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The Effect of Group Psychotherapy on the Mental Health of Servicemen with Post-Traumatic Stress Disorder

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ABSTRACT

The aim of the article is to determine the conditions for the effective use of group psychotherapy in working with servicemen with post-traumatic stress disorder (PTSD). The research employed the methods of testing and formative experiment. The sample consisted of the servicemen with PTSD symptoms. The group psychotherapy programme demonstrated uneven effectiveness. The effectiveness of individual and group work in reducing the symptoms of re-experiencing the event is moderate. Manifestations of avoiding traumatic situations did not change significantly in the process of group influence, while a moderate positive influence was recorded in the case of applying an individual approach. Group psychotherapy is the most effective in working with symptoms of emotional arousal of servicemen, which results from trauma. The significance of the implementation of the obtained results lies in the development of effective programmes and protocols of psychotherapy aimed at overcoming post-traumatic stress disorder of veterans and combatants. Further research may focus on expanding the research sample and the implementation of an experimental combination of individual and group psychotherapy in the work with servicemen with PTSD.

KEYWORDS: Psychotherapy, mental health, stress, stress related diseases, military.

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El efecto de la psicoterapia de grupo en la salud mental de los militares con trastorno de estrés postraumático

RESUMEN

El objetivo del artículo es determinar las condiciones para el uso eficaz de la psicoterapia de grupo en el trabajo con militares con trastorno de estrés postraumático (TEPT). La investigación empleó los métodos de prueba y experimento formativo. La muestra estuvo formada por militares con síntomas de trastorno de estrés postraumático. El programa de psicoterapia de grupo demostró una eficacia desigual. La efectividad del trabajo individual y grupal para reducir los síntomas de reexperimentar el evento es moderada. Las manifestaciones de evitar situaciones traumáticas no cambiaron significativamente en el proceso de influencia grupal, mientras que se registró una influencia positiva moderada en el caso de aplicar un enfoque individual. La psicoterapia de grupo es la más eficaz para trabajar con los síntomas de excitación emocional de los militares, que resultan de un trauma. La importancia de la implementación de los resultados obtenidos radica en el desarrollo de programas y protocolos de psicoterapia eficaces destinados a superar el trastorno de estrés postraumático de los veteranos y combatientes. La investigación futura puede centrarse en ampliar la muestra de investigación y la implementación de una combinación experimental de psicoterapia individual y grupal en el trabajo con militares con trastorno de estrés postraumático.

PALABRAS CLAVE: psicoterapia, salud mental, estrés, enfermedades relacionadas con el estrés, militares.

Introduction

The mental health of Ukrainian citizens deteriorated significantly during the Russian-Ukrainian war. In particular, indicators of anxiety, depression increased, while stress resistance and life satisfaction decreased significantly (Kurapov et al., 2023). The main factors in the deterioration of mental health during the Russian-Ukrainian war are the unpredictability of conditions, deterioration of the economic component of life, and the negative information background (Seleznova et al., 2023). The situation is complicated by the traditional tendency to stigmatize mental health problems, which is typical for Ukrainian society (Quirke et al., 2021). It is obvious that the changes in the mental health of the civilian population and the servicemen have a different qualitative nature. In particular, the US experience indicates that post-traumatic stress disorder and depression are the most common problems of servicemen and combat veterans (Inoue et al., 2023; Trivedi et al., 2015).

In general, the problem of post-traumatic stress disorder manifestations among the civilian population in the context of the Russian-Ukrainian war has only begun to be studied (Zasiekina et al., 2023). At the same time, it was established that the post-traumatic stress disorder of servicemen acquired in the combat zone significantly affects the functioning of the individual (Romaniuk, 2021). It should be noted that the available studies of the mechanisms of the Ukrainian servicemen's PTSD mainly refer to the period 2014-2021, while this problem is poorly studied in the context of a full-scale invasion.

The issue of strategy for overcoming PTSD of servicemen deserves special attention. In this context, the use of group psychotherapy is relevant: a method of influence that demonstrates systemic effectiveness in the treatment of mental disorders (Rosendahl et al., 2021). There are data confirming the positive impact of group psychotherapy on overcoming post-traumatic stress disorder in the context of using cognitive processing therapy (Schwartz et al., 2019). It was experimentally confirmed that group forms of work are effective in improving mental health indicators of combat veterans, but these results need clarification (Cowden et al., 2021). Before the full-scale invasion of Ukraine, there were attempts to justify psychotherapeutic assistance to servicemen (Kokun et al., 2017). However, such developments must be defined more exactly and experimentally substantiated after February 24, 2022. The study of the impact of group psychotherapy on post-traumatic stress disorder of servicemen participated in the Russian-Ukrainian war is promising, which is almost not covered in the existing studies. These considerations determine the relevance of the chosen topic.

The aim of the article is to determine the conditions for the effective use of group psychotherapy in working with servicemen with post-traumatic stress disorder.

Research objectives:

- 1) Analyse theoretical literature on the problems of organizing group psychotherapy, the phenomenon of mental health, post-traumatic stress disorder in servicemen;
- 2) Empirically determine indicators of post-traumatic stress disorder of the servicemen;
- 3) Experimentally study the possibilities of using group psychotherapy in working with servicemen with post-traumatic stress disorder.

1. Literature review

Post-traumatic stress disorder is a mental disorder that causes functional and cognitive disorders as a result of a traumatic event (Mann & Marwaha, 2023). The main PTSD symptoms include re-experiencing the traumatic event, obsessions, nightmares, flashbacks, dissociation from reality, negative emotional and physiological response (Lok et al., 2018). Furthermore, medicine distinguishes a complex post-traumatic stress disorder, which is characterized by a more systemic and chronic impact of a traumatic event. ICD-11 (International Classification of Diseases 11th Revision) notes that complex post-traumatic stress disorder is also characterized by difficulties in emotional regulation, negative attitude towards oneself, and problems in establishing interpersonal contacts (Giourou et al., 2018). PTSD symptoms must persist for more than one month, which distinguishes the studied phenomenon from acute stress disorder (Bryant et al., 2011). PTSD is quite often associated with sexual and physical abuse (Maercker et al., 2018). In addition to the psychological and social indicators of the diagnosis of PTSD, attention has been paid to biological indicators, such as hormonal and neurological changes (Jowf et al., 2023). Systematic psychotherapy is recommended in cases of post-traumatic stress disorder, which involves a focus on safety, active interaction between the psychologist and the patient, trauma-focused intervention and the formation of self-control of the personality (Maercker et al., 2022). Some researchers question the effectiveness of cognitive processing therapy as a classic tool for overcoming post-traumatic stress disorder, as well as the prolonged exposure in working with war veterans (Steenkamp et al., 2015), which requires special attention to the category of servicemen.

The emergence and development of post-traumatic stress in servicemen is directly related to combat mental trauma, which involves deformation of self-control and a decrease in mental stability as a result of exposure to stressors during combat (Blinov, 2016). The results of the study by Kang et al. (2023) demonstrate a correlation between the development of PTSD symptoms and the degree of disability acquired during military operations. Approximately 70% of veterans experience no reduction in PTSD symptoms after completing treatment (Forbes et al., 2010). This is especially true of traumatic memories of an event (Levi et al., 2022). At the same time, cognitive therapy and pharmacological intervention demonstrate greater effectiveness in the treatment of anxiety disorders (Springer et al., 2018) and depression (Thimm & Antonsen, 2014), compared to the use of similar methods in case of PTSD. It should be remembered that approaches to

treating PTSD in servicemen differ from those in the civilian population (Liu et al., 2021). In particular, trauma-focused therapy, despite its proven effectiveness, has shown better results in working with non-military citizens (Coventry et al., 2020). At the same time, it is recommended to use prolonged exposure, cognitive processing therapy, desensitization, and correction of eye movements in working with servicemen (US Department of Veteran Affairs, 2020). These tools focus on the cognitive mechanisms of trauma assessment.

The study of the possibilities of group psychotherapy, the use of techniques and methods of various psychotherapeutic approaches in specially organized communities is promising in the current conditions. This form of influence is effective not only for the correction of emotional symptoms — anxiety, depression, reaction to loss, eating disorders (Burlingame & Strauss, 2021), but also for the formation of a characterological structure, namely, humanity, rationality, endurance, etc.) (Marmarosh et al., 2022). A psychotherapeutic group offers participants a sense of social belonging, an awareness of the meaning of life, and a focus on mutual assistance (Yalom & Leszcz, 2020). A topical area of research is the comparison of the results of individual and group psychotherapy (Whittingham et al., 2021). Data on the effectiveness of group psychotherapy in reducing the manifestations of PTSD in military personnel are encouraging (Cowden et al., 2021; Morland et al., 2011). There is no significant difference in the effectiveness of both group and individual CPT in the treatment of PTSD in servicemen (Spiller et al., 2023). According to other data, the effectiveness of group work according to other data is about half as much as that of individual work (Resick et al., 2017).

Therefore, the analysis of the problem of using group psychotherapy in the work with PTSD of servicemen showed the existence of a large number of studies on this issue. At the same time, the available results are often contradictory and require clarification in the context of the Russian-Ukrainian war.

2. Methodology

Experimental work was carried out in the period from June to December 2023 and included the following *stages*:

Problem statement involved determining the relevance and substantiating the significance of the research in the context of academic and social trends. In addition, the

problems of finding and using tools to influence PTSD correspond to the authors' academic interests.

The *theoretical analysis of the problem* is a study of the academic literature, which focused on two aspects: “post-traumatic stress disorder in servicemen” and “group psychotherapy in working with combatants”.

The *hypothesis* was based on the analysis of theoretical sources and provided for the statement that the use of a group form of psychotherapy in the treatment of PTSD of the servicemen is effective and differs from the effect of individual psychotherapy.

Research planning is the development of a theoretically and methodologically grounded algorithm of actions aimed at achieving the aim of the research and testing the hypothesis. At this stage, the available resources (material, human, time) and the possibilities of using them in the research were analysed. Planning is based on the systematicity principle.

Conducting research - carrying out two stages of diagnostics and formative influence: group psychotherapeutic work with the servicemen.

Data analysis — the use of statistical methods aimed at identifying differences in PTSD of the servicemen at the beginning and at the end of the study.

Data interpretation – explanation of the obtained results in order to clarify the effectiveness of the formative experiment.

Drawing final research conclusions.

2.1. Instruments

The Clinician-Administered PTSD Scale (CAPS) was used to identify indicators of post-traumatic stress disorder in servicemen. The proposed tool is valid and adapted to the Ukrainian language (Kokun et al., 2017). The technique makes it possible to detect the level of manifestation of various PTSD symptoms, namely, re-experiencing the event, avoiding traumatic stimuli, and hyperarousal. The used scale is designed for working with servicemen.

The formative experiment is planned for testing the research hypothesis. The independent variable of the experiment is the system of cognitive processing therapy classes implemented through group work. The dependent variable of the experiment is the symptoms of post-traumatic stress disorder in the servicemen.

The *sample* was formed from among the servicemen who participated in combat operations, but temporarily or permanently ceased combat activity because of injuries. Another criterion for selection for the study was pronounced PTSD symptoms, which persisted for several months after the traumatic situation. Before the start of the study, the attitude towards psychotherapy in general and the presence of serious mental disorders were checked, which made further work impossible. The results of the observation were defined more accurately by means of testing. The initial quantitative composition of the experimental group (EG) and control group (CG) is 30 people each. The samples meet the representativeness requirements. The study participants had no previous experience of psychotherapy. The most common type of traumatic situation experienced by the sample members is injury, loss of co-combatants. At the same time, loud noises, news, alcohol intoxication, and a situation of social conflict can be factors that activate the PTSD symptoms.

2.2. Data collection

The diagnostics took place in direct contact with the research participants. Methods and techniques of cognitive processing therapy were chosen as an effective means of working with PTSD. As already mentioned, the work was carried out in an individual format in the CG, while it had a group format in the EG. The EG was divided into subgroups of 6 people, where psychotherapeutic work was carried out. It was separately discussed that the servicemen could withdraw from the experiment at any time. A total of 2 people in the CG and 3 people in the EG used this right during the experiment. Their results are not taken into account in the final data processing. Qualified psychotherapists with at least 5 years of experience working with PTSD were involved in both groups. The experiment lasted for three months.

The data analysis was carried out through the use of percentage data analysis, the Kolmogorov-Smirnov test to check the normality of the distribution of statistical series, and the Wilcoxon signed-rank test to determine the effectiveness of the experiment. The SPSS.22 statistics software was used.

The ethical criteria of the study provided for strict adherence to the principle of confidentiality of the obtained data. The participation of the servicemen in the

experimental programme was based on the voluntary consent of the military and detailed familiarization with the course of the experiment.

3. Results

The results obtained in the process of providing psychotherapeutic assistance are presented graphically. In the Figure 1, the EG stands for the experimental group, and CG — for the control group. Accordingly, numbers 1 and 2 reflect the primary and repeated diagnostic tests.

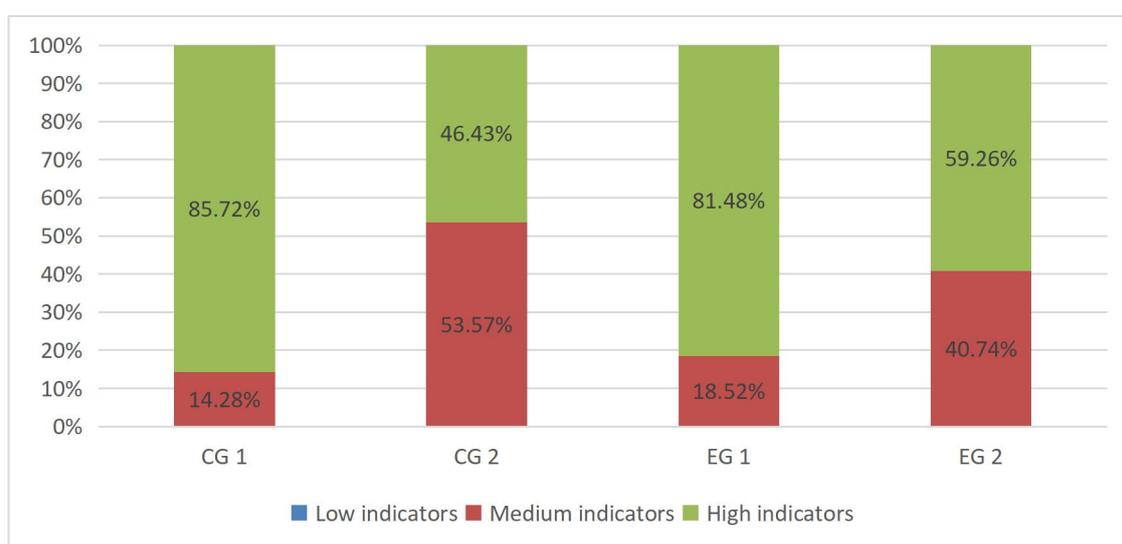


Figure 1. Changes in the symptoms of re-experiencing the event as a result of the implementation of the experimental programme

Figure 1 shows the dynamics of changes in the recurrent experience of the event after the end of the psychotherapeutic intervention. The initial diagnostics did not reveal individuals with low indicators of these symptoms. This is understandable, because according to the conditions of the experiment, the servicemen with pronounced post-traumatic stress syndrome were included in the sample. More than 80% of respondents demonstrated high rates of tendency to re-experience traumatic events. At the same time, about 20% of the servicemen have medium manifestations of the specified symptoms. Individual psychotherapy showed a 38.99% reduction in the number of individuals with a high level of tendency to re-experiencing a traumatic situation. At the same time, this indicator is 22.22% in the EG. Therefore, individual psychotherapy showed a slightly higher

effectiveness than group therapy, however, the obtained data do not indicate high effectiveness of both approaches.

The dynamics of individual manifestations of symptoms of re-experiencing a traumatic situation is described below. In particular, almost no positive changes were recorded in the manifestations of obsessive memories in both groups of servicemen. The primary and secondary diagnostics demonstrated a rather intense and frequent experience of this symptom. The experience of provoking factors is mostly recorded at the medium level and slightly decreased in both groups after the psychotherapy. The level of experiencing flashbacks in the absolute majority of the studied servicemen is high and almost did not change after the end of the experimental programme. The only symptom of the group that really significantly decreased after psychotherapy was the intensity and frequency of nightmares. However, such dynamics are more positive in individual work compared to group work.

Figure 2 presents the dynamics of symptoms of avoidance of traumatic factors. The distribution of these PTSD manifestations of the servicemen is similar to the results of the study of the previous group of reactions — high indicators, approaching 90%, dominate. The percentage of the servicemen with high level of symptoms decreased by 28.58 in the CG with individual psychotherapy. In group psychotherapy, the shift is 11.15% (3 people). In other words, better results of psychotherapy were recorded in the CG than in the EG, where the indicators did not change significantly.

The mechanism of avoidance of thoughts and conversations about a traumatic situation in the subjects is at a medium level — the indicators did not change after the experimental programme. A decreased interest in activities and social contacts is mainly manifested in medium and high indicators and does not undergo significant changes in the course of psychotherapy. Medium and high manifestations of memory selectivity in relation to the traumatic situation remain unchanged. The servicemen with PTSD are characterized by high indicators of detachment from the events of the outside world and activities — the indicators were somewhat optimized in the course of psychotherapy. A significant narrowing of the emotional attitude to reality was found in the studied groups, which expanded after the psychotherapeutic intervention due to the realization of a wider range of emotions. This parameter is the only one that clearly changed after the psychotherapy in the studied group of symptoms. Pronounced tendencies to lose a sense of perspective and

meaning in further life are characteristic for the servicemen with PTSD — the indicators did not improve during psychotherapy.

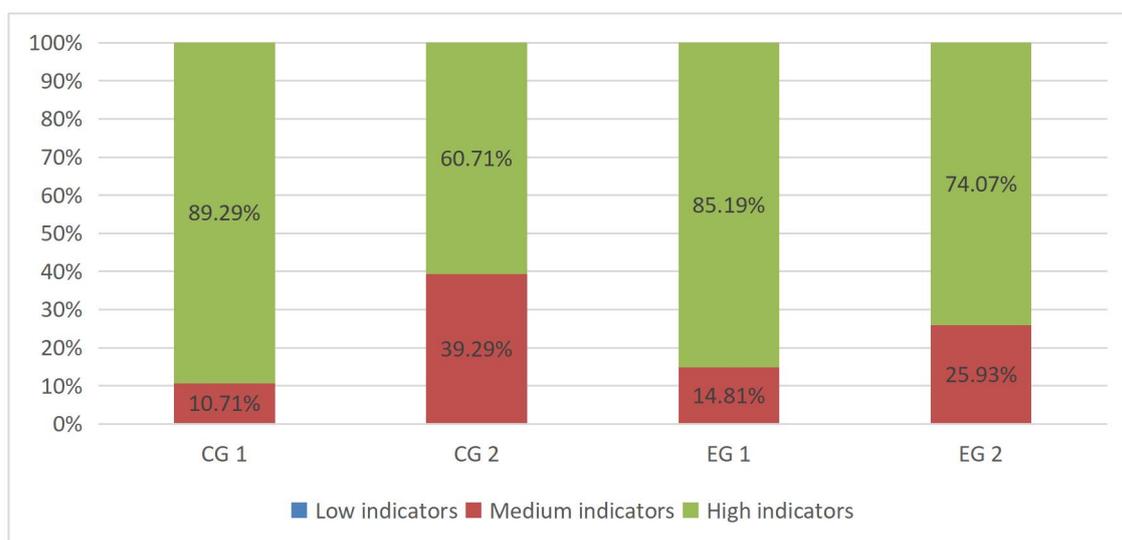


Figure 2. Changes in the symptoms of avoidance of traumatic stimuli as a result of the experimental programme

Figure 3 presents the dynamics of emotional excitability of the servicemen with PTSD during the formative experiment. High indicators of this group of symptoms are typical for 70% of the subjects, which is somewhat lower compared to the previous types of symptoms. High indicators in the course of individual psychotherapy decreased by 39.29%, and as a result of group psychotherapy — by 44.44%. At the same time, working in groups stimulated the growth of low indicators of hyperarousal up to 14.81%. Therefore, group psychotherapy demonstrated the highest effectiveness in the context of working with hyperarousal of the servicemen with PTSD.

The subjects had a medium level of sleep disturbance, but this parameter improved in both groups after the psychotherapy. Before the start of the study, the servicemen with PTSD had high rates of uncontrollable anger, which significantly decreased, especially during group psychotherapy. The testing also recorded an improvement in the servicemen's concentration of attention as a result of the formative influence — this dynamic is more pronounced in the EG. The medium indicators of somatic reactions to arousal factors did not change significantly in both groups, which was recorded in the diagnostic interviews in the results of repeated testing.

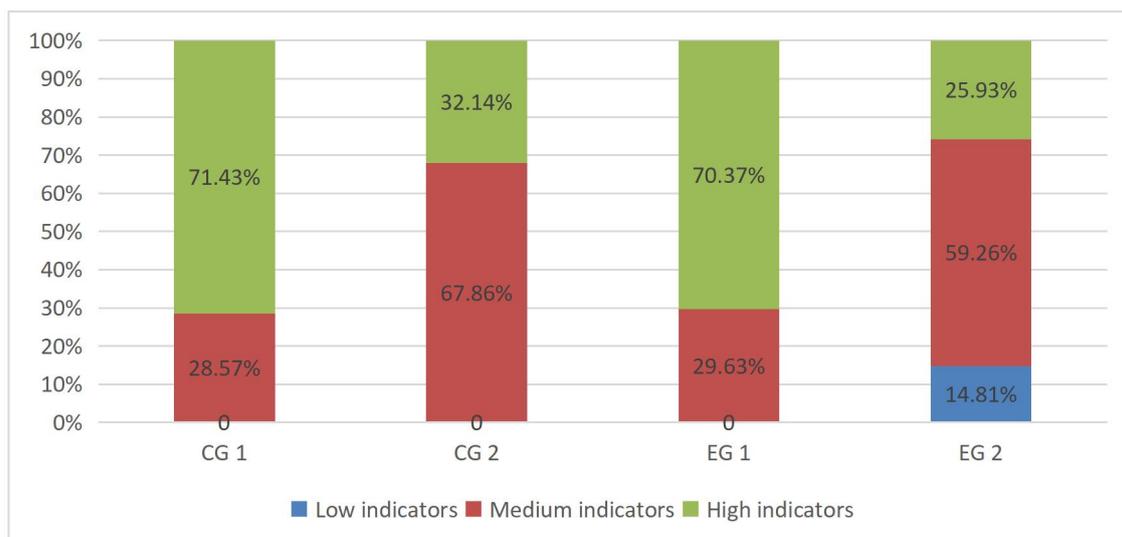


Figure 3. Changes in the symptoms of hyperarousal as a result of the experimental programme

Justified statistical procedures were carried out in order to confirm the preliminary conclusions of the study. The Kolmogorov-Smirnov test confirmed the appropriateness of using the non-parametric Wilcoxon test, as the statistical series do not conform to the normal distribution law (see Table 1). All three groups of PTSD symptoms demonstrated significance of changes at $p=0.05$, indicating moderate effectiveness of individual psychotherapy in working with the servicemen. Significant changes in the re-experiencing of the event ($p = 0.05$) and hyperarousal ($p = 0.01$) symptoms were recorded. The symptoms of avoidance of traumatic situations do not show significant changes in group psychotherapy.

4. Discussion

The study was carried out within a comparative strategy, which helps to clarify the relevance of different forms of psychotherapy for the treatment of PTSD (Whittingham et al., 2021). In general, differences between individual and group psychotherapy in overcoming PTSD in the servicemen were found, which contradicts the available data (Spiller et al., 2023). Such differences are explained by the sociocultural aspect of the study and the strength of traumatic factors. Group psychotherapy demonstrated uneven effectiveness in this study. In particular, the performance of the experimental programme in improving re-experiencing symptoms is moderate. Information about the resistance of traumatic flashbacks to psychotherapeutic influence in both groups is confirmed by

previous studies (Levi et al., 2022). Both forms of psychotherapy do not differ in their effect on the studied group of symptoms.

Table 1. The Wilcoxon test scores of PTSD symptoms in the servicemen after the individual and group psychotherapy

Symptoms of post-traumatic stress disorder	Wilcoxon's t-test	
	Individual psychotherapy	Group psychotherapy
Re-experiencing of the event	119*	114*
Avoidance of traumatic situations	107*	189
Hyperarousal	125*	83**

Manifestations of avoiding traumatic situations did not change significantly in the process of group exposure, while a moderate positive impact was recorded in individual psychotherapy. Therefore, the phenomenon of emotional decline in attitude to reality is more sensitive to changes in a situation of greater limitation of social interaction. Group psychotherapy proved to be the most effective in reducing indicators of emotional arousal in post-traumatic stress disorder of the servicemen. So, we can conclude that social interaction and trusting relationships with people with similar combat experience determine an increase in the level of emotional control of veterans. In general, the use of cognitive processing therapy in a group form of psychotherapeutic work of group psychotherapy to overcome PTSD confirms its effectiveness (Schwartz et al., 2019), but has its own specifics. These features are related to the specific context of the Russian-Ukrainian war and socio-cultural living conditions, in particular, Ukrainian society's tendency to stigmatize mental disorders (Quirke et al., 2021). Observation of the studied subjects during psychotherapy revealed "classic symptoms" of PTSD, such as flashbacks, obsessive thoughts, nightmares, and maladaptive emotional reactions (Lok et al., 2018). The figure of 30% of military personnel experiencing improvement in the context of PTSD treatment through psychotherapy remains relevant in our study (Forbes et al., 2010).

Observation of the servicemen during psychotherapy revealed "classic symptoms" of PTSD, such as flashbacks, obsessive thoughts, nightmares, and maladaptive emotional reactions (Lok et al., 2018). The figure of 30% of servicemen experiencing improvement in

the context of PTSD treatment through psychotherapy remains relevant in our study (Forbes et al., 2010).

The opinion on the differentiation of approaches to working with *PTSD* by civilians and military is significant (Liu et al., 2021). Optimizing group psychotherapy also involves preliminary individual work with the patient, which is of a preparatory nature (Kokun et al., 2017). In our opinion, the possibility of biological substantiation of psychotherapy for post-traumatic stress disorder (Jowf et al., 2023), in particular, in the context of fixing the level of cortisol in the body, is promising. The atmosphere of mutual help and social belonging that is characteristic of group psychotherapy opens up additional opportunities for the treatment of PTSD (Yalom & Leszcz, 2020), which has its own specifics in the context of working with the servicemen.

Conclusions

The conducted research revealed the differences between individual and group psychotherapy in overcoming PTSD of the servicemen. It was found that the group psychotherapy programme demonstrated uneven effectiveness. The effectiveness of individual and group work in reducing the symptoms of re-experiencing the event is moderate. Manifestations of avoiding traumatic situations did not change significantly in the course of group influence, while a moderate positive influence was recorded in case of applying an individual approach. Group psychotherapy is the most effective in working with symptoms of emotional arousal of the servicemen manifested as a result of trauma. Cognitive processing therapy in general has proven itself as an effective tool for working with PTSD in the servicemen. The significance of the implementation of the obtained results implies the development of effective programmes and protocols of psychotherapy aimed at overcoming post-traumatic stress disorder of veterans and combatants. In particular, the experience of psychological assistance to veterans and the research verification of various psychotherapy strategies in the context of the Russian-Ukrainian war are valuable. The prospects of further research may be the expansion of the research sample and the implementation of an experimental combination of individual and group psychotherapy in the work with PTSD of servicemen.

Limitations

The results of the study on the group psychotherapy for working with the servicemen with PTSD should be defined more exactly with a larger number of subjects.

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