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Analysis of posttraumatic stress disorders in Polish soldiers who returned from stabilization mission in Iraq

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Summary

Aims. The aim of the survey was to establish whether PTSD is present among Polish soldiers returning from a one-year deployment to Iraq and an analysis of its individual symptoms.

Methods. Sixty soldiers were examined, including 30 who returned from the Iraqi mission and 30 who remained in Poland. Five analysing devices were used: (IPSA), (STAI), (BDI), a PTSD questionnaire and a socio-demographical form.

Results. A significant number of soldiers experienced a traumatic event during the mission in Iraq. Although the Iraq deployment did not change the level of depression and anxiety among the two groups of soldiers, disproportions were found in the range of anger level intensity, which was significantly higher among soldiers who returned from Iraq.

Conclusion. Stabilisation mission and the experience of a traumatic event influenced the biological and psychological functioning patterns among soldiers who returned from Iraq. The manifestations of this were emotional and physiological reactions that the soldiers experienced (nightmares, excessive sweating, increased heartbeat rate, stressful reactions in situations similar to the traumatic occurrence and intensified responses to them). However, contrary to the assumptions, it was not concluded that soldiers who returned from Iraq are suffering from PTSD.

Key words: PTSD, trauma, stress

Introduction

Poland's active participation in stabilizing missions has led to reflection on their psychological effects on the soldiers taking part in those missions. Military service is frequently connected with exposure to difficult and dangerous situations: the sight of battlefield casualties, imminent death or an overwhelming sense of danger or hopelessness can significantly influence a soldier's psychological condition [1, 2].

The main aim of surveys was to determine whether Polish soldiers displayed PTSD symptoms a year after their Iraq deployment and identifying possible differences in

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general self-esteem among soldiers who returned from Iraq and their fellow soldiers who stayed in the country. Assuming that battlefield participation is connected with exposure to extreme situations, it was agreed that providing an answer to another question was also necessary: Did a tour in Iraq result in higher levels of depression, anxiety and aggression levels between soldiers who were active participants in combat and those who stayed in Poland?

Resources and method

The surveys were performed in January 2006, one year after the soldiers returned from their tour in Iraq. The group included sixty soldiers. The experimental group involved thirty soldiers who took part in the mission (mean age:38 years) and a control group was created from thirty soldiers stationed in Poland (mean age:35 years). In the experimental group, majority of people were high school graduates (96.7%), while in the control group 53% of people were high school graduates and 43.3% of people were vocational school graduates. All persons were qualified to the study after explaining the purpose and nature of the survey. Volunteers were informed about the study and its nature. The subjects were also informed that they could withdraw from the study at any time, without giving any reason, and without any consequence, as well as about the confidential nature of all the collected personal and medical data. All soldiers who returned from Iraq were sent to the Military Medical Committee for medical examinations. However, the medical certificates were not issued to the author of the article.

Five tools were used: Aggression Syndrome Psychological Inventory (IPSA), *State-Trait Anxiety Inventory* (STAI), Beck Depression Inventory (BDI) and a properly-prepared PTSD surveying questionnaire and socio-demographic inquiry.

The Post-Traumatic Stress Disorder questionnaire was prepared on the basis of the PTSD definition presented in DSM-IV [3]. The questionnaire included questions about which reactions and feelings (at the same time PTSD diagnostic criteria) occurred in a given individual after an experienced traumatic event (the respondents answered Yes or No). The key PTSD criterion in the DSM-IV classification is the experience of a traumatic event, understood as an occurrence involving a threat to life or a serious injury to the body or the physical integrity of self or others(A1), with simultaneously experienced intense fear, a sense of helplessness and horror(A2). Besides exposure to a traumatic stressor , the PTSD diagnostic criteria include 17 symptoms, belonging to three groups of symptom categories, concerning re-experiencing of the trauma (B), persistent avoidance of all stimuli reminiscent of the trauma (C) and persistent symptoms of psychophysiological arousal (D). An important element was the introduction into the definition of the duration of symptoms criterion – a diagnosis of PTSD can be made when the duration of symptoms is longer than one month (E) as well as when impairment in social, occupational, or other important areas of functioning is noticeable (F). The set of PTSD symptoms is treated as the model of reactions which can occur as a result of the experienced trauma. For this reason, not all symptoms of individual criteria must occur with the same intensity in individuals diagnosed with PTSD. For the A symptom group, at least two symptoms must exist, for the B group at least one, the C group – at least three, the D group – at least two.

The socio-demographic survey allowed both research groups to be compared in terms of socio-demographic variables. It consisted of five closed questions. The respondent always marked one answer. The survey questions concerned such issues as age, education, marital status, offspring, date of return from Iraq.

Student's t-test was used for analysis of the data.

Results

The mean levels of surveyed depression and anxiety indicators are not significantly different according to statistical data. It may lead to the conclusion that the Iraq deployment did not lead to a significant increase in those symptoms. The results are in some way surprising, concerning earlier surveys on war-related stress which indicated that the main disorders recognized in military veterans were depression and anxiety states [4-10].

The current analysis found that the average depression level in both examined groups was low. The average experimental group's results (x=3.96) and the control group (x=2.66) did not differ significantly, as evidenced by the $t(1.58)=1.3$; $p<0.19$ values. The average anxiety level as a state was slightly higher in the Iraqi soldiers' group (x=40), compared to the control group (x=39.93). However, this result does not differentiate both groups to a significant degree $t(1.58)=1.34;p<0.186$. The results are similar concerning anxiety as a feature; in this case, the average anxiety level was slightly higher in the experimental group (x=38.76) with respect to soldiers serving in Poland (x=36.93), but this difference is not statistically significant $t(1.58)= 0.84;p<0.402$.

In turn, according to expectations, the aggression surveys found higher aggression levels in soldiers who were deployed to serve in Iraq. Other current studies have found a strong relationship between PTSD symptoms and high aggression levels [11]. There are eleven statistically important differences between the two groups. The most significant is connected with external aggression. Only three indicators were proven to be irrelevant: emotional self-aggression, psychological self-aggression and the self -aggression indicator. The results are presented in Tab. 1.

Table 1. **Depression, anxiety and aggression levels**

Clinical coefficients	Group	N	Mean	Standard deviation	Mean standard error	Significance level
Depression	Exp.	30	3.96	4.61	0.84	0.19
	Contr.	30	2.66	2.92	0.53	
Anxiety as a state	Exp.	30	40.00	9.86	1.8	0.18
	Contr.	30	39.93	7.73	1.41	
Anxiety as a trait	Exp.	30	38.76	8.96	1.63	0.40
	Contr.	30	36.93	7.83	1.43	
WO: General aggression level	Exp.	30	56.70	24.27	4.43	0.00
	Contr.	30	28.56	16.24	2.96	

Another analysed factor was to check the significance level of post-traumatic symptoms (in soldiers who returned from Iraq), such as: intrusive recollection, avoidance and arousal, using a PTSD survey questionnaire based on DSM IV. The majority of the surveyed soldiers (75%) experienced one traumatic event. A smaller percentage (25%) declared experiencing more than one event of such kind.

The occurrence level of the first group of symptoms was surveyed. It included recurrence and its individual symptoms, which become visible after confrontation with a traumatic event (see Tab. 2).

Table 2. **Intensification of re-occurring symptoms**

		Frequency	Percentage	Valid percentage	Accumulated percentage
B1- bad memories	N	12	50	50	50
	T	12	50	50	100.0
B2- nightmares	N	8	33.3	33.3	33.3
	T	16	66.7	66.7	100.0
B3-vivid memories	N	23	95.8	95.8	95.8
	T	1	4.2	4.2	100.0
B4- stress, anxiety	N	9	37.5	37.5	37.5
	T	15	62.5	62.5	100.0
B5- physiological reactions	N	7	29.2	29.2	29.2
	T	17	70.8	70.8	100.0
Total		24	100.0	100.0	

The majority (70.8%) of soldiers who experienced traumatic events had some physiological reactions diagnosed, such as increased sweating and hand shaking. 66.7 % of the surveyed soldiers declared the presence of reoccurring stressful dreams after the traumatic event. Stress and anxiety (62.5%) were ranked third. Half of the surveyed soldiers also declared the reoccurrence of bad memories. A small number of soldiers (4.2%) declared a re-experiencing of the traumatic event in the form of hallucinations or illusions.

The evaluation of the frequency of the second group of symptoms is presented below. These symptoms involve avoidance and its individual symptoms (See Tab. 3 – *next page*).

75% of the surveyed soldiers declared avoiding conversations and war memories and 62.5 % places, people and activities connected with avoiding the traumatic event. Significantly less, (16.7 %) evaluated their future in a pessimistic manner and 8.3 % declared an inability to experience love or positive feelings. The same number of soldiers have problems with recalling details concerning the traumatic event. 8.3 % of soldiers find themselves unable to be involved in issues that seemed important before the traumatic event while only 4.2% felt alienated.

Table 3. **Intensification of avoidance symptoms**

		Frequency	Percentage	Valid percentage	Accumulated percentage
C1- conversations, thoughts etc.	N	6	25.0	25.0	25.0
	T	18	75.0	75.0	100.0
C2-places, people, activities	N	9	37.5	37.5	37.5
	T	15	62.5	62.5	100.0
C3- lack of memories	N	22	91.7	91.7	91.7
	T	2	8.3	8.3	100.0
C4- loss of interests	N	22	91.7	91.7	91.7
	T	2	8.3	8.3	100.0
C5- alienation	N	23	95.8	95.8	95.8
	T	1	4.2	4.2	100.0
C6- limited affection range	N	22	91.7	91.7	91.7
	T	2	8.3	8.3	100.0
C7- pessimism	N	20	83.3	83.3	83.3
	T	4	16.7	16.7	100.0
Total		24	100.0	100.0	

Among the soldiers who experienced traumatic event(s), the third group of symptoms (arousal) was examined (See Tab. 4).

Table 4. **Intensification of arousal symptoms**

		Frequency	Percentage	Valid percentage	Accumulated percentage
D1-sleep disorders	N	11	45.8	45.8	45.8
	T	3	54.2	54.2	100.0
D2-anger outbursts	N	16	66.7	66.7	66.7
	T	8	33.3	33.3	100.0
D3concentration difficulties	N	16	66.7	66.7	66.7
	T	8	33.3	33.3	100.0
D4- increased vigilance	N	8	33.3	33.3	33.3
	T	16	66.7	66.7	100.0
D5- reflex indicative	N	6	25.0	25.0	25.0
	T	18	75.0	75.0	100.0
Total		24	100.0	100.0	

The largest surveyed percentage (75%) tended to react vividly to unexpected noise, movement or touch, compared to before their Iraq deployment. A significant percentage (66.7%) of soldiers declared increased vigilance and 54.2% experienced sleep disorders. Irritation and anger outbursts were found in 33.3 % of soldiers. The same number admitted concentration problems. Those results correspond with surveys concerning combat trauma results [12, 13]. The presence of a traumatic event is one of the PTSD diagnostic criterion. The descriptions of the above-mentioned three groups of symptoms occurring after traumatic event and its duration (should be longer than 1 month) are also significant indicators; this assumption distinguishes PTSD from an acute reaction to stress [14]. Only some of the surveyed soldiers (45.8%) were found to have PTSD symptoms lasting longer. However, all those symptoms did not exist at the time of examination, according to the respondents. To diagnose post-traumatic stress, another requirement must be fulfilled. Symptoms must cause distress in a surveyed person, which then interferes with various aspects of life (professional, social, etc.) The presence of such symptoms was also surveyed in soldiers, who took part in the mission in Iraq. Only three out of twenty-one soldiers (12.5 %) declared having some problems in those aspects of life. However, even in these soldiers, number of symptoms belonging to three groups (B, C, D) did not meet the diagnostic criteria for PTSD.

Discussion

The data suggest that a large number of soldiers were spectators or participants in traumatic events. Even though almost every of them reacted strongly to those situations, none of the soldiers met a particular criterion that would predispose him to being diagnosed with PTSD. Reactions weren't intense or long enough to cause post-traumatic disorder's symptoms development.

In contrast to the hardships of the everyday life, traumatic events can cause significantly negative reactions. The characteristics of the phenomenon have been well-depicted by surveys, showing that a soldier's reaction to a threat is a complex set of reactions, including activities of both their bodies (sweating, trembling), and their minds (recurring memories, high arousal levels). The surveys found that many of soldiers manifested some of the symptoms of PTSD. Half of the respondents declared having reoccurring nightmares and memories after the traumatic event. Those diagnosed had increased physiological reactions (sweating, hand shaking), reoccurring nightmares and anxiety, which are considered natural reactions after any traumatic event. The collected data correspond fully with data in the literature [15, 16]. According to Horowitz [17], reoccurring memories which are connected with experienced extremely stressful situations can be caused by conscious or unconscious information processing being performed by the soldiers. That information stays out of the consciousness in an active, ripe form unless it is fully assimilated and processed. It is very probable that the persistent discrepancy between new information and the previous findings, as well as reoccurring images of dramatic events, cause a strong, emotional response in soldiers, which is manifested in the form of anxiety and physiological reactions.

It may also be concluded that the avoidance symptom is an attempt to tame and control the emotions experienced by the surveyed soldiers. In cases where the information processing was too painful, soldiers tend to avoid conversations and war period memories that were directly connected with the traumatic event. On the one hand, this mechanism may seem profitable at first glance. However, avoiding the problem for a long time avoids confronting it and will only displace the information processing by delaying it. In this way, we can explain the reoccurring bad memories, stressful images, sleep disorders and increased arousal in surveyed soldiers. Memories were repeatedly returning because the information processing must have reached its final stage.

Moreover, the results show that the majority of surveyed soldiers who experienced a traumatic event reacted more emotionally to any unexpected noise, touch or movements than they had reacted before the stressful situation. What is more, a significant number of respondents were more sensitive to unexpected sounds, which may suggest that self-protection systems are in a state of constant vigilance, in case the traumatic event will occur again.

Experiences from First and Second World War, the Vietnam War and modern warfare operations show that war-related stress is the source of soldiers' mental disorders [18-20]. Combat veterans' responses range from feeling of fear and hopelessness to anger outbursts and aggression. Those symptoms are frequently connected with depression and anxiety [21-25]. Aggression surveys were proven to be consistent with previous expectations. Aggression was higher in soldiers deployed to serve in Iraq (eleven statistically significant disproportions between both groups were discovered). It is highly possible that specific war conditions, life and health threats lead to increased aggression levels. Moreover, aggression is caused by natural chemical substances, such as adrenaline [26]. This is mainly because a person's body is strongly aroused after experiencing a traumatic event and while experiencing a sense of threat it wants to provide adequate protection. It produces substances which are helpful in protection, which can be seen in using physical force (hitting someone or releasing emotions by hitting inanimate objects, for example) or verbal aggression (ridiculing someone, for example)

As the Polish National Security Ministry has confirmed, during the first year of the mission in Iraq many soldiers found it impossible to adapt to the situation in which they were in. Ninety of them were diagnosed with PTSD [27]. The mission's difficult and demanding conditions led to numerous disorders, for example, in the form of depressive and anxiousness states [28].

The results of the present surveys may be quite surprising, compared to earlier examinations concerning war-related stress. The data indicate that the soldiers' deployment to Iraq did not differentiate them according to their depression or anxiety, in either the experimental or control groups. It is possible that coming back home and meeting with their families helped to rebuild security and decrease post-traumatic stress disorder development. Surveys also show that social support plays a very significant role in protection against negative stress effects [29].

These results may be caused by the extensive military training to prepare for the mission. Proper instruction and necessary education plays a very important role. Sur-

veys have proven that a respondent's knowledge of the possibility of intensive injury, the length of recovery and the duration of an individual disorder's symptoms supports faster and more stable recovery after traumatic events than if they are not equipped with proper knowledge about their condition [30]. Another possible explanation of the results described above may be connected with many researchers' findings that traumatic experiences can lead to positive outcomes – a person who recovers from a trauma can become stronger and richer, both psychologically and spiritually, for example [31-34]. Such changes may be manifested in a variety of different ways, for example, by attaching more importance and value to one's own life, creating relationships full of intensity and warmth, increased sense of personal strength and a richer spiritual life. Unreliable examination results may be caused by soldiers' lack of willingness to report their disorders and psychological problems [35]. It refers mostly to soldiers e.g. interested in another mission. The nature and temporality of surveys may have also influenced the results. Individual indicators were measured after returning from Iraq, so it is not known how much they influenced the measured features. PTSD diagnosis may have a negative effect since people interested in secondary benefits such as financial (pension, compensation) or social ones (combatance) may exaggerate or even produce symptoms. Presented surveys results were taken from the Master of Arts' thesis, written by article's author. Therefore, any medical certificates provided by the Military Medical Commission were not issued to the author of the article. Hence, the research results could not be verified by psychiatric or medical examinations. The indicated deficiencies can be accounted for in the complexity of the PTSD phenomenon and may be the starting point for formulating new hypotheses to be verified in future surveys.

Conclusions

1. None of the soldiers who returned from stabilizing mission in Iraq were diagnosed with PTSD.
2. Iraq deployment did not differentiate depression and anxiety levels between the experimental and control groups of soldiers.
3. Soldiers who returned from Iraq are characterized by higher levels of aggression than the soldiers who stayed in Poland.

Анализ нарушений польских солдатов после травматического стресса по возвращении из стабилизацийных миссий в Ираке

Содержание

Задание. Целью предпринятых исследований было установление появления Синрома посттравматического стресса у польских солдат после года со время возвращения из Ирака.

Методы. В исследование вошло 60 солдат, в том числе 30 которые вернулись из миссии в Ираке и 30 солдат, пребывающих в Польше. Использовано 5 исследовательских пособий: ИПСАСТАЛ, БДИ Глоссарий посттравматического стресса и Социодемографическую анкету.

Результаты. Многие солдаты во время миссии в Ираке принимало участие в травматических ситуациях, но ни одного из них не отмечено изменений в посттравматической шкале. Пребывание в Ираке не влияло на уровень депрессии и фобии между солдатами обеих групп.

С другой стороны, отмечены предиспозиции в области утяжеления степени агрессии, которые выраженным образом, доминировали у солдат, возвращающихся из миссии.

Выводы. Участие в стабилизацийной миссии в Ираке, конфронтация с травматической ситуацией, хотя не надолго, однако повлияли на функционирование, принимающих в этом участие солдат. Это отражалось в эмоциональных реакциях и физическом состоянии, в ответ на пережитые травмы (сонные кошмары, стресс в ситуациях, напоминающих травму, усиленный ориентацийный рефлекс). Однако, вопреки ожиданиям, не найдено состояния у солдат, возрращающися из Ирака симптомов посттравматического стресса

Ключевые слова: посттравматический стресс, травма, стресс

Analyse der Störungen bei polnischen Soldaten nach traumatischem Stress nach Heimkehr aus der Stabilisierungsmission in Irak

Zusammenfassung

Ziel. Das Ziel der Erhebungen war zu bestimmen, ob die posttraumatische Belastungsstörung (PTBS, engl. PTSD) bei den polnischen Soldaten nach einem Jahr von der Rückkehr aus Irak besteht.

Methoden. An die Studie wurden 60 Soldaten eingeschlossen, darunter 30 Soldaten, die aus dem Einsatz in Irak zurückgekehrt waren und 30 Soldaten, die in Polen waren. Für die Erhebung wurden 5 Instrumente eingesetzt: IPSA, STAI, BDI, Fragebogen zur Erfassung der PTBS, und soziodemographische Umfrage.

Ergebnisse. Viele Soldaten erlebten beim Einsatz in Irak ein traumatisches Erlebnis, aber bei keinem von ihnen wurden die PTBS – Kriterien erfüllt. Der Aufenthalt in Irak unterschied den Level der Depression und Angst zwischen den Soldaten der beiden Gruppen nicht. Es wurden Unterschiede im Bereich des Grades der Aggression nachgewiesen, die deutlich bei den heimkehrenden Soldaten vorherrschte.

Schlussfolgerungen. Die Teilnahme an der Stabilisierungsmission in Irak, traumatische Ereignisse – obwohl für nicht lange Zeit – beeinflussten jedoch die Funktionsweise der daran beteiligten Soldaten. Der Ausdruck davon waren die emotionellen und physiologischen Reaktionen, die die Soldaten erfahren haben (Alpträume, Stress in dem Trauma ähnlichen Situationen, intensiverer Orientationsreflex). Gegen den Erwartungen aber wurde nicht nachgewiesen, dass die Soldaten, die heimgekehrt waren, an der PTBS leiden.

Schlüsselwörter: PTBS, Trauma, Stress

L'analyse du trouble de stress post-traumatique (TSPT) des soldats polonais après leur retour de la mission pour la stabilisation en Iraq

Résumé

Objectif. Etablir si le TSPT se manifeste chez les soldats polonais une année après leur retour de l'Iraq

Méthodes. On examine 60 soldats – 30 revenant de l'Iraq et 30 restant en Pologne avec les questionnaires suivants : IPSA, STAI, BDI, questionnaire de TSPT, enquête sociodémographique.

Résultats. Durant la mission en l'Iraq plusieurs soldats ont vécu les événements traumatisants pourtant ils ne remplissent pas des critères de TSPT. Le séjour en Iraq ne change pas le niveau de la dépression et de l'anxiété des soldats, pourtant il influe sur le niveau de l'agression des soldats revenant de l'Iraq.

Conclusions. La participation à la mission pour la stabilisation en Iraq et les expériences des évènements traumatiques influent sur le fonctionnement des soldats. Leurs réactions psychologiques et physiologiques en témoignent (les cauchemars, les réactions de stress dans les situations similaires aux événements traumatiques, le pouls trop rapide). Toutefois, malgré les suppositions on n'atteste pas de TSPT chez les soldats polonais revenant de l'Iraq.

Mots clés : TSPT (trouble de stress post-traumatique), trauma, stress

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