

Semenenko Kateryna Myhailivna. Mixed anxious and depressive reaction during adaptation disorder in participants during anti-terrorist operation. *Journal of Education, Health and Sport*. 2022;12(3):78-93. eISSN 2391-8306. DOI <http://dx.doi.org/10.12775/JEHS.2022.12.03.007> <https://apcz.umk.pl/JEHS/article/view/JEHS.2022.12.03.007> <https://zenodo.org/record/6358816>

The journal has had 40 points in Ministry of Education and Science of Poland parametric evaluation. Annex to the announcement of the Minister of Education and Science of December 1, 2021. No. 32343. Has a Journal's Unique Identifier: 201159. Scientific disciplines assigned: Physical Culture Sciences (Field of Medical Sciences and Health Sciences); Health Sciences (Field of Medical Sciences and Health Sciences).

Punkty Ministerialne z 2019 - aktualny rok 40 punktów. Załącznik do komunikatu Ministra Edukacji i Nauki z dnia 1 grudnia 2021 r. Lp. 32343. Posiada Unikatowy Identyfikator Czasopisma: 201159. Przypisane dyscypliny naukowe: Nauki o kulturze fizycznej (Dziedzina nauk medycznych i nauk o zdrowiu); Nauki o zdrowiu (Dziedzina nauk medycznych i nauk o zdrowiu).

© The Authors 2022;

This article is published with open access at Licensee Open Journal Systems of Nicolaus Copernicus University in Torun, Poland

Open Access. This article is distributed under the terms of the Creative Commons Attribution Noncommercial License which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial license Share alike. (<http://creativecommons.org/licenses/by-nc-sa/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.

The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 23.02.2022. Revised: 05.03.2022. Accepted: 15.03.2022.

UDC: 616.895.4:355.457

## MIXED ANXIOUS AND DEPRESSIVE REACTION DURING ADAPTATION DISORDER IN PARTICIPANTS DURING ANTI-TERRORIST OPERATION

Semenenko Kateryna Myhailivna

Mykola Pirogov Vinnytsya National Medical University,

assistant of the department of psychiatry, narcology and psychotherapy with the course of postgraduate education of VNMU named after M. I. Pirogov; +38 (068) 3678159; [katyasemenenko88@gmail.com](mailto:katyasemenenko88@gmail.com); <https://orcid.org/0000-0002-3669-4329>

### Abstract

Adaptation disorder is caused by emotional and stressful factors. Stress - the state of tension of adaptation mechanisms. Since the war is still going on in our country, the military often has this nosology.

These factors do not endanger a person's physical and mental health, but they do cause a pathological state of negative emotions that disrupts the adaptive response. Critical situations experienced by patients cause distress, which is experienced as grief, unhappiness, exhaustion and is accompanied by a violation of adaptation, control, prevents self-actualization of the individual.

Thus, the occurrence of adaptation disorders (AD) in victims of the anti-terrorist operation (ATO), in people with extremely high personal anxiety, stress intensity, social situation in which he operates, personal characteristics of the victim and his biological

vulnerability, with serious somatic diseases, disabled people, people who lost their parents in early childhood or lacked maternal care. Vulnerability to the disorder is also increased by premorbid burden of trauma.

Clinical manifestations of patients with maladaptation were more often presented in the form of anxiety and depression. Mixed subvariant (anxiety-depressive) meets the diagnostic criteria of heading F 43.22 "Mixed anxiety and depressive reaction" and is characterized by a combination of clinical signs of two options in one patient.

The article analyzes various psychological features of AD experience in combatants. It was found that 66.9% of soldiers out of 898 respondents who were demobilized from the ATO zone have pronounced anxiety and depressive symptoms of various degrees. The urgency of this issue is to determine the criteria for psychodiagnostics of the distribution of this condition, which is essential for the treatment of such patients.

Purpose: to evaluate the algorithm of clinical psychodiagnostics of AD (F43) on the basis of research of clinical and psychopathological features and pathopsychological characteristics of patients affected by anti-terrorist operation. Mixed anxiety and depressive reaction (F 43.22).

Materials and methods: On the basis of the municipal non-profit enterprise "Vinnytsia Regional Clinical Hospital of War Veterans of Vinnytsia Regional Council" (MNE "VRCHWV VRC"), for the period from 2016-2020 898 patients were examined, where the main research methods were: socio-demographic (questionnaire), clinical-anamnestic, clinical-psychopathological (clinical interview), psychodiagnostic, statistical.

Results: In the course of this experimental study, the severity of emotional disorders in the study group was determined, data variability was determined and statistical and mathematical analysis of the survey results was performed. There was a significant correlation between indicators of situational, personal, general mental anxiety and depression by Pearson's correlation coefficients ( $P < 0,01$ ).

Conclusions: AD occurs as a result of extraordinary events, as well as under the influence of stress, which does not reach an extraordinary or catastrophic level. The development of AD may be preceded by an acute stress reaction.

Determining the clinical and psychopathological features of the predominant variants of adaptation disorders in the victims of the ATO is the basis for the development of new diagnostic algorithms and integrated approaches to the treatment of this contingent. With the timely detection of these symptoms, former combatants become less dangerous to others, thus having less traumatic impact on themselves and their families.

A good prognosis correlates with the rapid development of symptoms, good social adaptation in premorbid, the presence of social support and the absence of concomitant mental and other diseases.

**Key words: adaptation disorder; anxiety; depression; anti-terrorist operations.**

### **Introduction**

Many patients develop AD while in the combat zone during the anti-terrorist operation. Disorders are exacerbated most often in the presence of one or more stresses. The severity of stress or stress does not always determine the severity of the adaptation disorder.

Personal organization, cultural and various social norms and values contribute to an inadequate response to stress.

Its severity is a complex function of the number, extent, duration, reversibility, environment and personal relationships and perceptions of patients themselves.

All critical situations, from relatively easy to the most difficult (stress, conflict, frustration, crisis), require a person to different internal work, certain skills to overcome them and adapt to them in the future.

In disorders of adaptation, the intensity of stress does not always determine the severity of the disorder.

Stresses can be single or superimposed on each other, be periodic or constant, which aggravate the clinical symptoms of patients.

Different stages of life have their own specifics of stressful situations: the beginning of training, marriage, the appearance of children, failure to achieve professional goals, retirement and even, as in our cases, the demobilization of the military.

According to the psychoanalytic hypothesis, the symptoms of adaptation disorders are the result of the resurgence of trauma unresolved conflicts of early childhood. It is assumed that warm emotional support in childhood and flexible adaptation to the correctly identified needs of the child create the most favorable background for the formation of adaptive mechanisms of psychological protection [2, 8, 19]. Therefore, AD in the military occurs as a failure to achieve goals during service.

Often, during a clinical interview, attention is also drawn to the secondary benefits of the disease: financial compensation, a state of "special significance" can help to record the manifestations of the disease [4].

Most symptoms subside over time without treatment, especially after the end of the stressor; in the case of a possible chronic course, there is a risk of secondary depression, anxiety and substance abuse.

Vulnerability in the older age group is due to excessive rigidity of coping mechanisms, which makes it difficult to take a flexible approach to overcoming the consequences of injury, as well as age-related decline in nervous and other somatic diseases, especially cardiovascular system. Physical exhaustion is a factor at any age [4, 7].

Adaptation disorders can be organically conditioned. EEG disorders in these patients are similar to those in endogenous depression.

Premorbid burden with various psycho-traumas also increases the disorder. Characteristic features that lead to the development of AD in such patients are emotional instability, increased anxiety and immaturity of the individual. However, these data should be treated with some caution, as character changes may be the result of injury, rather than precede it and have a risk factor.

It is known that the following types of adaptation disorders are observed in patients who have survived hostilities: neurotic, psychosomatic and behavioral.

Neurotic manifestations of maladaptation are more often presented in the form of astheno-vegetative, anxiety-depressive, dysphoric, obsessive-phobic, cerebrostenic and psychoorganic disorders.

Behavioral type of maladaptation is represented by post-reactive, neurotic or organic options for personality development.

Manifestations of psychosomatic maladaptation are polysymptomatic, but more often appear in the structure of such somatic clinical formations as: hypertension, gastric and duodenal ulcers, chronic obstructive pulmonary disease, neuroderma and others.

For most participants of battle actions the personal next personality touches and complaints: an increase anxiety, irritability, dismal or overfalls in a mood, vulnerability, feeling of psychical and physical discomfort, tension, obtrusive presentations, fears and agitations, general disturbance and nervousness, propensity to the different reactions of protest, that and we look after during mixed anxiously and the depressed reaction of AD.

The picture of the disease often presents general dullness of feelings (emotional anesthesia, feelings of distance from other people, loss of interest in previous activities, inability to feel joy, tenderness, orgasm) or feelings of humiliation, guilt, shame, aggression, anger [13, 17].

According to ICD-10, in section F 43 "Response to severe stress and maladaptation", the following headings are highlighted: F42.22 Mixed anxiety and depressive response - there are both anxiety and depressive symptoms, the intensity of which does not exceed the mixed anxiety and depression disorder (F41.2) or other mixed anxiety disorders (F41.3), which occupies a leading place in the mental disorder of patients in the future, because the symptoms do not appear immediately, which can lead to temporary disability of respondents [3, 11], as well as there may be consequences in the form of suicidal tendencies, alcohol abuse, as previously mentioned, and other psychoactive substances.

**Purpose of the research:** based on a comprehensive analysis of clinical and psychopathological features and pathopsychological characteristics of patients to identify characteristic clinical manifestations of mixed anxiety and depressive reactions of AD in combatants in the ATO using a set of techniques.

**Materials and methods:**

To conduct the practical part of the study, a number of methods were selected that are adequate to the purpose of the work.

1. Socio-demographic method (questionnaire).
2. Clinical and anamnestic method.
3. Clinical and psychopathological (clinical interview).
4. Psychodiagnostic method (pathopsychological methods: scale of situational and personal anxiety Ch. D. Spielberger - Yu. L. Khanin; personal scale of mental anxiety; scale of self-assessment of nervous depression Zunge-Balashova). [1, 6, 10, 12, 16, 18].
5. Statistical method.

According to the ICD-10 criteria, in order to diagnose an adaptation disorder, it is necessary to confirm the presence of an adaptation disorder and exclude all other causes of these disorders - according to the anamnesis, physical examination and instrumental studies [3].

Adaptation disorders were diagnosed in accordance with the following clinical diagnostic criteria:

A. There was an identified psychosocial stress that did not reach extraordinary or catastrophic proportions, after which the painful symptoms appeared within a month.

B. Certain symptoms of these disorders (excluding delusional and hallucinatory) meet the criteria of affective (F30-F39), neurotic, stressful, and somatoform (F40-F48) disorders and behavioral and emotional disorders in children and adolescents (F90-F98).

Symptoms of anxiety and depression may meet the criteria for mixed anxiety and depressive disorder (F41.2) or other mixed anxiety disorders (F41.3), but their severity is insufficient to diagnose more specific anxiety or depressive disorders.

C. Symptoms do not exceed 6 months from the cessation of stress or its effects, except for prolonged depressive reactions (F43.21).

The research was conducted on the basis of therapeutic, surgical and neurological departments of MNE "VRCHWV VRC".

The work was performed in several stages:

1. Study of modern medical, psychological literature on the subject of adaptation disorders.

2. Research of clinical and psychopathological features of adaptation disorders in victims of anti-terrorist operation.

3. Selection of effective psychodiagnostic methods-tests to study the manifestations of adaptation disorders in this group of patients.

4. Evaluate the results of clinical psychodiagnostics of these patients [15].

Data on 898 patients admitted during October 2016 - November 2020 were collected in the form of books, to which respondents gave informed voluntary consent, and included the following data:

1. Date of the survey
2. Medical history number
3. The department in which the survey was conducted
4. Last name, first name, patronymic of the patient
5. Age
6. Date of receipt
7. Mobilization, demobilization
8. Profession, education
9. Home address
10. Complaints

The data were compared with the relevant case histories and supplemented by a note on premorbid personality traits (if available).

The testing methods themselves were from another part of the completed map.

Data were collected directly from patients by conducting a complete clinical-psychopathological and clinical-psychodiagnostic examination.

This took into account thematically important anamnestic data, test results and mental status of patients, which were recorded in a specially designed map of examination results.

In addition to this examination, a life history, medical history, and family history were carefully collected. The task of collecting anamnesis is to obtain information from the patient to assess his personality as an established system of relations to himself and, in particular, attitude to the disease and assess how the disease has changed the whole system.

It is important to know the course of the disease, how the disease is reflected in the patient's subjective world, how it affects his behavior, the whole system of personal relationships, whether special attention was paid to previous stressful situations and changes in life. , the ability to overcome difficulties and resist traumatic factors), the state of the social environment and moral support not only from family but also from others.

In the presence of psychopathological symptoms, its nature, time and circumstances of their occurrence, dynamics, duration and factors that accelerate the occurrence of these symptoms were clearly defined.

The principles of the psychiatric survey were interviews.

The standardized interview in our study is defined as "a conversation consisting of questions presented in a certain order." These questions provide diagnostic information based on the patient's responses and the interviewer's observations.

The interview revealed symptoms and syndromes that meet specific diagnostic criteria. Structured interviews in our case were designed to increase the reliability of diagnosis as a part of methodological work in scientific work. Potential inaccuracies and lack of diagnostic information from patients and the use of strictly identical questions proposed in a certain sequence were contrasted.

Also, in this study, integral attention was paid to the main method of studying mental disorders - clinical and psychopathological, based on direct observation of the patient.

It is very important to constantly compare what is heard and seen, the data of surveys and observations, facial expressions, pantomime response to questions, even when the patient refuses to answer them.

Observing the patient, they paid attention to his appearance, purposefulness, absurdity or stereotypes of movements, facial expressions, reaction to the environment, features of speech, etc.

At the time of the study, the mean age of patients was  $54.60 \pm 1.52$  years. Informed voluntary consent was obtained from all participants in the study.

Processing of the obtained results was performed on a computer with licensed software Windows 7 and Office 2017 Word, Exel, Statistika 5.

### **Results and Discussion:**

The inclusion in the methodological apparatus of the study of specific tests and corresponding experimental indicators was carried out according to the following criteria: conceptual validity of methods, high validity, psychometric reliability, as well as the ability to compare the results.

Testing was conducted in a calm and cozy atmosphere.

Respondents were given pre-prepared forms: an informed consent form, a booklet with survey forms, on the title page of which indicated the main biographical data, where the treatment takes place, complaints.

The survey was conducted by interviewing methods that provide a comprehensive assessment of the current mental state.

Method of statistical and mathematical analysis. According to the objectives of the study, the digital data obtained during the study were subjected to statistical processing. A database based on a dynamic observation map and psychodiagnostic examination of the patient was created to process the indicators.

In the statistical processing of the obtained results, the generally accepted formulas were used: arithmetic mean and standard arithmetic mean error. The calculation of the statistical significance of the difference between the samples of the arithmetic mean and its standard error was performed using the calculations of correlation-regression analysis.

Correlation-regression analysis was performed for the study. Correlation-regression analysis is the construction and analysis of economic-mathematical model in the form of a regression equation (correlation equation), which expresses the dependence of the resultant feature on one or more features of factors and estimates the degree of connection density [20]. For this purpose, a linear relationship between the indicators was determined by calculating the Pearson correlation coefficient  $r_{xy}$  (linear dependence index) between two variables according to the formula of Fig.1:

Figure 1

$$r_{xy} = \frac{\sum_{i=1}^m (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^m (x_i - \bar{x})^2 \sum_{i=1}^m (y_i - \bar{y})^2}} = \frac{cov(x, y)}{\sqrt{s_x^2 s_y^2}}$$



After performing calculations, obtaining results, estimating which, the correlation coefficient was set from -1 to +1 inclusive, which allowed to see (measure) the degree of linear dependence. Interpretation of rxy was performed according to table 2.1 according to which:

0 = no relationship between the studied variables

+1 = strong direct relationship, where increasing / decreasing the variable "x" changes the variable "y" in the same way

-1 = strong inverse relationship in which an increase in the variable "x" leads to a decrease in the variable "y"

Tab. 1 - Correlation coefficient interpretation table

Correlation	Negative	Positive
Missing	-0.09 до 0.0	0.0 до 0.09
Low	-0.3 до -0.1	0.1 до 0.3
The average is	-0.5 до -0.3	0.3 до 0.5
High	-1.0 до -0.5	0.5 до 1.0

### **Correlation - regression analysis between the length of stay in the combat zone and the manifestations of anxiety in the studied patients**

One of the main factors influencing the presence and severity of manifestations of AD was the factor of longevity in the combat zone. Calculations were made by checking how the number of days spent in the combat zone affects the manifestations of anxiety [9].

The level of situational, personal, and general anxiety was determined in the patients included in the study using the questionnaires described above.

Calculating rxy (where "x" = level of situational anxiety, which was determined in the studied patients at the time of their stay in the hospital, "y" = length of stay in the combat zone (number of days)), between the two data sets = 0,73370111.

According to the table of interpretation above, there is a high positive relationship between the length of stay of patients in the combat zone and the level of situational anxiety. That is, the increase in the number of days spent by patients in the combat zone is associated with an increase in the level of situational anxiety.

Calculating the relationship between the variables "x" and "y" is one of the main tasks of this work, but it is not enough to calculate the Pearson linear correlation coefficient. To

conclude that the variable "x" and "y" (where "x" = the level of situational anxiety that was determined in the studied patients at the time of their stay in the hospital, "y" = length of stay in the combat zone (number of days )) as a whole on the general population have a degree of interconnection (0.73370111) prematurely, as the calculation is based on a sample. It is advisable to accompany the sample assessment with a confidence interval (CI), ie the interval within which the true values are specified with a given probability. Fisher transformations were made to calculate the limits of CI.

CI limits are presented in Table 2, where "n" = sample size, "z" = Fisher transform, "se" = standard error. Knowing the mean values of "z" and "se", a quantile was determined for the standard normal distribution, which was then used to calculate 95% CI. Using the inverse normal distribution function, where only the probability should be indicated, the maximum deviation from the mean was calculated, so the probability was determined by the formula  $((1 + 0.95) / 2)$  and 1.959964 was obtained. That is, within 1.959964 standard deviations from the arithmetic mean is 95% of the normally distributed values. Next, the lower limit for "z" was determined, which was 0.63147. The upper limit is 0.80721. Since the correlation coefficient was relevant, the inverse conversion of the Fisher's coefficient from "z" to "r" was performed. The lower limit here was 0.56493, and the upper 0.88627.

Tab.2 - The value of the CI limits for rx 0.73370111

$r_{xy}$	0,73370111
n	309
z	0,73226
se	0,063591
c_95%	1,959964
The lower 95% limit of zL	0,63147
The upper 95% limit is zU	0,80721
Lower 95% rL limit	0,56493
Upper 95% rU limit	0,88627

Thus, "rho" = 0, 73370111, and the true values of the general population (95% CI) are in the range from 0.56493 to 0.88627.

Calculating rxy (where "x" = level of personal anxiety, which was determined in the studied patients at the time of their stay in the hospital, "y" = length of stay in the combat zone (number of days)), between the two data sets = 0, 42278416.

According to the table of interpretation above, there is a medium positive relationship between the length of stay of patients in the combat zone and the level of personal anxiety.

That is, an increase in the number of days spent by patients in the combat zone is associated with an increase in the level of personal anxiety.

CI limits are presented in Table 3, where "n" = sample size, "z" = Fisher transform, "se" = standard error. Knowing the mean values of "z" and "se", a quantile was determined for the standard normal distribution, which was then used to calculate 95% CI. Using the inverse normal distribution function, where only the probability should be indicated, the maximum deviation from the mean is calculated, so the probability is determined by the formula  $((1 + 0.95) / 2)$  and 1.959964 is obtained. That is, within 1.959964 standard deviations from the arithmetic mean is 95% of the normally distributed values. Next, the lower limit for "z" was determined, which was 0.365274. The upper limit is 0.512792. Since the correlation coefficient is of interest, the inverse transformation of the Fisher's coefficient from "z" to "r" is made. The lower limit here was 0.316473, and the upper 0.582982.

Tab.3 - The value of the CI limits for  $r_x$  0.42278416

$r_{xy}$	0,42278416
n	309
z	0,43217672
se	0,03199183
c_95%	1,959964
The lower 95% limit of zL	0,365274
The upper 95% limit is zU	0,512792
Lower 95% rL limit	0,316473
Upper 95% rU limit	0,582982

Thus, " $\rho$ " = 0, 42278416, and the true values of the general population (95% CI) are in the range from 0.316473 to 0.582982.

Calculating  $r_{xy}$  (where "x" = level of general anxiety, which was determined in the studied patients at the time of their stay in the hospital, "y" = length of stay in the combat zone (number of days)), between the two data sets = 0, 51684297.

According to the table of interpretation above, there is a medium positive relationship between the length of stay of patients in the combat zone and the level of general anxiety. That is, an increase in the number of days spent by patients in the combat zone is associated with an increase in the level of general anxiety.

The CI limits are presented in Table 4, where "n" = sample size, "z" = Fisher transform, "se" = standard error. Knowing the mean values of "z" and "se", a quantile was determined for the standard normal distribution, which was then used to calculate 95% CI. Using the inverse normal distribution function, where only the probability should be

indicated, the maximum deviation from the mean was calculated, so the probability was determined by the formula  $((1 + 0.95) / 2)$  and 1.959964 was obtained. That is, within 1.959964 standard deviations from the arithmetic mean is 95% of the normally distributed values. Next, the lower limit for "z" was determined, which was 0.475192. The upper limit is 0.594931. Since the correlation coefficient is of interest, the inverse transformation of the Fisher's coefficient from "z" to "r" is made. The lower limit here was 0.439176, and the upper 0.629517.

Tab.4 - The value of the CI limits for  $r_x$  0, 51684297

$r_{xy}$	0,51684297
n	309
z	0,512658
se	0,01842
c_95%	1,959964
The lower 95% limit of zL	0,475192
The upper 95% limit is zU	0,594931
Lower 95% rL limit	0,439176
Upper 95% rU limit	0,629517

Thus, " $r_{xy}$ " = 0, 51684297, and the true values of the general population (95% CI) are in the range from 0.439176 to 0.629517.

Among the examined patients, the majority were persons with a high level of personal anxiety - 59.0% and patients with a medium level of personal anxiety - 38.0% of cases. The average value of situational anxiety was 44.49 points. It is noteworthy that the level of situational and personal anxiety at the initial examination (admission) was higher, and after a month of complex treatment situational anxiety decreased to a moderate level, and persistence. It should be noted that some patients objectively showed anxiety-depressive symptoms during the examination, and the results of the test showed a low level of anxiety, which may indicate a high level of distrust and lies as lies.

### Correlation - regression analysis of AD depression

Pearson's correlation coefficient  $r_{xy}$  between psychogenesis according to the method of Zunge - Balashova:

The level of depression	$r_{xy}$
Lack of depression	0,139297
Mild depression of situational or neurotic origin	0,317185
Subdepressive state or masked depression	0,252573
True depressive state	0,673486

Therefore, the highest rate was diagnosed in a true depressed state, as the complaints corresponded to the existing symptoms in this nosology.

### **Conclusions and prospects for further development:**

As a result of the conducted psychodiagnostic research, which consisted in identifying the main clinical manifestations of AD in combatants, the appropriate psychodiagnostic tools were used, which allowed to draw the following conclusions.

1. Vulnerability to stress is especially high in the youngest and oldest age groups.
2. In all selected patients with AD revealed anxiety of varying degrees, the likelihood of neuropsychiatric disorders that correlate with poor functional status and severe depression.
3. Correlation - regression analysis between the length of stay in the combat zone and the manifestations of anxiety in the studied patients showed that the longer the soldier is in the combat zone, the more pronounced anxiety.

The further direction of this study will expand the relevance of AD studies, which are associated not only with their significant prevalence - 5-65% of all outpatients, but also with a tendency to chronicity of the process and refusal of patients to treatment, which will further worsen their psycho-emotional state and exacerbation of somatic symptoms.

Based on the above, stress plays an important role in the mechanism of AD development in combatants. They arise as a basis for diseases or aggravate existing ones.

### **Reference:**

1. Alexandrova AA. Psychodiagnosis and psychocorrection. - St. Petersburg: Peter, 2016. - P. 384 (in Ukrainian)
2. Bleich A. Exposure to terrorism, stress-related mental health symptoms, and coping behaviors among a nationally representative sample / A. Bleich, M. Gelkopf, Z. Solomon // JAMA. – 2007. – August 6. – Vol. 290(5). – P. 612-620 (in America)
3. International Classification of Diseases of the 10th revision (ICD-10). - Geneva: World Health Organization, 1995. (in Russian)
4. Karavaeva T. A. Influence of socio-economic factors on the clinical picture of patients with neurotic disorders / T. A. Karavaeva / Review. psychiatry and medical psychology. V. M. Bekhtereva, 2010. - No. 1. - S. 71–74 (in Russian)
5. Kokhanov VP. Psychiatry of disasters and emergencies / VP. Kokhanov, VN. Krasnov. - M.: Practical medicine, 2008 - S. 448 (in Russian)
6. Methodical recommendations for conducting clinical and psychological studies of the flight crew and aviation personnel involved in the participation in the IMO at the passing of medical and flight examination / Ratsiborinskaya-Polyakova NV, Konarskaya TI,

Halmatova LA / "Methodological Recommendations for Clinical and Psychological Investigation of Flight Staff and Aviation Personnel Involved in Participating in the IMO when Passing Medical and Flight Examination" - for official use of the WCCC ", 2010. - P. - 132 (in Ukrainian)

7. Nakonechny VM, Marusyak DA, Ratsiborinska NV, Tkach VV, Shevaga IM. Social Aspects of Diagnostics and Likewise on an outpatient basis // Materials of the scientific-practical conference "Biopsychosocial Aspects of Health" (13-14 Zhovtnya 2005.), 2005. - P. - 47-50 (in Ukrainian)

8. Pishikov V. S., Tabachnikov E. B., Grinevich V. V. Dombrovskaya Actual problems the service of accidents medicine development in Ukraine /Agression. Suocidology. Victimology. Therapy and prophylaxis. Nicotine addiction. The fifth National Conference with participation of college private psychiatric practice. Plovdiv, Bulgaria, 22 - 25 April 2004. - P. 25 (In Bulgaria)

9. Psychological recovery and social integration of veterans in Ukraine / I. Ya. Pinchuk [et al.] // Archives of Psychiatry. - Kyiv, 2017. - Vol. 23. - N 1. - P. 6-10 (in Ukrainian)

10. Ratsyborynska N. V. Psycho-diagnostic and psycho-therapeutic aspects of the human factor optimization in aviation. // Proceedings of the second world Congress „Aviation in the XXI-st century: Safety in aviation”, 2005. – P. 6.27-6.30. (in Ukrainian)

11. Post-traumatic stress disorders: diagnosis, treatment, rehabilitation: guidelines / guidelines. : Voloshin PV, Shestopalova LF, Podkorytov VS and others. - Kharkiv, 2002. - P. 47 (in Ukrainian)

12. Ratsyborinska NV Clinical and psychological examination and its place in the examination of the flight crew // Abstracts of the scientific-practical conference "State and prospects of aviation medicine" (December 2005), 2005. - P. 36 (in Ukrainian)

13. Ratsiborinskaya NV. Modern aspects of clinical and psychological examination. Biopsychosocial Relations in the Development of Somatic Psychology // Abstracts of the Scientific and Practical Conference "The Status and Prospects of Development of Aviation Medicine" (June 10-11, 2003), 2003. - P.17-18 (in Ukrainian)

14. Ratsiborinskaya NV, Kostyushin VV. The place of clinical and psychological examination in the medical support system of the Air Force of Ukraine // IX Congress of the World Federation of Ukrainian Medicinal Societies, dedicated to the 25th anniversary of SPULT: Abstracts, 2002. - P. 50 (in Ukrainian)

15. Ratsiborinskaya NV, Kostyushin VV, Khomenko VY, Kolosov AB Methodical recommendations for conducting a psychological examination of the personnel of the Air Force of Ukraine // Methodical recommendations for doctors, psychophysicologists, psychologists responsible for educational work in military units. - for official use of the Air Force of the Armed Forces of the Armed Forces, 2013. - P. 32 (in Ukrainian)

16. Ratsiborinskaya-Polyakova NV. Features of clinical psychodiagnosis of combatants / Sychinskaya MA, Savelyeva OM, Semenenko KM, Khomenko VY / Proceedings of the 13th International Scientific Conference of Students and Young Scientists « The first step into science », Vinnitsa, 2016. - P. 30 (in Ukrainian)

17. Rehabilitation Strategies in the Treatment of Neurotic Disorders in the Time of Socio-economic Changes. Part I. The Influence of the socio-economic Factors on the Clinical Picture of the Neurotic Disorders Patients // Obozrenie Psychiatry and Medical Psychology. Bekhtereva, 2010. - № 1. - P. 15–19 (in Russian)

18. Rimshaya SV, Ratsiborinskaya-Polyakova NV, Konarskaya TI. Psychodiagnostics as a prerequisite for organizing work with mental disadaptation // Proceedings of the scientific-practical conference "Innovative methods of diagnostics and treatment of mental and somatic disorders of psychogenic origin", 2014 (in Ukrainian)

19. Rosebud Roberts, M. S. MB. Ch. B. a, b and David S. Knopman, M. Db / Classification and Epidemiology of MCI. – Clin Geriatr Med. 2013 Nov; 29 (4): 10. 1016. (in America)

20. <http://www.ukr.vipreshebnik.ru/entsiklopediya/56-k/3928-korelyatsijno-regresijnij>

analiz.html#:~:text=%D0%9A%D0%BE%D1%80%D0%B5%D0%BB%D1%8F%D1%86%D1%96%D0%B9%D0%BD%D0%BE%2D%D1%80%D0%B5%D0%B3%D1%80%D0%B5%D1%81%D1%96%D0%B9%D0%BD%D0%B8%D0%B9%20%D0%B0%D0%BD%D0%B0%D0%BB%D1%96%D0%B7%20E2%80%93%20%D1%86%D0%B5%20%D0%BF%D0%BE%D0%B1%D1%83%D0%B4%D0%BE%D0%B2%D0%B0,%D0%BE%D1%86%D1%96%D0%BD%D0%BA%D1%83%20%D0%BC%D1%96%D1%80%D0%B8%20%D1%89%D1%96%D0%BB%D1%8C%D0%BD%D0%BE%D1%81%D1%82%D1%96%20%D0%B7%D0%B2%D1%8F%D0%B7%D0%BA%D1%83.

**Financing:** own funds. The research was performed within the research department of the department of psychiatry, narcology and psychotherapy with a course of postgraduate education of Pirogov Vinnitsa National Medical University (PVNNU) "Scientific

substantiation of diagnostic and therapeutic rehabilitation measures for endogenous and exogenously-organic psychotic and non-psychotic psychiatric disorders". (State registration number 0197U003347, 2013-2018)

**Conflict of interest:** none.