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RESILIENCE-ORIENTED INTERVENTIONS FOR PATIENTS WITH TRAUMATIC BRAIN INJURY: PROTOTYPES ANALYSIS AND NEW PROGRAM DEVELOPMENT

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Abstract. *Resilience-focused psychotherapeutic interventions can be useful in accelerating the recovery and social reintegration of people with traumatic brain injury (TBI). The number of English-language publications in which authors discuss about resilience-oriented interventions has been growing rapidly in recent years. However, no summarizing of research on resilience-based interventions for people with traumatic brain injury has been made in recent years. The purpose of this study is to analyze and systematize modern resilience-oriented interventions for people with trauma and use them as prototypes to develop our own resilience-oriented program of psychocorrection. Articles for the last 5 years – from January 2016 to February 2021 – were analyzed. The search for scientific literature was conducted using PubMed and APA PsychNET. After analyzing the content and rejection of articles that did not meet the inclusion criteria, the review included 6 original articles, which describe 5 resilience-oriented interventions. The structure and format of the sessions of the analyzed programs are quite variable. The duration of one session varies from 30 to 90 minutes with a frequency of 1 time per week. All analyzed interventions are based on different approaches to understanding resilience and, accordingly, different methods of evaluating results. In addition, most of the analyzed psychocorrection programs focus on many phenomena and possible resilience factors and do not have a single theory or model as a basis. At the same time, a number of models that identify specific components or groups of components and designed to facilitate the selection of therapy targets have been developed in recent years. In further research and interventions, it is promising to focus on key aspects or categories, among which a number of cognitive and emotional components of resilience are distinguished. Currently, there are only the first results of the effectiveness of resilience-oriented interventions in TBI. However, these results allow us to make two important conclusions: 1) by influencing psychological processes, it is potentially possible to achieve a reduction in the intensity of traumatic brain injury symptoms; 2) resilience is a promising target for psychological interventions in traumatic brain injury. After the analysis and systematization of approaches to resilience training, we have developed our own resilience-oriented intervention. The effectiveness of our program will be studied further. Prospects for further research are development and analysis of the effectiveness of interventions aimed at cognitive and emotional components of resilience, adapted to cognitive deficits due to trauma, filled with specific training to develop new skills as well as development of interventions for traumatic brain injury in remote period. As an example of such interventions, we present the program of our own resilience-oriented intervention.*

Keywords: psychocorrection, psychological interventions, resilience, traumatic brain injury.

Introduction. Symptoms of traumatic brain injury (TBI) include a variety of manifestations, such as headaches, difficulty concentrating, slow thinking, etc., can last for years and be associated with lower quality of life, loss of productivity and increased need for medical services (Sullivan, K., et al., 2019). To reduce the persistence of symptoms and prevention for their deterioration it is necessary to understand what factors affect the chronicity (Sullivan, K., et al., 2019). While

pathophysiology in the acute period of traumatic brain injury is presented by complex physiological changes, in remote period the symptoms and functioning of the person are increasingly affected by psychological processes – maladaptive psychological mechanisms can lead to chronic stress, which contributes to chronicity of traumatic brain injury symptoms (van der Horn, H., et al., 2019). Interventions aimed at developing adaptive psychological mechanisms can be effective in reducing the severity and duration of TBI mental symptoms (Rabinowitz, A., & Arnett, P., 2018). One of the important adaptation phenomena is resilience – a process that reflects the dynamic ability of a person to restore adaptive and effective psychosocial functioning and personally grow after a period of maladaptation, which occurred due to the disorganizing effect of traumatic factors (Assonov, D., & Khaustova, O., 2019). In recent years, there has been growing evidence that effective resilience is important for rehabilitation after traumatic brain injury, as it is associated with many positive consequences and minimization of negative conditions. Effective resilience of people with traumatic brain injury correlates with better mental state in general and can protect against depression as well as low social activity (Lukow, H., et al., 2015; Wardlaw, C., et al., 2018). However, we know that individ-

uals with a history of traumatic brain injury have less effective resilience compared to non-clinical groups (Rabinowitz, A., & Arnett, P., 2018), for example to individuals in the general population (Lukow, H., et al., 2015), and less effective than in their family members (Rasmussen, M., et al., 2020). Consequences of traumatic brain injury that possibly reduce resilience are decreased emotional regulation, problems with social communication, cognitive deficits, and difficulty in self-awareness (Rabinowitz, A., & Arnett, P., 2018).

The main advantage of resilience is that, unlike many personality traits, it can be modified, what makes it a good target for TBI interventions (Skandsen, T., et al., 2020). Thus, resilience-oriented psychotherapeutic interventions may be useful in accelerating the recovery and social reintegration of people with traumatic brain injury (Rabinowitz, A., & Arnett, P., 2018; Lukow, H., et al., 2015; Wardlaw, C., et al., 2018; Vos, L., et al., 2019) and even may reduce suicide risks (Yurgil, K., et al., 2021). In addition, the potential effect of such psychotherapy is reduced level of anxiety and depression and, secondarily, better results of rehabilitation (Kreutzer, J., et al., 2016).

Researchers agree that better understanding of resilience will help in developing more effective intervention strategies (Kreutzer, J., et al., 2016).

Therefore, there is a need to create new psychocorrection programs that aimed at resilience promotion and study their effectiveness. The number of English publications in which authors talk about resilience-oriented interventions, has been growing rapidly in recent years. (Fig.1).

Currently, few of such programs have been developed (Lukow, H., et al., 2015). There is a need in further research on interventions aimed at developing the skills necessary for effective resilience and evaluating their effectiveness in improving mental health and

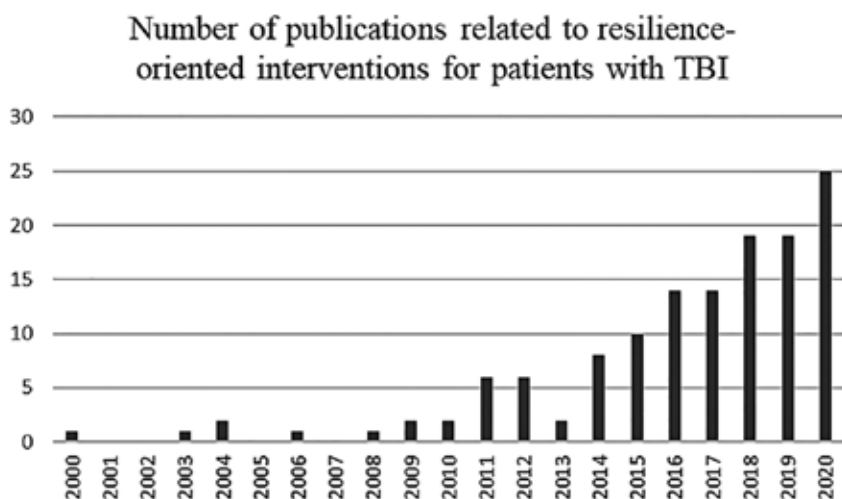


Figure 1.

Number of publications on resilience-oriented interventions for traumatic brain injury in PubMed over the past 20 years. Searched by keywords «traumatic brain injury» + «interventions» + «resilience».

clinical outcomes of traumatic brain injury in remote period (Shaffer, K., et al., 2016). However, no generalization of research on resilience-oriented interventions for people with traumatic brain injury has been done in recent years. Systematization of existing resilience psychocorrection and psychotherapy programs for persons with traumatic brain injury is a necessary prerequisite for further research and development of new therapy approaches.

Aim. To analyze and systematize modern resilience-oriented interventions for people with TBI, identify prototypes for the development of our own program of psychocorrection and to out-

line promising ways for further research in this area.

Methods. The literature review was conducted according to the recommendations for writing reviews by Snyder H. and Byrne, M et al. (Snyder, H., 2019; Byrne, M., et al., 2012). Articles for the last 5 years - from January 2016 to February 2021 - were analyzed. The search was conducted in Ukrainian and English using the following keywords: Ukrainian «черепно-мозкова травма», «резилієнс», «інтервенції» або «психологічні інтервенції»; English «traumatic brain injury», «resilience», «interventions» або «psychological interventions». The search

for scientific literature was conducted using PubMed and APA PsychNET, which are the largest databases of medical and psychological research, respectively, and allow to search with using many filters at the same time. The search showed 84 English articles (77 in Pubmed and 7 in PsychNET). No Ukrainian articles were found for this keyword combination. These articles were analyzed for compliance with the inclusion criteria. **Criteria for inclusion in the review:** original articles examining the effectiveness of developed psychological interventions in resilience promotion in adults (age > 18 years) with TBI. **Criteria for not including articles in the review:** 1. articles on the resilience of patients with TBI, that didn't study the effectiveness of any interventions. 2. articles about psychological interventions that are not aimed at resilience in TBI. 3. articles on the effectiveness of resilience-oriented interventions in people without a history of TBI. 4. Articles on the resilience of children and adolescents with TBI. After that, the literature that meets the inclusion criteria was analyzed in detail and summa-

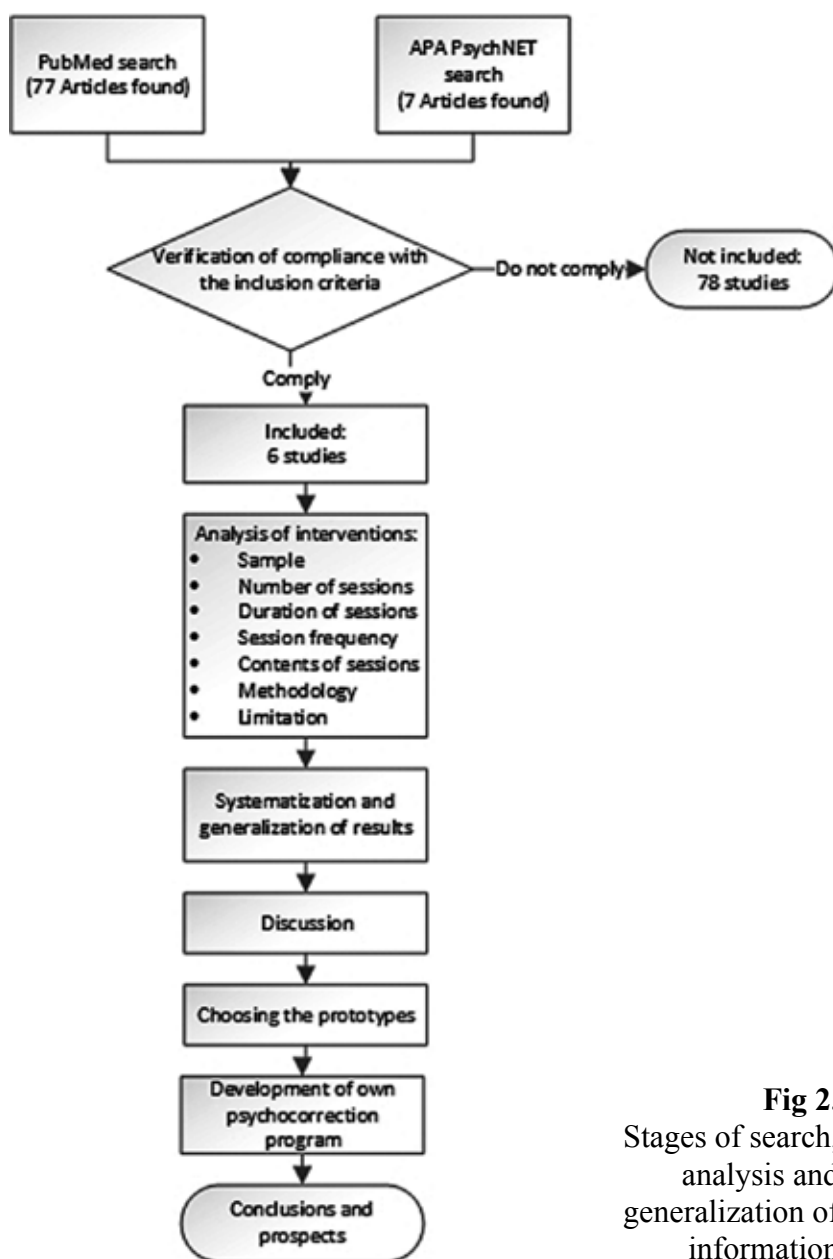


Fig 2. Stages of search, analysis and generalization of information

rized, and among the interventions were selected prototypes for the development of the author's own program of psychocorrection. Stages of search, analysis and generalization of information are presented at Fig 2.

Connection with research programs. The study is performed as a part of the research program on topic «Dynamic biopsychosocial model of medical and psychological care (diagnosis, therapy, rehabilitation, prevention) of multidisciplinary hospitals patients in rapidly changing crisis-associated society» (registration №0119U103910), performed by the department of medical psychology, psychosomatic medicine and psychotherapy of the Bogomolets National Medical University

Results. After analyzing the content and rejection of articles that did not meet the inclusion criteria, the review included 6 original articles, that describe 5 resilience-oriented interventions. Four studies were conducted in the United States (Donnelly, K., et al., 2019b; Kreutzer, J., et al.,

2018; Church, D., et al., 2016; Vranceanu, A., et al., 2020), one – in Denmark (Soendergaard, P., et al., 2019). Four studies were conducted involving a civilian sample (Donnelly, K., et al., 2019b; Kreutzer, J., et al., 2018; Vranceanu, A., et al., 2020; Soendergaard, P., et al., 2019), one – involving war veterans (Church, D., et al., 2016). All studies have a randomized controlled trial design. Two studies had the wait-list control group (Kreutzer, J., et al., 2018; Soendergaard, P., et al., 2019), three studies – had treatment as usual (TAU) group as a control (Donnelly, K., et al., 2019b; Church, D., et al., 2016; Vranceanu, A., et al., 2020). Among all studies 3 were pilot (Donnelly, K., et al., 2019b; Church, D., et al., 2016; Vranceanu, A., et al., 2020). Systematized information is presented in the table 1.

Resilience and Adjustment intervention, RAI. Kreutzer et al conducted a parallel randomized controlled trial with a waiting list, which examined the effectiveness of psychoeducational and skill-building intervention (Kreutzer, J.,

Table 1. Resilience-oriented interventions for people with traumatic brain injury

Title	Number of sessions	Duration of sessions	Type	Evaluation of effectiveness	The main targets
The resilience and adjustment intervention (Kreutzer, J. S., et al., 2018)	7 sessions	60 min	Individual	CD-RISC, MPAI-4, BSI	Emotional regulation, stress management, problem solving, communication
Intervention for families living with the consequences of traumatic injury to the brain or spinal cord (Soendergaard, P. L., et al., 2019)	8 sessions 1 time/week	90 xB	Family	RSA	The connection between thoughts, feelings and behavior; strategies for overcoming negative emotions; communication; problem solving skills; family boundaries; family dynamics.
LoveYourBrain Yoga (Donnelly, K. Z., et al., 2019b)	6 sessions 1 time/week	80 min	Group	Semi-structured interview	Optimism, mental flexibility, physical activity, fighting fears
Emotional Freedom Techniques (Church, D., et al., 2016)	6 sessions 1 time/week	60 min	Individual	Symptom Assessment 45, PCL-5	Symptoms of post-traumatic stress disorder
Recovering together (Vranceanu, A. M., et al., 2020)	6 sessions (2 inpatient and 4 via video after discharge)	30 min	Family (Patient and caregiver)	HADS, PCL-5	Experiencing the trauma of hospitalization, adaptation to life with trauma, social relations skills, giving meaning to events, coping

et al., 2018). The program consists of seven 60 minutes sessions aimed at emotional regulation, stress management, problem solving and communication. The aim was to improve emotional, cognitive and behavioral functioning through cognitive-behavioral therapy (CBT) skills. The authors defined resilience as a positive adaptation to a traumatic event, and that its key feature, in addition to stable personal characteristics, are certain important skills that can be and should be developed. (Kreutzer, J., et al., 2018). Psychoeducational techniques of the intervention are aimed at informing about the consequences of TBI and recovery. Communication, emotion control and problem-solving skills were taught.

The structure of the program was as follows (Kreutzer, J., et al., 2018):

- The first session is devoted to psychoeducation about the consequences of trauma, the difference between emotional and physical recovery, effective coping with losses and changes;
- The second session is devoted to understanding the importance of active participation in the recovery process and identifying areas where active involvement is possible;
- The third session focuses on the skills of effective goal setting and the ability to wait for goals to be achieved;
- The fourth session is dedicated to the development of problem-solving skills;
- The fifth session is devoted to stress management;
- The Sixth session is devoted to setting up effective communication and relationships;
- The seventh session is devoted to the development of a positive outlook and summing up.

The effectiveness of the program was evaluated using well-known valid and reliable diagnostic scales: Connor-Davidson Resilience Scale (CD-RISC), Mayo-Portland Adaptability Inventory (MPAI-4), the Brief Symptom Inventory (BSI). The result of the intervention is an improvement in resilience in the dynamics, which was observed immediately after the intervention and decreased slightly after 3 months (Kreutzer, J., et al., 2018).

The limitation of this program is the lack of an active control group that would receive standard treatment, and insufficient certainty about the stability of the effect. Psychoeducation on resilience

and its components in this program is short, in addition, only one session is devoted to the development of emotional components of resilience. The authors of the program see further prospects for resilience-oriented interventions in the development of booster sessions that are carried out to increase the effect of interventions, as well as interventions through other communication channels (telecommunications or the Internet) (Kreutzer, J., et al., 2018). In our opinion, this program is the most structured and comprehensive among all analyzed resilience-oriented interventions for people with trauma.

Family resilience-oriented intervention. Soendergaard et al. described a resilience-oriented intervention for families of persons with TBI and spinal cord injury, which consists of 8 90 minutes sessions with a frequency of 1 session / week (Soendergaard, P., et al., 2019):

- The first session is devoted to general information about the research, obtaining consent to participate, completing methods and randomization;
- The second session is dedicated to giving meaning to trauma and psychoeducation about it;
- The third session focuses on the connection between thoughts, feelings and behavior;
- The fourth session is devoted to skills of identifying signs of negative emotions and training techniques to control emotions, strategies for overcoming negative emotions;
- The fifth session is dedicated to communication and its improvement;
- The sixth session focuses on problem-solving skills;
- The seventh session is devoted to working with boundaries in the family and determining family dynamics;
- The eighth session is the final one, on which patients summarized the skills they learned and the second assessment were held.

Homeworks were assigned at the end of the sessions. Resilience was investigated with The Resilience Scale for Adults (RSA) (Soendergaard, P., et al., 2019). The authors identified the following limitations of the developed intervention: it is time consuming (90 minutes increased the risk of dropout); most of the subjects were

persons with severe traumatic brain injury; no blinding was used (Soendergaard, P., et al., 2019).

Recovering together (RT). Vranceanu et al. presented a pilot randomized controlled trial with unilateral blindness, which investigated the effectiveness of resilience-oriented intervention called Recovering Together (RT) for patients with TBI in intensive care units (ICU) and their caregivers. The program consists of 6 sessions (2 in ICU and 4 via video after discharge), in which a caregiver and a patient participate. The first two sessions focused on overcoming a hospitalization trauma and self-help skills training (Vranceanu, A., et al., 2020): 1) The first session is devoted to psychoeducation about emotional distress and self-help, diaphragmatic breathing techniques, mindfulness; 2) the second session focuses on the skills of coping with uncertainty. The next 4 sessions were adapted to the needs of each patient-caregiver dyad and were formed on the basis of six modules about adaptation to life with trauma. (by assessing the challenges, they will face and psychoeducation about how thoughts, behavior, emotions and physical feelings are connected); social relations, development of adherence to rehabilitation and self-help skills; working with fear about the possibility that trauma will happen again; giving meaning to what happened. The sessions were based on CBT techniques, mindfulness and positive interventions.

Resilience was assessed as a decrease in the intensity of anxiety and depression symptoms (with the Hospital Anxiety and Depression Scale, HADS), symptoms of post-traumatic stress disorder (with the Posttraumatic stress disorder checklist, civilian version, PCL-C). The results showed that participation in the RT program significantly reduced the indications on these scales (Vranceanu, A., et al., 2020). The limitations of this study are its narrow focus on intensive care units and the acute period of trauma, the variability of the last 4 sessions and the lack of specific assessment of resilience.

LoveYourBrain. Donnelly et al. studied the effectiveness of a pilot psychoeducation program based on group yoga classes for people with TBI and their caregivers (Donnelly, K., et al., 2019b). The program aims to reintegrate people with trauma into society and consists of 6 sessions (1 session/week), includes breathing exercises,

yoga, meditation and psychoeducation. At the beginning of each session, the first 20 minutes were related to the discussion of one of the resilience factors (positive optimism, mental flexibility, physical activity, fighting fears, etc.), after that 45 minutes were related to the discussion of trauma-adapted yoga aimed at somatic symptoms and at the end of each session a 15-minute meditation was held (consisting of mindfulness, progressive muscle relaxation and visualization). Participants claimed that when they were sharing their own TBI experiences with others, it was giving them the strength to move forward and was contributing to effective resilience. (Donnelly, K., et al., 2019b). The authors note that as a result of the program there is an improvement in resilience, positive affect and well-being, but there is no improvement in emotional dysregulation (Donnelly, K., et al., 2019a).

The limitations of this program are that the post-assessment was based on a semi-structured interview, was only qualitative and did not contain any quantitative indicators; in addition, there was no randomization and therefore the possibility of selection bias exists.

Emotional Freedom Techniques, EFT. Church, D., Sparks, T., & Clond, M. described the results of a randomized controlled trial that they characterize as a short-term intervention to increase resilience, reduce TBI symptoms, sleep disturbances, and PTSD symptoms. Presented techniques are a type of alternative medicine and consist in exposure by remembering a traumatic event, which is accompanied by simultaneous affirmations on self-perception and pressing on certain “acupuncture points” (Church, D., et al., 2016). Based on the reduction of subclinical symptoms of PTSD on the PCL-5 scale, the authors claim that their technique may be effective in increasing resilience (Church, D., et al., 2016). The limitations of this study are that the authors did not assess resilience by validated diagnostic inventories. The authors may also have a conflict of interest. In addition, the authors use the concepts of “energy” psychology, which is not a recognized in academic scientific community. The authors of the study recommend a technique as increasing resilience before military deployment (Church, D., et al., 2016), thus, mixing the concepts of resilience and stress resistance.

Discussion. The small number of studies we have analyzed and the fact that most of them are pilot, suggests that the field of resilience-oriented interventions is only at the beginning of its development. However, the first results indicate that increasing the resilience may positively affect the symptoms of traumatic brain injury.

The structure and format of the sessions of the analyzed programs are quite variable. The duration of one session varies from 30 to 90 minutes with a frequency of 1 time per week. At the same time, some authors note the need to develop short and skill-oriented interventions for patients with neurological disorders, in addition, the long duration of one session may increase the risk of drop-out (Shaffer, K., et al., 2016; Soendergaard, P., et al., 2019).

Most of the analyzed studies have designs with many limitations, as well as insufficient provability or lack of a structured approach to the concept of resilience. The scientific nature of some of them is based on the methods of non-academic psychology and medicine therefore raises some doubts.

Common to most of analyzed interventions is a large and meaningful psychoeducational component on psychophysiology, symptoms and consequences of traumatic brain injury. This is a good indicator, as patients with traumatic brain injury lack information about their own condition, so they need to be psychoeducated about trauma. They request their clinical psychologist or physician to avoid abstract questions and to ask specific ones, to talk about personality changes after the injury and about setting new goals and tasks in life (Adams, D., & Dahdah, M., 2016). However, it was unexpected that most programs do not have sufficient psychoeducation on resilience and its factors and components – it is either concise or missed. Also, in most programs, the psychoeducational component takes up most of the time during the sessions – often more than the time spent for training and mastering specific skills. Some authors believe that interventions for people with neurological disorders should be short and skill-oriented, and not aimed only at psychoeducation (Shaffer, K., et al., 2016).

All analyzed interventions are based on different approaches to understanding resilience and,

accordingly, used different methods to evaluate the results. Only 4 out of 5 researchers used well-validated scales to assess symptoms, and only 2 out of 5 (Kreutzer, J., et al., 2018; Soendergaard, P., et al., 2019) use specific, valid and reliable diagnostic inventories to assess resilience (like CD-RISC or RSA) to analyze the effectiveness of developed interventions.

In addition, most of the analyzed interventions focus on many phenomena and possible resilience factors at once and do not have a single theory or model at their core. At the same time, in recent years a number of models have been created that distinguish specific components or groups of components (for example, a model proposed by Nalder E et al. (Nalder, E., et al., 2018) and model of Parsons et al. (Parsons, S., et al., 2016) and are designed to facilitate the selection of therapy targets. In our opinion, in further studies and interventions it would be more appropriate to focus on key aspects or categories, among which researchers distinguish a number of cognitive and emotional components (Nalder, E., et al., 2018; Parsons, S., et al., 2016; Stainton, A., et al., 2018). Cognitive components such as cognitive flexibility, concentration, effective memory, executive function (Kreutzer, J., et al., 2018; Nalder, E., et al., 2018; Stainton, A., 2018; Malhi, G., et al., 2019; Rice, V., & Liu, B., 2016) and emotional components such as flexible processing of affective stimuli, emotional control and effective emotional management, positive outlook and positive emotions (Kreutzer, J., et al., 2018; Nalder, E., et al., 2018; Stainton, A., 2018; Malhi, G., et al., 2019; Rice, V., & Liu, B., 2016; Horn, S., & Feder, A., 2018; Helmreich, I., et al., 2017; Lee, J., et al., 2013; van Kessel, G., 2013) can be critical for effective resilience. There is currently no emphasis on both of these components in existing resilience-oriented interventions, therefore there is a need for further development of more structured interventions. Better cognitive reserve and emotional resilience may be associated with faster resocialization and occupational readaptation after TBI (Schneider, J., et al., 2021). The most studied target of therapy is coping, while positive affect, gratitude, optimism have a rehabilitation potential and deserve further research (Rabinowitz, A., & Arnett, P., 2018). Psychological inter-

ventions can also affect resilience by improving cognitive processing, emotional responses, and self-regulation (George, E., et al., 2016). This may be included in future resilience-oriented intervention programs adapted for people with trauma. Although the effectiveness of interventions may be reduced due to cognitive deficits, which affect the ability to perceive, remember and complete the maintain the results of psychotherapy, recent studies suggest that people with TBI may benefit from psychotherapy adapted to their cognitive deficits (Wardlaw, C., et al., 2018). Attempts to combine elements of cognitive training and standard approaches to therapy have shown their potential, but require further improvement (Jak, A., et al., 2018). Insufficient focus on resilience may explain why routine interventions (such as cognitive rehabilitation) do not provide long-lasting changes in functioning (Kreutzer, J., et al., 2016; Rohling, M., et al., 2009), while interventions aimed at compensating the deficit by learning new skills (not at just mechanical restoring of the impaired domains) proved their effectiveness (Twamley, E., et al., 2015). Interventions aimed at consolidating and adopting the TBI experience are promising (Snell, D., et al., 2016). Given that effectiveness of resilience decreases during the first year after TBI, the development of interventions for people with TBI in remote period is also valuable (Marwitz, J., et al., 2018; Ruet, A., et al., 2020).

After analyzing various programs and empirical approaches, we have developed our own program of resilience-oriented intervention, which consists of six sessions lasting 60 minutes. The main models of resilience that became the basis of the program are models proposed by Nalder et al. (Nalder, E., et al., 2018), Parsons et al. (Parsons, S., et al., 2016) and processual model of resilience (Stainton, A., et al., 2018). The resilience and adjustment intervention (Kreutzer, J., et al., 2018) due to its structure and theoretical basis became the main prototype of our program – in particular, the topics about psychoeducation on traumatic brain injury, effective strategies for goal setting and problem solving, management of negative emotions, positive outlook. The program consists of two stages – the development of resilience cognitive components and the de-

velopment of resilience emotional components. We have included the elements of compensatory cognitive training and some modified exercises of CogSMART and SMART-CPT (Jak, A., et al., 2018; Twamley, E., et al., 2015) to fill the intervention program with techniques and skills for cognitive components of resilience. Also we adapted other sections of the program for cognitive issues of people with TBI. Conclusions of Church et al. on the possible impact on resilience by improving cognitive processing, emotional responses to events and self-regulation (Church, D., et al., 2016) were used while developing relevant topics of our program. We also added such topics as the importance of focus and concentration in achieving goals and the role of prospective memory in adaptation. While developing topics about cognitive flexibility, cognitive and emotional control, we also used the elements of family resistance-oriented intervention as a prototype (Soendergaard, P., et al., 2019). Based on the educational unit of the intervention by Donnelly et al. (Donnelly, K., et al., 2019a; Donnelly, K., et al., 2019b), we also expanded the topics related to emotional state regulation, positive emotions and optimism, as well as added a larger psychoeducational component related to resilience. At the same time, our program emphasizes the practice of resilience skills, and the psycho-educational component takes less time.

Limitations. In this study, interventions were searched exclusively in English and Ukrainian. Articles indexed in PubMed and APA PsychNET were analyzed while articles presented in other databases were not. The results obtained by the author can potentially be supplemented by searching for articles in other languages, extending the search to articles published earlier than 2016, by using other databases, other keywords or using other search methodologies.

Summary. Currently, there are only the first results of the effectiveness of resilience-oriented interventions for patients with TBI. However, these results allow us to make two important conclusions:

1. by influencing psychological processes, it is potentially possible to achieve a reduction in the intensity of traumatic brain injury symptoms;

2. resilience is a promising target for psychological interventions in traumatic brain injury. However, most of the existing resilience-oriented interventions lack evidence and methodological accuracy. In addition, it is important to have a clear resilience model and justification of therapy targets in the basis of the intervention. After the analysis and systematization of approaches to resilience training, we have developed our own resilience-oriented intervention. The effectiveness of our intervention will be studied further.

Prospects for further research are development and analysis of the effectiveness of interventions aimed at cognitive and emotional components of resilience, adapted to cognitive deficits due to trauma, filled with specific training to develop new skills as well as development of interventions for traumatic brain injury in remote period. As an example of such interventions, we present the program of our own resilience-oriented intervention.

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РЕЗИЛІЄНС-ОРІЄНТОВАНІ ІНТЕРВЕНЦІЇ ДЛЯ ОСІБ З ЧЕРЕПНО-МОЗКОВОЮ ТРАВМОЮ: АНАЛІЗ ПРОТОТИПІВ ТА РОЗРОБКА НОВОЇ ПРОГРАМИ

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Анотація Психотерапевтичні інтервенції, що спрямовані на резилієнс, можуть бути корисними для прискорення відновлення та соціальної реінтеграції осіб з черепно-мозковою травмою (ЧМТ). Кількість англійських публікацій, в яких автори говорять про резилієнс-орієнтовані інтервенції, в останні роки стрімко зростає. Проте ще не було зроблено узагальнення проведених за останні роки досліджень, які стосуються резилієнс-орієнтованих інтервенцій для осіб з черепно-мозковою травмою. Мета даного дослідження – розробка резилієнс-орієнтованої програми психокорекції на основі аналізу та систематизації сучасних резилієнс-орієнтованих інтервенцій для осіб з ЧМТ в якості її прототипів. Було проаналізовано статті за останні 5 років – з січня 2016 по лютий 2021. Пошук наукової літератури вівся з використанням PubMed та APA PsychNET. Після аналізу вмісту та відхилення статей, які не відповідали критеріям включення, в огляд ввійшли 6 оригінальних статей, в яких описані 5 резилієнс-орієнтованих інтервенцій. Структура та формат сесій проаналізованих програм є достатньо варіативними. Тривалість однієї сесії варіює від 30 до 90 хв з частотою 1 раз на тиждень. В основі всіх проаналізованих інтервенцій лежать різні підходи до розуміння резилієнсу та відповідно різні методи оцінки результатів. Окрім того більшість проаналізованих програм психокорекції сконцентровані одразу на багатьох явищах та можливих факторах резилієнсу й не мають в своїй основі єдиної теорії чи моделі. В той же час останніми роками було створено ряд моделей, які виокремлюють конкретні компо-

РЕЗИЛИЕНС-ОРИЕНТИРОВАННЫЕ ИНТЕРВЕНЦИИ ДЛЯ ЛИЦ С ЧЕРЕПНО-МОЗГОВОЙ ТРАВМОЙ: АНАЛИЗ ПРОТОТИПОВ И РАЗРАБОТКА НОВОЙ ПРОГРАММЫ

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Аннотация. Психотерапевтические интервенции, направленные на резилиенс, могут быть полезными для ускорения восстановления и социальной реинтеграции лиц с черепно-мозговой травмой (ЧМТ). В последние годы стремительно растет количество англоязычных публикаций, в которых авторы говорят про резилиенс-ориентированные интервенции. Однако систематизация проведенных за последние годы исследований, касающихся резилиенс-ориентированных интервенций для лиц с черепно-мозговой травмой, ещё не была проведена. Цель данного исследования – разработка резилиенс-ориентированной программы психокоррекции на основе анализа и систематизации современных резилиенс-ориентированных интервенций для лиц с ЧМТ в качестве ее прототипов. Были проанализированы статьи за последние 5 лет – с января 2016 по февраль 2021. Поиск научной литературы велся с использованием PubMed и APA PsychNET. После анализа содержимого и отклонения статей, которые не соответствовали критериям включения, в обзор вошли 6 оригинальных статей, в которых описаны 5 резилиенс-ориентированных интервенций. Структура и формат сессий проанализированных программ оказались достаточно вариативными. Продолжительность одной сессии варьирует от 30 до 90 мин с частотой 1 сессия в неделю. В основе всех проанализированных интервенций лежат различные подходы к пониманию резилиенса и соответственно разные методы оценки результатов. Кроме того, большинство проанализированных программ психокоррекции сконцентрированы сразу на

ненти або групи компонентів та покликані полегшити підбір мішеней терапії. У подальших дослідженнях та інтервенціях перспективним є концентрування на ключових аспектах або категоріях, серед яких виділяють ряд когнітивних та емоційних компонентів резилієнсу. Наразі присутні лише перші результати ефективності резилієнс-орієнтованих інтервенцій при ЧМТ. Проте ці результати дозволяють зробити два важливі висновки: 1) впливаючи на психологічні процеси, потенційно можна досягнути зменшення інтенсивності симптомів черепно-мозкової травми; 2) резилієнс є перспективною мішенню для психологічних інтервенцій при черепно-мозковій травмі. На основі аналізу й систематизації інформації про підходи до психокорекції резилієнсу нами була розроблена програма резилієнс-орієнтованої психокорекції, ефективність якої буде в подальшому вивчена. Перспективами подальших досліджень є створення та аналіз ефективності інтервенцій, спрямованих на когнітивні та емоційні компоненти резилієнсу, адаптованих під когнітивний дефіцит внаслідок ЧМТ, наповнених тренінговою роботою над розвитком нових навичок та розробка інтервенцій для віддаленого періоду травматичного ураження головного мозку, прикладом яких може бути розроблена нами програма втручання.

Ключові слова. психокорекція, психологічні інтервенції, резилієнс, черепно-мозкова травма.

многих явлениях и возможных факторах резилиенса и не имеют в своей основе единой теории или модели. В то же время в последние годы был создан ряд моделей, которые выделяют конкретные компоненты или группы компонентов и призваны облегчить подбор мишенной терапии. В дальнейших исследованиях и интервенциях перспективным является концентрирование на ключевых аспектах или категориях, среди которых выделяют ряд когнитивных и эмоциональных компонентов резилиенса. Сейчас присутствуют только первые результаты эффективности резилиенс-ориентированных интервенций при ЧМТ. Однако эти результаты позволяют сделать два важных вывода: 1) влияя на психологические процессы, потенциально можно достичь уменьшения интенсивности симптомов черепно-мозговой травмы; 2) резилиенс является перспективной мишенью для психологических интервенций при черепно-мозговой травме. На основе анализа и систематизации информации о подходах к психокоррекции резилиенса нами была разработана программа резилиенс-ориентированной психокоррекции, эффективность которой будет в дальнейшем изучена. Перспективами дальнейших исследований является создание и анализ эффективности интервенций, направленных на когнитивные и эмоциональные компоненты резилиенса, адаптированных под когнитивный дефицит вследствие ЧМТ, насыщенных тренинговой работой над развитием новых навыков и разработка интервенций для отдаленного периода травматического поражения головного мозга, примером которых может служить разработанная нами программа вмешательства.

Ключевые слова. психокоррекция, психологические интервенции, резилиенс, черепно-мозговая травма.