

## ORIGINAL ARTICLE

# THE ROLE OF ADVERSE CHILDREN'S EXPERIENCE IN THE DEVELOPMENT OF PSYCHOLOGICAL DISORDERS AMONG PARTICIPANTS IN ANTI-TERRORISM OPERATION

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**ABSTRACT**

**The aim:** The sense of our research was to examine the reason for the consequential links between negative childhood experiences and the mental state of participants of anti-terrorist operations.

**Materials and methods:** A standard "Adverse Childhood Experiences (ACEs)" questionnaire was used to obtain primary data. Conflict tactics scales were used to determine emotional, physical, and domestic violence in respondents.

**Results:** The study evaluated 7 categories of ACEs: physical indifference (lack of care and protection); emotional neglect (lack of love); physical violence (pushing, grabbing or slapping); emotional violence (scolded, insulted or suppressed); sexual violence; domestic violence and a family history of mental disorders, diseases or alcohol abuse. All respondents were divided into two groups: those who had psychological disorders and those who were healthy.

**Conclusions:** The data obtained in the study indicate that the chances of having psychological disorders increase in those fighters who complained of emotional violence - the feeling of humiliation; physical violence - those who were beaten in childhood; domestic violence was manifested in the fact that the mother was beaten; disadvantaged families where a family member has used drugs or abused alcohol; the presence of depression in parents.

**KEY WORDS:** adverse childhood experiences, conflict tactics scales, psychiatric disorders, anti-terrorist operations

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**INTRODUCTION**

Childhood difficulties, which are related to abuse, neglect and domestic suffering, are an important issue that has a significant impact on people, the family and society as a whole.

The influence of childhood on the adult life of the individual is an indisputable fact. Numerous studies have been devoted to this question since the 19th century, which were initiated by Z. Freud and continued by his numerous followers [1].

Study of the problem of personality changes in post-traumatic stress disorder (PTSD), is relevant and socially significant in modern society, as there is an urgent need to provide effective psychosocial care to a large number of people suffering from stress-induced disorders [2].

There are several possible explanations for the development of post-stress disorders, in particular PTSD. Firstly, personality traits and pre-existing disorders may act as risk factors for the development of PTSD and play a certain pathogenetic role in its development. There are data in the literature on research [3] which show that people with borderline personality disorders have limited resources to deal with traumatic events, which makes them more vulnerable to the development of PTSD [4, 5].

During the XX century and at the beginning of the XXI century, numerous data have been accumulated on the study

and understanding of the role and place of mental trauma in the formation of mental pathology: small and local wars in one part of the world, various military conflicts, constant threats from militants and terrorists [6, 7]. As a result, the problem of trauma and post-traumatic (post-stress) disorders is an urgent problem and one that requires consideration and clarification of the causes and consequences.

**THE AIM**

The sense of our research was to examine the reason for the consequential links between negative childhood experiences and the mental state of participants of anti-terrorist operations / joint forces operation (ATO/JFO).

**MATERIALS AND METHODS**

The material of our study was the results of a survey of ATO/JFO participants. There is 188 respondents involved in study. A standard "Adverse Childhood Experiences (ACEs)" questionnaire was used to obtain primary data [8]. Conflict tactics scales (CTS) were used to determine emotional, physical, and domestic violence in respondents. Sociological, epidemiological, statistical methods, as well as the method of prognostic modeling were used to solve the set tasks.

**Table I.** Distribution of anti-terrorist operation participants by socio-demographic factors and established psychiatric diagnosis

Factors	n	Psychiatric diagnosis		Odds ratio OR (95% CI)	$\chi^2$	p
		Present	No			
Place of residence (rural area)	130	51 (39,2)	79 (60,8)	0,603 (0,323-1,124)	2,553	0,075
Place of residence (urban area)	58	30 (51,7)	28 (48,3)			
Marital status (single)	74	39 (52,7)	35 (47,3)	1,910 (1,054-3,460)	4,603	0,023
Marital status (married)	114	42 (36,8)	72 (63,2)			
Lives with: (without family)	51	33 (64,7)	18 (35,3)	3,399 (1,734-6,663)	13,341	0,001
Lives with: (with family)	137	48 (35,0)	89 (65,0)			
Education level (average)	99	43 (43,4)	56 (56,6)	1,031 (0,578-1,837)	0,010	0,518
Education level (high)	89	38 (42,7)	51 (57,3)			

## RESULTS

The study involved inpatients with various mental disorders who were comprehensively evaluated for ACE and symptoms of post-traumatic stress disorder, dissociation and depression (regardless of their initial diagnosis).

The survey was conducted among individuals who had experience of participating in an anti-terrorist operation / joint force operation and related to their negative childhood experiences which were obtained under the age of 18 years. The study evaluated 7 categories of ACEs: physical indifference (lack of care and protection); emotional neglect (lack of love); physical violence (pushing, grabbing or slapping); emotional violence (scolded, insulted or suppressed); sexual violence; domestic violence and a family history of mental disorders, diseases or alcohol abuse. All respondents were divided into two groups: those who had psychological disorders and those who were healthy.

The role of demographic and social factors that could influence the occurrence of psychological manifestations in ATO/JFO participants was also studied. The results obtained during the work are shown in table I.

After analyzing the relationship between socio-demographic factors and the risk of psychiatric disorders, it was determined, that the chances of having a psychiatric diagnosis increase in 1.9 times (OR=1,910 [95% CI 1,054 - 3,460],  $p = 0,023$ ) in unmarried (single) peoples and in 3.4 times in those who live alone (without family) (OR=3,399 [95% CI 1,734 - 6,663],  $p = 0,001$ ).

The next step in the study was to identify emotional, physical and domestic violence, using questions from the Conflict Tactics Scale.

The data obtained in the survey (table II) indicate that the chances of having psychological complaints increase in those patients (fighters) who noted:

- emotional violence - the feeling of humiliation increases the risk by 5 times, (OR = 5,400 [95% CI 2,753 - 10,593])  $p = 0,001$ ;
- physical violence - the risk of deviation is higher in those who were beaten in childhood by 6 times (OR = 6,041 [95% CI 3,102 - 11,767])  $p = 0,001$ ;
- domestic violence was manifested in the fact that the mother was beaten increase the risk by 6 times (OR = 5,958 [95% CI 4,136 - 8,583])  $p = 0,001$ ;
- disadvantaged families where a family member has used drugs or abused alcohol increase the risk by 2 times (OR = 2,101 [95% CI 1,129 - 3,909])  $p = 0,013$ ;
- the presence of depression in parents increase the risk by 8 times (OR = 8,047 [95% CI 2,832 - 22,867])  $p = 0,001$ .

The average length of stay of the examined patients (fighters) in the anti-terrorist operation zone was  $12.7 \pm 7.913$  months. We used this time as a time variable, which, among other significant factors, would affect the prognosis of psychological changes in fighters.

The prognostic model of risk factors for psychiatric diagnosis in ATO/JFO participants was based on the obtained data.

To build this model, the Cox regression equation included significant predictors that we found when performing a simple logistic regression:

- Demographics: marital status (single); lives with (without family/alone);
- The results were obtained in a survey on negative childhood experiences that occurred before 18 years: feeling of humiliation; physical violence - who were beaten in childhood; domestic violence - mother was beaten; disadvantaged families where a family member has used drugs or abused alcohol; depression in parents.

Through conducting of the regression analysis, we identified the factors that influence the appearance of psychological symptoms.

**Table II.** The relationship between the presence of a psychiatric diagnosis and indicators of adverse effects in childhood

	n	Psychiatric diagnosis		Odds ratio (95% CI)	$\chi^2$	p
		Yes n = 69	No n = 119			
Humiliation (positive)	56	36 (64,3)	20 (35,7)	5,400 (2,753-0,593)	26,121	0,001
Humiliation (negative)	132	33 (25,0)	99 (75,0)			
Beating (positive)	92	52 (56,5)	40 (43,5)	6,041 (3,102-1,767)	30,464	0,001
Beating (negative)	96	17 (17,7)	79 (82,3)			
Sexual violence (positive)	8	4 (50,0)	4 (50,0)	1,769 (0,428-7,311)	0,636	0,328
Sexual violence (negative)	180	65 (36,1)	115 (63,9)			
Lack of love (positive)	59	24 (40,7)	35 (59,3)	1,280 (0,680-2,411)	0,585	0,273
Lack of love (negative)	129	45 (34,9)	84 (65,1)			
Lack of food (positive)	40	16 (40,0)	24 (60,0)	1,195 (0,584-2,446)	0,238	0,378
Lack of food (negative)	148	53 (35,8)	95 (64,2)			
Loss of a parent (positive)	61	21 (34,4)	40 (65,6)	0,864 (0,456-1,636)	0,201	0,389
Loss of a parent (negative)	127	48 (37,8)	79 (62,2)			
Violence against the mother: (positive)	45	45 (100)	0	5,958 (4,136-8,583)	102,031	0,001
Violence against the mother: (negative)	143	24 (16,8)	119 (83,2)			
Family drug use (positive)	107	47 (43,9)	60 (56,1)	2,101 (1,129-3,909)	5,577	0,013
Family drug use (negative)	81	22 (27,2)	59 (72,8)			
Depression (positive)	23	18 (78,3)	5 (21,7)	8,047 (2,832-2,867)	19,483	0,001
Depression (negative)	165	51 (30,9)	114 (69,1)			
Imprisonment (positive)	11	4 (36,4)	7 (63,6)	0,985 (0,278-3,492)	0,001	0,626
Imprisonment negative	177	65 (36,7)	112 (63,3)			

Table III shows a model built by the method of plausibility. Thus, in the first step, the model includes variables: marital status and with whom patient lives, in the second step - feeling of humiliation; physical violence - who were beaten in childhood; domestic violence - beat the mother; disadvantaged families where one of the family members used drugs or abused alcohol; depression in parents.

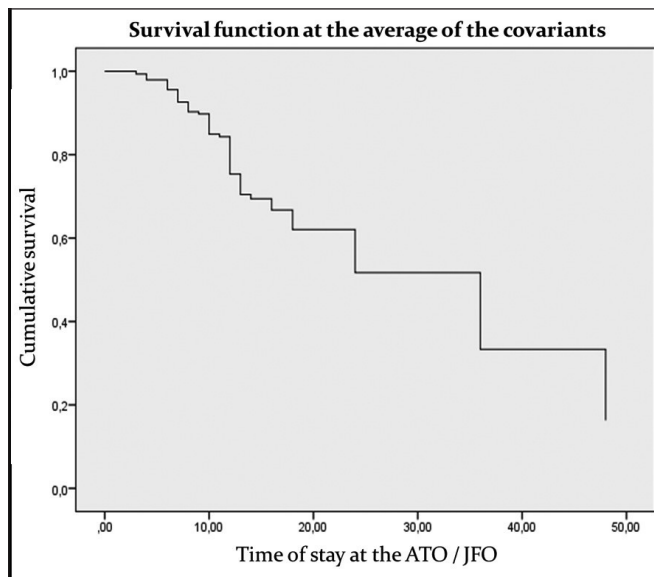
As a result of applying the method, we found significant relationships for cases of psychological manifestations of ATO/JFO participants, as evidenced by the predicted changes in risk when changing the value of the independent variable per unit (Table III).

The first step of the study revealed a significant variable - living without family (alone):  $\exp(\beta)$  2,240,  $p = 0,033$ . Most likely, that living together with one's own family or with parents creates in the patient (fighter) a feeling of support and security.

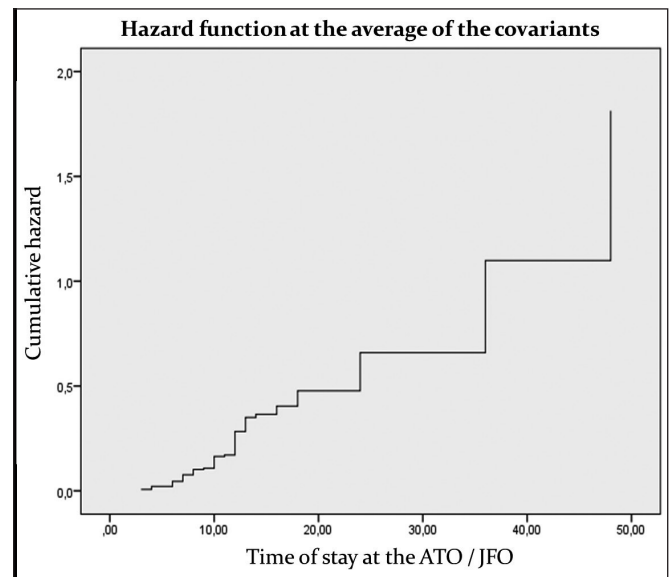
When analyzing the second step of the equation, it was found that the factors of physical and domestic violence were significant: the chances of mental disorders increase in fighters who were beaten in childhood ( $\exp(\beta)$  2,983)  $p = 0,001$  and whose mother was beaten ( $\exp(\beta)$  2,890)  $p = 0,001$ . The presence of depression in one of the parents

**Table III.** Model of risk factors for the development of mental disorders in ATO/JFO participants

Step	Factor	Coef. B	SD.	Vald.	p	Exp(β)	95%CI
Step 1	Marital status	0,258	0,372	0,482	0,488	1,294	0,625-2,681
	Lives with	0,806	0,378	4,555	0,033	2,240	1,068-4,696
Step 2	Humiliation	0,025	0,279	0,008	0,930	1,025	0,593-1,772
	Beating	1,210	0,329	13,554	0,000	2,983	2,157-5,568
	Loss of a parent	0,548	0,292	3,538	0,060	1,731	0,977-3,065
	Violence against the mother	1,243	0,286	18,923	0,000	2,890	3,165-6,505
	Family drug use	0,249	0,317	0,614	0,433	1,282	0,689-2,387
	Depression	1,044	0,341	9,382	0,002	3,352	2,180-4,687



**Fig. 1.** Function of preservation of mental symptoms (taking into account demographic factors and negative children's experience) for average values of covariant of duration of stay in anti-terrorist operation.



**Fig. 2.** Hazard function of occurrence of mental symptoms (taking into account demographic factors and negative children's experience) for average values of covariant of duration of stay in anti-terrorist operation.

also increased the risk of psychological disorders by 3,3 times ( $\exp(\beta) 3,352$ )  $p = 0,002$ .

Estimates of the corresponding coefficients, as well as graphs constructed for the average values of the independent variables, are shown in Fig. 1, 2.

Each point and segment on the survival curve indicated the probability that the soldier falls into the risk zone of mental symptoms, taking into account demographic factors and factors of negative childhood experiences, with each month spent in the ATO/JFO zone. The shortest period of stay in the anti-terrorist operation was 1 month, and the longest - 48 months. After 18 months in the anti-terrorist operation zone, there is a sharp increase in relative risk, which stops at the twentieth month, after which the risk of mental symptoms increases, and, accordingly, the preservation of mental health decreases.

**DISCUSSION**

Of course, a negative childhood experience is not the only decisive factor that determines the development of mental

illness, but it sufficiently increases the chances of its development. Studies of negative childhood experiences are very similar to studies of post-traumatic stress disorder [9, 10].

Adverse childhood experiences, including sexual, physical, and emotional abuse, physical and emotional neglect, and family problems have been documented as risk factors for PTSD among military personnel. In a meta-analysis of risk factors for post-traumatic stress disorder, the severity of the injury, lack of social support, and adverse child factors (excluding abuse) were among the strongest prognostic indicators of PTSD among military personnel [11].

Post-traumatic stress disorder can occur after a traumatic event, such as radiation exposure, a serious accident and a violent personal attack. However, not all people who experience a severely traumatic event suffer from PTSD. Some factors can make some people more vulnerable to PTSD than others [12]

**CONCLUSIONS**

The data obtained in the study indicate that the chances of having psychological disorders increase in those fighters

who complained of: emotional violence - the feeling of humiliation increases the risk by 5 times, (OR = 5,400 [95% CI 2,753 - 10,593])  $p = 0,001$ ; physical violence - the risk of deviation is higher in those who were beaten in childhood by 6 times (OR = 6,041 [95% CI 3,102 - 11,767])  $p = 0,001$ ; domestic violence was manifested in the fact that the mother was beaten increase the risk by 6 times (OR = 5,958 [95% CI 4,136 - 8,583])  $p = 0,001$ ; disadvantaged families where a family member has used drugs or abused alcohol increase the risk by 2 times (OR = 2,101 [95% CI 1,129 - 3,909])  $p = 0,013$ ; the presence of depression in parents increase the risk by 8 times (OR = 8,047 [95% CI 2,832 - 22,867])  $p = 0,001$ .

The chances of having a psychiatric diagnosis increase in 1.9 times (OR=1,910 [95% CI 1,054 - 3,460],  $p = 0,023$ ) in unmarried (single) peoples and in 3.4 times in those who live alone (without family) (OR=3,399 [95% CI 1,734 - 6,663],  $p = 0,001$ ).

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## Conflict of interest:

*The Author declare no conflict of interest.*

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