

CORRELATION BETWEEN BURNOUT SYNDROME AND ANXIETY IN MILITARY PERSONNEL

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KORELACIJA IZMEĐU SINDROMA SAGOREVANJA NA RADU I ANKSIOZNOSTI KOD PROFESIONALNIH VOJNIH LICA

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ABSTRACT

Professional military personnel are exposed to a large number of stressors every day at a higher rate than the civilian population, which can lead to psychological disturbances, primarily anxiety, as well as burnout syndrome. The aim of our investigation was to determine the correlation between burnout syndrome and anxiety in military personnel of the Serbian Armed Forces.

The cross-sectional study included a total of 311 professional military personnel (officers, non-commissioned officers and professional soldiers), between 23 to 53 years of age (35.3 ± 7 years, on the average) without previous diagnosis of mental disorder. For purpose of this study we used Maslach Burnout Inventory (MBI) and Beck Anxiety Inventory (BAI). MBI contains three subscales, which measure three components of burnout: Emotional exhaustion (EE), Depersonalization (DP) and Personal accomplishment (PA). The statistical analysis included parametric and non-parametric descriptive statistics.

The highest level of burnout was measured on the subscales Emotional exhaustion (EE) in military personnel from 23 to 30 years old ($p < 0.05$), while anxiety increased with age of military personnel ($p < 0.001$). Total scores on the subscales Emotional exhaustion (EE) and Depersonalization (DP) increased, while on the subscale Personal accomplishment (PA) decreased with the increase of the total BAI score ($p < 0.001$).

There was a correlation between burnout syndrome and anxiety in professional military personnel of Serbian Armed Forces. Improving the financial situation, paid recreational breaks and reduction of professional obligations could decrease anxiety and affect the prevention of the occurrence of burnout syndrome in the military environment.

Key words: burnout syndrome, anxiety, military personnel, Serbian Armed Forces

SAŽETAK

Profesionalna vojna lica su svakodnevno izložena velikom broju stresora, značajno u većoj meri u odnosu na civilno stanovništvo, što može dovesti do brojnih psiholoških poremećaja, pre svega anksioznosti, kao i sindroma sagorevanja na radu. Cilj našeg istraživanja bio je da se utvrdi korelacija između sindroma sagorevanja na radu i anksioznosti kod profesionalnih vojnih lica Vojske Srbije.

Studija preseka obuhvatila je ukupno 311 profesionalnih vojnih lica (oficiri, podoficiri i profesionalni vojnici) starosti od 23 do 53 godine (prosečno $35,3 \pm 7$ godina), bez ranije dijagnostikovanog psihičkog poremećaja. Za potrebe ove studije koristili smo Maslachov upitnik sindroma sagorevanja (MBI) i Bekov inventar anksioznosti (BAI). MBI sadrži tri podskale, koje mere tri komponente sagorevanja: Emocionalnu iscrpljenost (EE), Depersonalizaciju (DP) i Lično postignuće (PA). Statistička analiza obuhvatila je parametarske i neparametarske deksriptivne statističke metode.

Najviši nivo sindroma sagorevanja je izmeren na subskali Emocionalne iscrpljenosti (EE) kod profesionalnih vojnih lica starosti od 23-30 godina života ($p < 0.05$), dok se anksioznost povećava sa godinama života profesionalnih vojnih lica ($p < 0.001$). Ukupni skor na subskalama Emocionalna iscrpljenost (EE) i Depersonalizacija (DP) se povećava, a na subskali Ličnog postignuća (PA) se smanjuje sa povećanjem ukupnog skora na skali anksioznosti ($p < 0,001$).

Postoji korelacija između sindroma sagorevanja na radu i anksioznosti profesionalnih vojnih lica Vojske Srbije. Pобољшање finansijske situacije, plaćeni rekreativni odmori, smanjenje profesionalnih obaveza bi mogli da smanje anksioznost i da utiču na prevenciju pojave sindroma sagorevanja u vojnoj sredini.

Ključne reči: sindrom sagorevanja, anksioznost, profesionalna vojna lica, Vojska Srbije

ABBREVIATIONS

MBI - Maslach Burnout Inventory

EE - Emotional exhaustion

DP - Depersonalization

PA - Personal accomplishment

BAI - Beck Anxiety Inventory

SD - Standard deviation



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INTRODUCTION

Professional military personnel are exposed to a large number of stressors every day. Military personnel, considering the characteristics of their profession that include challenging working conditions, difficult and extreme training, specific military discipline, their obligation to be involved in the rules of armed commanding, principles of subordination, frequent changes, problems of adaptation to the military environment etc. may be exposed to stress at a higher rate than the civilian population, which can lead to psychological disturbances, primarily anxiety and depression, as well as burnout syndrome (1-3).

Burnout syndrome represents a combination of emotional exhaustion, depersonalization and negative feelings about oneself. Emotional exhaustion is an organism's reaction to stress. It represents a continuous "spending" of an individual's resourceful resource and is characterized by a disorganized mood (4). Depersonalisation is characterized by a cynical attitude and the perception of alienation from people in a random place, while the reduced personnel achievement refers to negative evaluations of personal competences and productivity, as well as in the experience of reduced self-efficacy (5). Thus, emotional exhaustion is a stressful, depersonalisation interpersonal, and a decrease achievement of the self-evaluative burnout component (6). Maslach defined the burnout syndrome as "the state of exhaustion in which a person is cynical and diminishes the value of his job, in doubting his own ability to do the job" (7).

Stressors that professional military personnel are exposed to, can cause some manifest or hidden disorders, especially anxiety, but also the development of burnout syndrome (8,9). Anxiety affects the quality of life of an individual, his professional readiness and combat readiness (10).

A recent study reported that anxiety is associated with burnout syndrome, sleeping problems, migraine and a lot of somatic and mental diseases (11,12). Therefore, the recognition of symptoms of anxiety is important for maintaining working ability and for preventing severe mental disorders (13,14).

There are some investigations where authors have examined the relationship between anxiety, emotional problems, job stress and work performance in civilian population (15) and in military environment both in war and in peacetime conditions (16-19). Burnout syndrome in military environment most often was investigated in medical personnel (20), while there were some investigations of burnout syndrome in police officers (21,22).

So far, in the Serbian Armed Forces no extensive research has been done on this topic. In our pilot project of burnout syndrome on relatively small patterns of military personnel ($N = 55$), it was shown that Emotional exhaustion (EE) and Depersonalization (DP) were present in 10.9% of subjects as well as 12.7% subjects in moderate levels, while lesser Personal achievement (PA) was present in 21.8% of subjects of high level (23).

Our investigation is a continuation of the mentioned pilot project, with the aim of determining the correlation between burnout syndrome and anxiety in military personnel.

METHODS

Cross-sectional study was conducted in the three barracks of infantry units of the Serbian Armed Forces, whose total number of professional military personnel met the required sample size of the respondents.

The study was conducted in September 2016, approved by the General Staff of the Serbian Armed Forces. A special permit for the research in the units of the Serbian Armed Forces was obtained from the Ministry of Defence too.

This study was conducted with approval by the Ethics Committee of the Faculty of Medical Sciences, University of Kragujevac.

Study population

In this study were included a total of 311 professional military personnel (officers, non-commissioned officers and professional soldiers) between 23 to 53 years of age. All military personnel were exposed to approximately the same professional burden.

Participation in the study was offered to all members of the professional military unit who, during the study period, met the criteria for inclusion and exclusion.

Criterion for inclusion and exclusion were respected in this investigation. In investigation were included professional military personnel of the Serbian Armed Forces (officers, non-commissioned officers and professional soldiers); work under significant workload (guard, on-call, overtime, inability to use free days); age 23 to 53 years; at least three years of active professional military service, without current mental problem. Excluding criterion was professional military personnel with diagnosed psychiatric illnesses.

In our investigation were included only those who were volunteered to take part in it and they could drop out of the research if he/she felt that the questions in any way disturbed his/her mental well-being and disturbed him/her. Written informed consent was obtained from all participants prior to participation in the study. All participants were assured anonymity and that only group-level findings would be reported.

The size of the sample was determined based on the formula for determining sample size, because there were not a lot of researches of anxiety and burnout in military population. This number was added 10%, because of the possibility that the questionnaires will not be fully filled and in this way, we received a sample size of 311 respondents, with a previous decision that the alpha error level is 0.05, and the beta level at the limit of 0.01, which gives a 90% strength study (24).



Psychological instruments

Demographic questionnaire included questions of age, gender, education, marital, professional and health status.

Psychometric assessments of the burnout and anxiety were made using: Maslach Burnout Inventory (MBI) (25) and *Beck Anxiety Inventory* (BAI) (26)

Maslach Burnout Inventory (MBI) is the most commonly used instrument to assess burnout. The MBI consists of 22 items. According to the MBI manual, it contains three subscales, which measure three components of burnout: Emotional exhaustion (EE), Depersonalization (DP) and Personal accomplishment (PA). The 9-item EE subscale assesses feelings of being emotionally overextended by one's work. The 5-item DP subscale measures having an unfeeling and impersonal response toward recipients of one's services. The 8-item PA subscale assesses feelings of competence and successful achievement. Each item could be answered on a 7-point Likert scale ranging from "never" (=0) to "daily" (=6). Burnout is indicated by high scores on Emotional exhaustion and Depersonalization and low scores on Personal accomplishment (25).

Beck Anxiety Inventory (BAI) is unspecific self-questionnaire. It served as the primary outcome for measuring the severity of anxiety in participants suffering from different primary anxiety disorders. The BAI assesses emotional, physiological and cognitive aspects of state anxiety. It consists of 21 items, rated on a 4-point Likert scale ranging from 0 = *not at all* to 3 = *severely*. The BAI scores are classified as low anxiety (0 to 21), moderate anxiety (22 to 36) and high anxiety (more than 36) (26).

Statistical analyses

Statistical analysis included parametric and non-parametric descriptive statistics, depending on the nature of data. Data analysis was carried out using SPSS (Statistical Package for the Social Sciences) software version 20.0.

For the normal distribution of all numerical parameters and scores Kolmogorov-Smirnov test was used.

Burnout (total scores of the three subscales MBI - Emotional exhaustion, Depersonalization and Personal accomplishment) and anxiety were analyzed according to the age of military personnel, divided into 3 age groups, (23-30, 31-39, 40-53 years old).

According to the levels of the total scores of the subscales of MBI (Emotional exhaustion, Depersonalization and Personal accomplishment) respondents were divided into 3 groups, with the high, mediate and low level, within which the total scores of anxiety were compared.

RESULTS

We got the results showing that in all monitored and calculated parameters and scores there was normal distribution (z was less than 1.96, and $p < 0.05$), so that it was possible to apply parametric methods in further analysis.

MBI scale reliability analysis referring to Emotional exhaustion (EE) of subjects showed that the value of the Cronbach's coefficient was very high (0.827), while the MBI relating to Depersonalization (DP) of subjects was high (0.723) and MBI relating to Personal accomplishment of subjects (PA) was very high (0.868). The scale reliability analysis of our questionnaires was also high for the questionnaire BAI (anxiety) 0.883. Also, the values of the interclass correlation coefficient were significant, which confirms the compactness and high reliability of the BAI questionnaire.

The Cronbach's coefficient was obtained by using a program that covered the analysis of changes in the coefficient by eliminating individual issues that showed that these questionnaires were very consistent and reliable, and that there were no issues whose elimination would significantly increase the value of the reliability coefficient of the entire scale. Also, the values of interclass correlation coefficients were highly significant, which confirms their compactness and high reliability.

Demographic data of military personnel included in our investigation are shown on Table 1.

Comparisons of all numerical features and scores obtained from the questionnaires of our respondents showed that there were no statistically significant differences in relation to gender, whereby for the further analysis, the most important factor was that the respondents of both gender did not differ according to the average age, which further enables their comparison by gender and by other characteristics.

The comparison of all questionnaire parameters recalculated as the overall score of our respondents showed that there were no statistically significant differences in relation to gender in all scores.

Professional military personnel were aged from 23 to 53 years (35.3±7 years, on the average). Number of male

Table 1. Demographic data of military personnel

Variables		N	%	χ^2	p
Gender	male	284	91.3	11.478	0.01*
	female	27	8.7		
Age (years)	23 - 30	98	31.5	5.598	0.01*
	31 - 39	140	45.0		
	40 - 53	73	23.5		
Education (years)	8	2	0.6	8.167	0.01*
	9-12	201	64.7		
	13-14	17	5.5		
	≥16	91	29.2		
Marital status	single	78	25.1	8.169	0.01*
	married	195	62.7		
	extramarital community	27	8.7		
	separated	3	0.9		
	divorced	8	2.6		
Total		311	100.00		

* $p < 0.01$



Table 2. Total scores of the MBI and BAI

Total scores	min	max	X	SD
MBI-EE	0.00	39.00	8.77	7.47
MBI-DP	0.00	29.00	3.19	4.18
MBI-PA	12.00	48.00	40.49	7.82
BAI	0.00	39.00	4.83	5.66

MBI (Maslach Burnout Inventory)
 EE (emotional exhaustion)
 DP (depersonalization)
 PA (personal accomplishment)
 BAI (Beck Anxiety Inventory)

subjects was significantly higher than female ($\chi^2 = 11.478$; $p < 0.01$). There were significantly more subjects with secondary school (64.7%) compared to other categories of education ($\chi^2 = 8.167$; $p < 0.01$).

There were significantly more military personnel who were married (62.7%) compared to single (unmarried) and other (separated/divorced) categories of marital status ($\chi^2 = 8.228$; $p < 0.01$).

On Table 2 are shown the average total scores of the subscales of the Maslach burnout Inventory (MBI) and the average total score of the *Beck Anxiety Inventory* (BAI).

On Table 3 are shown correlation between burnout syndrome and anxiety and age of military personnel.

According to the age of military personnel, they were divided in three groups. The highest level of burnout was measured on the subscales EE and DP in youngest group of military personnel (23-30 years) and in military personnel from 31-39 years old on subscale PA. There was statistically significant difference only on subscale EE ($p < 0.05$).

Anxiety measured on BAI questionnaire increased with age of military personnel. There was high statistically sig-

Table 3. Correlation between burnout syndrome and anxiety and age of military personnel

Scores	Age	N	X	SD	F	P
EE	23 - 30	98	9.37	7.16	4.204	0.016**
	31 - 39	140	8.26	6.94		
	40 - 53	73	8.97	8.78		
DP	23 - 30	98	3.60	4.53	0.662	0.516
	31 - 39	140	3.02	3.99		
	40 - 53	73	3.00	4.05		
PA	23 - 30	98	40.31	7.59	0.595	0.552
	31 - 39	140	40.98	7.32		
	40 - 53	73	39.78	9.03		
BAI	23 - 30	98	3.99	3.69	6.820	0.001***
	31 - 39	140	4.34	5.63		
	40 - 53	73	6.92	7.26		

BAI (Beck Anxiety Inventory)
 MBI (Maslach Burnout Inventory)
 EE (emotional exhaustion)
 DP (depersonalization)
 PA (personal accomplishment)

** $p < 0.05$
 *** $p < 0.001$

Graph 1. Correlation between anxiety and levels of burnout syndrome of military personnel



BAI (Beck Anxiety Inventory)
 MBI (Maslach Burnout Inventory)
 EE (emotional exhaustion)
 DP (depersonalization)

nificant difference between total BAI score and age of military personnel ($p < 0.001$).

On Table 4 is shown the correlation between the total scores obtained on the BAI questionnaire and levels of MBI subscales.

Based on the results obtained on the MBI (Maslach burnout inventory) questionnaire, three groups of respondents were formed for each MBI subscale: a group of subjects with low, moderate and high levels of burnout.

The burnout level measured on the subscales EE and DP increased with the increase of BAI score. On the subscale PA, vice versa, scores decreased with the increase of BAI score. There were high statistically significant differences between total scores of all MBI subscales (EE, DP and PA) and total BAI score ($p < 0.001$).

Table 4. Correlation between anxiety and levels of burnout syndrome of military personnel

MBI	BAI	X	SD	F	p
EE	Low	7.89	6.64	20.167	0.001***
	Moderate	13.73	7.17		
	High	17.58	11.94		
	Total	8.77	7.47		
DP	Low	2.68	3.34	26.578	0.001***
	Moderate	5.10	4.56		
	High	9.41	8.57		
	Total	3.19	4.18		
PA	Low	41.35	7.24	16.162	0.001***
	Moderate	34.73	9.03		
	High	32.94	9.02		
	Total	40.48	7.82		

BAI (Beck Anxiety Inventory)
 MBI (Maslach Burnout Inventory)
 EE (emotional exhaustion)
 DP (depersonalization)
 PA (personal accomplishment)

*** $p < 0.001$



DISCUSSION

In our investigation of burnout syndrome and anxiety, 311 military personnel were included. Most respondents were healthy, married men, over 30 years old, with completed secondary school. The number of male subjects was significantly higher than female, which was expected, given the military environment in which the study was conducted.

Observed by age, Emotional exhaustion (EE) was highest in military personnel under 30 years old. Also our investigation showed that anxiety increased with age and that it was the highest in military personnel older than 40.

Professional military personnel belong to a group of workers who work in workplaces that are exposed to a large number of stress factors during their work. On one hand, there are complex work tasks in military environment that require special conditions of work. Stress at work is not the result of only one factor, but the sum of increased demands that include everyday military training, unpredictable working hours, constant need for overtime, impossibility of using free days, occasional guard, terrain, very often move to another units or city. Also, there is a demand for almost absolute respect to the principles of subordination that are standardized and related to greetings, absolute obedience of subordinates whereby any mistake can lead to severe consequences including different levels of punishing.

On the other hand, financial issues are at a high level as stress factors. Young and married professional military personnel have credits for apartments, or pay a monthly rent for rented apartments where they live alone or with their newly formed families.

Older professional military personnel have higher position in the units and less problems in obedience of subordinates. Besides the undoubted benefits for efficient and quality work that could represent another difficult requirement for some older employees, they have problems with accepting technology innovation and adopt them quickly, which is an additional job stress.

In military unit there is the collective feel of social and psychological connection with the unit when the collective interests regard as their own interests in operational and working groups to which they belong. Adaptation to the military environment have positive affects towards the military personnel, because they are "identified" with military units, characterized by cohesion and motivation with tasks and believe that there were no better alternatives in other working organizations that would meet their needs (3,10,27).

Problematic and disturbed relations with some colleagues and frequent interpersonal conflicts cause the inevitable stressful effects manifested by various symptoms which caused military personnel to become emotional exhausted or excessive overworked (28). But on the other hand more the peer support could decreased stressors related to the work role there are (3).

Emotional exhaustion is a stress component of burnout. The main cause of the burnout syndrome was the discrepancy between expectations at work and the individual's ability to satisfy it (29). Emotional exhaustion has severe health consequences and is often considered to be the core dimension of burnout (30).

The development of emotional exhaustion is a process. It started with physical and later on mental tiredness in military personnel, which led them to declining working capability. Finally they diminished desire to work anything (30).

In our investigation, we found statistically significant differences between anxiety, measured on the BAI questionnaire, and all three subscales of burnout. Correlation between anxiety and burnout has shown that the level of anxiety was in connection of increase the emotional exhaustion and depersonalization and decrease of personal accomplishment, which is consistent with the results of other studies (19).

Military personnel showed that burnout was present when job satisfaction decreased because of the financial and social effects of job dissatisfaction and the damaging physical/psychological impacts of burnout. Negative reaction involves emotional focus, slow or weak reaction or absence of any attempt at solving the problem (31).

Mismatch between high job requirements and individual potentials that are below or above individual potentials, frustrate them and make them dissatisfied, and that mismatch as such can be the source of stress (3). Sometimes, when emotional exhaustion could decline although when there is a good atmosphere at work, good interpersonal communications, but it increases in moment when military personnel become aware that they would be more successful in doing other better paid job.

During the time, they become tired of working because of the long-term pressure of working. Negative way of dealing with the stressor is associated with anxiety. Anxiety could be present at the thought of going to work. Often this can be exacerbated as individuals became frustrated or angry with themselves because he/she realized he/she could not give his/her best to military at the same kind of enthusiasm as in the past did.

However, despite numerous studies that have been carried out, relationship between burnout and anxiety is not clear. Anxiety is one of the symptoms of burnout (21), or it could exist individually. Anxiety disorder is characterised by excessive anxiety and worry accompanied by physical symptoms from the activation of the sympathetic nervous system. Anxiety is defined as the feeling of floating fear, embarrassment and uneasiness. It is a normal reaction to a stressful situation, however, if it lasts longer and if the person cannot control it, it goes into anxiety disorder (17-19).

Since, on the basis of our study, learning the adequate mechanisms of overcoming everyday stress significantly influenced on the reduction of the appearance of burnout, need further investigations in this area in order to become aware of mechanisms that act protectively (32,33). There is the importance of the quality of selection of the military personnel.



CONCLUSION

There is a correlation between burnout syndrome and anxiety in professional military personnel of Serbian Armed Forces. The emotional exhaustion has shown the highest levels in military personnel younger than 30, while anxiety was highest in military personnel older than 40.

Improving the financial situation, paid recreational breaks and reduction of professional obligations could affect the prevention of the occurrence of burnout syndrome in the military environment.

The results indicate further investigations in correlation of some socio-demographic variables and interpersonal sources of stress at work among professional military personnel.

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