability to accept the reality of their life situations, lack of caution, marked sadness, enhanced sense of self-criticism, weakened tendency to make plans, and increased aggressiveness.

Others, such as Babaja and Stremšek, noted that increased aggressiveness was also found in ex-prisoners of war.²⁰ Especially interesting is the lack of caution in a group of wounded

persons. Confronted with the loss of physical health, which cannot be imagined in the usual life circumstances, their mechanism of self-protection seemed to loosen as if they had "burned through." The exaggerated expressiveness of this manifestation can be harmful for the recovery course and future life.

On Zung's Self-Rating Depression Scale, our veterans had an average index of 0.52, which was lower than that among patients suffering from depression (average index = 0.74). However, this index is considerably higher than the average index in a group of normal individuals (average index = 0.33).¹⁰ As shown in Table VI, the average total result of Zung's Self-Rating Depression Scale for our group of veterans is 41.73, and dispersion around this average value is 11.45. The average index is 0.52. Dispersion around this average index is 0.14, which can be considered to be relatively high.

Considering the fact that the fragments of Zung's Self-Rating Depression Scale suggest the existence or the absence of the most frequent symptoms of depression, a second method of processing the results was applied (Table VII).

In Figure 2, which shows the average values for symptomatically positive instrument fragments, it can be seen that the most expressed symptoms are sleep disturbances (fragment 4), feelings of anxiety (fragment 13), and irritability (fragment 15). The least expressed are inclination to crying (fragment 3), which can suggest repression of feelings; the feeling that it would be better for the environment if one were healthy (fragment 19), which can suggest adequate social support, especially from those closest, which is very important in the rehabilitation of the wounded; and the physical symptom of constipation (fragment 8).

In Figure 3, which shows symptomatically negative instrument fragments, it can be seen that the least present is the possibility of clear comprehension (fragment 11), that sexual desire is less expressed (fragment 6), and that appetite is decreased (fragment 5).

The average results on fragments 12 and 20 (job performance with ordinary ease, and enjoyment of things and events as before), as well as on fragment 18 (feeling that life is full), however, point to good adjustment to newly created circumstances, at least in some respects. In his recent work, Klain²² noted that the most common emotions of an individual in the war in Croatia were loss of love, fear, narcissistic vulnerability, guilt, depression, and aggression. Nonetheless, he noted that Croatian soldiers were most often depressed after unnecessary losses in which their co-fighters were killed, whereas war prisoners and refugees were particularly susceptible to depressive reactions after experiencing great losses.

Our results suggest the existence of psychological changes among severely disabled war veterans that are less intense than could be expected. These findings can perhaps be explained by the great motivation of the war volunteers to defend the country. However, all mentioned require the organization of the most qualitative and comprehensive care, both physical and psychological. The importance of good care can be seen from the data collected by the Semistructured Clinical Interview that relate to estimation of care quality by the wounded persons themselves (Table III): 62.18% of veterans considered the care of the wounded veterans to be satisfactory, 24.37% of veterans considered it to be unsatisfactory, and 13.45% of them gave no

response to the inquiry. The veterans who considered their care to be unsatisfactory complained of the feeling of repulsion from their former commanders, pointed out the necessity of more qualitative rehabilitation, and described a shortage of adequate tools. A large number of veterans expressed the need for psychological help in the form of psychotherapy with trained professionals. Useful data regarding the necessity of good care are also provided by data on estimations of one's future and by data on the existence of changes in relations with close persons (Tables II and IV): 40.34% of veterans saw their future as bad, and 45.4% of veterans admitted to changes in relations with close persons, in the sense of feelings of evasion and compassion, loneliness, isolation, and difficulties in communication.

All activities should be directed toward specific prolonged hospitalization of these patients in institutions for rehabilitation.^{23,24} The disabled veterans of the war in Croatia who were exposed to severe traumatic war experiences should be enabled to express their feelings and to learn to live with them as well as with all aspects of their situations. Therefore, it is necessary to increase efforts to obtain optimal psychological and psychiatric aid for all disabled Croatian war veterans.

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