U.D.K: 616.89: 159.97

D. N. Voloshyna

K. N. Yemets

THE EFFECTS OF RESILIENCE TRAINING ON DISPLAY OF POST-TRAUMATIC SYMPTOMS

D. N. Voloshyna, K. N. Yemets
V. N. Karazin Kharkiv National University

Summary. On the basis of United Nations staff deployed in a highly volatile conflict zone there were 195 civilian and military personnel interviewed and surveyed with a modified and revised version of Impact of Event Scale -Revised (IES-R). The research was conducted with a purpose to assess the effectiveness of 6 hrs. Resilience Training (RT) conducted prior to deployment on the affected staff in decreasing and alleviating Acute Stress Disorder (ASD) and Post-Traumatic Stress Disorder (PTSD) common diagnostic criteria, namely avoidance, intrusion, and hyperarousal. Survey results showed that scoring on modified Impact of Event Scale-Revised for those who passed 6 hrs. RT without following RT handout instructions improved by 13 % compared to control group. Those who passed RT training and closely followed RT handout instructions for the whole duration of their deployment improved by 41 %. The length of deployment (or exposure time) is 7±4,5 months.

Key words: Resilience, Resilience Training, IES-R, ASD, PTSD, RT handout instructions.

Introduction and hypothesis: After an exposure to a highly traumatic event victims or/and survivors may experience a wide range of wild psychological reactions commonly referred to as Acute Stress Reaction (ASR). If ASR lasts for over 2 days it may turn to a stage of Acute Stress Disorder (ASD). ASD is a psychiatric diagnosis with diagnostic criteria markedly similar to those of Post-Traumatic Stress Disorder (PTSD), though the criteria for ASD place a greater emphasis on dissociative symptoms. In fact, a diagnosis of ASD turns to a diagnosis of PTSD nearly automatically if the symptoms go on for over 30 days.

Most studies of adults indicating that at least half of those trauma survivors with ASD meeting criteria for subsequent PTSD [1]. These studies suggest that people who do meet criteria for ASD are at higher risk for persistent PTSD. In contrast, the sensitivity across most studies was poor, indicating that the majority of trauma survivors who eventually developed PTSD did not meet the full criteria for ASD. Although 50 % to 90 % of the population may be exposed to traumatic events during their lifetimes [2, 3] most exposed individuals do not develop ASD or PTSD. But the rest are still in danger.

Effective treatments for the symptoms of ASD or PTSD encompass psychopharmacology, psychotherapy, psycho-education and other supportive measures [4].

Antidepressant medication and short-term cognitive behavioral interventions (exposure therapy and cognitive restructuring) during the acute aftermath of trauma are common methods of treating ASD [5–8]. Bryant and colleagues [8, 9] have conducted the studies that specifically assessed and treated ASD. They have shown that a brief cognitive behavioral treatment may not only alleviate ASD symptoms, but it may also prevent the subsequent development of PTSD [10–13]. For the purpose of treating PTSD Cognitive Behavioral Therapy (CBT) encompasses a number of approaches such as cognitive processing therapy, exposure therapy, systematic desensitization, relaxation training, assertiveness training etc.

Nowadays the fact is obvious that in high-risk occupations directed efforts should be undertaken to enhance psychological resilience in order to prevent the development of both ASR and PTSD. The American Psychological Association defines resilience as «the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of threat.»

Emerging scientific research has begun to show that neurobiological systems associated with resilience can be strengthened to respond more adaptively to stress. For example, research using EEG and fMRI technology has shown that mindfulness meditation and training in cognitive reappraisal can increase activation of the left prefrontal cortex. This is important because people with greater activation of the left prefrontal cortex recover more rapidly from negative emotions such as anger, disgust, and fear [14]. University of Wisconsin researcher Richard Davidson has proposed that resilience is largely related to activation of the left prefrontal cortex and the strength of neural connections between the prefrontal cortex and the amygdala. Robust activation of the PFC inhibits the amygdala, quiets associated anxiety and fear-based emotions, and allows the PFC to facilitate rational planning and behavior.

 © Voloshyna D. N., Yemets K. N., 2015

As prof. Ivan Robertson stated personal resilience is the capacity to maintain wellbeing and work performance under pressure, including being able to bounce-back from setbacks effectively. Our natural resilience is a combination of personal characteristics and learned skills – but most importantly the quality can always be developed whatever an individual's starting point [15].

Considering the above we can **hypothesize** that prior to deployment Resilience Training (RT) comprising basic knowledge of a set of psychological techniques will alleviate ASD and PTSD common diagnostic criteria of avoidance, intrusion, and hyperarousal.

Materials and Methods: On the basis of United Nations staff deployed in a highly volatile conflict zone there were 195 civilian and military personnel (males and females aged 39±13 years) interviewed and surveyed with a modified and revised version of Impact of Event Scale (IES-R). IES is not a diagnostic for PTSD, but is an appropriate instrument to measure the subjective response to a specific traumatic event in the adult population. The IES-R statements were modified and had to be assessed in present tense that is describing symptoms of avoidance, intrusion, and hyperarousal as they are currently felt. The research was conducted with a purpose to assess the effectiveness of 6 hrs. Resilience Training (RT) conducted prior to deployment on the affected staff in decreasing and alleviating ASD and PTSD common diagnostic criteria, namely avoidance, intrusion, and hyperarousal. The survey against IES-R was conducted twice, once before the deployment and after a certain period of time. The time frame for the second assessment was very heterogeneous 7±4,5 months due to limited availability of staff members for the survey. All the study participants were arranged in three groups: one control group and two experimental ones. The control group consisted of 44 staff member who did not attend a RT. The first experimental group was composed of 63 members, who took part in RT but did not follow RT handbook instructions during the whole period of their deployment. The second experimental group comprised 88 participants who did both successfully passed RT training and closely followed the RT handbook instructions for the whole duration of their deployment.

RT and handout instructions comprise brief practical knowledge of specific psychotherapeutic strategies and basic skills development. Shortened versions of a case study are presented as appropriate. The training and handout instructions are intended as a self-help guide and include the following set of CBT approaches:

Cognitive Processing Therapy (CPT) is a modification of a CBT used by psychotherapists to help clients to explore their traumatic experiences and recover from PTSD. CPT views erroneous beliefs about the aversive and/or traumatic event as a cause of negative emotions which in turn prevent from processing the trauma memory. The emphasis is made on the danger of the use of avoidance as a coping strategy which interrupts natural recovery process. The primary focus is to gain an understanding and modify the meaning attributed to a traumatic event. Participants are taught both to identify 'stuck points', which are problematic beliefs that prevent natural recovery from traumatic experiences and to use a set of Socratic questions to deal with automatic thoughts that can be highly distressing in order to modify these maladaptive beliefs. The major focus is on teaching the participant the cognitive skills necessary to identify, evaluate, and modify their beliefs as necessary regarding any traumatic events they may experience.

Systematic Desensitization (SD) is a therapy intended to overcome phobias and extreme anxiety. The participants are first taught to instill deep muscle relaxation and then imagine fear-producing stimulus while in a relaxed state; though constructing of fear hierarchy as a time-consuming component is excluded from the training.

Rational Problem Solving (RPS) is an efficient technique for learning effective thinking which lies in proceeding through logical reasoning to satisfactory solutions of personal problems. The process includes the following five steps: general orientation, problem definition, generation of alternatives, decision making, and verification. The steps are to be remembered by heart and produced and followed even in a highly stressful environment.

Progressive Muscular Relaxation (PMR) involves alternately tensing various muscles while attending closely to and differentiating sensations one is experiencing when their muscles tensed in comparison when they are relaxed.

Centering is a breathing martial arts procedure that helps to relax and eliminate problem thoughts. It involves conscious relaxation and particular way of breathing from very low down in your abdomen.

Assertiveness Training (AT) is an approach to interpersonal communication which teaches to maintain an appropriate balance between passivity and aggression. It promotes the use of «I» statements as a way to help individuals express their feelings in contrasted with «you»

statements, which are not always received well by others. The participants are taught to express negative thoughts and feelings in a healthy and positive manner, receive criticism and compliments positively and learn to say «No» when they needs to.

All these techniques are just a pool of survival strategies from which a person can select what they really need in a particular situation or general setting.

Interpretation of the results of the test carried out on the basis of calculation of received grade points: number of points in the range of 0 to 0,9 were classified as range of normality (Zone I), from 1 to 1,9 – as mild anxiety simptoms (Zone II), from 2 to 2,9 – moderate mild anxiety simptoms (Zone III), from 3 to 4 – severe anxiety simptoms (dependence) (Zone IV).

Mathematical and statistical analysis of received grade points was performed using the software Microsoft Office XL 2010 with the calculation of the percentage (P) and its error (sp). Valid data were recognized with the significance level $p<0.01$. The indicator was calculated using Microsoft Excel and SPSS 15.0 for Windows.

Results and discussion: All groups showed tendency to increase IES-R scoring which revealed increase in adverse effect of the traumatic experiences. But the extent of negative effect was quite different (**table 1– 3**).

Comparison of results is presented on **fig. 1**.

Table 1

The frequency (P±sp) of different degrees of the adverse effect of the traumatic experiences among participants of the control group

Degrees		Before		After	
		n (42)	P±sp	n	P±sp
Zone IV	3 - 4	0	0	2	4,5,0%±3,0%
Zone III	2 – 2,9	0	0	4	9,5,0%±4,0%
Zone II	1 – 1,9	3	7,0% ±3,0%	5	12,0%±5,0%
Zone I	0 – 0,9	39	93,0%±3,0%	31	74,0%±6,0%

Table 2

The frequency (P±sp) of different degrees of the adverse effect of the traumatic experiences among participants of the first experimental group (RT)

Degrees		Before		After	
		n (65)	P±sp	n	P±sp
Zone IV	3 - 4	0	0	1	1,0%±1,0%
Zone III	2 – 2,9	0	0	3	4,0%±2,0%
Zone II	1 – 1,9	5	8,0%±3,0%	5	7,0%±3,0%
Zone I	0 – 0,9	60	92,0%±3,0%	56	88,0%±4,0%

Table 3

The frequency (P±sp) of different degrees of the adverse effect of the traumatic experiences among participants of the second experimental group (RT+h)

Degrees		Before		After	
		n (88)	P±sp	n	P±sp
Zone IV	3 - 4	0	0	0	0
Zone III	2 – 2,9	0	0	2	2,0%±1,0%
Zone II	1 – 1,9	7	8,0%±2,0%	6	7,0%±2,0%
Zone I	0 – 0,9	81	92,0%±3,0%	80	91,0%±3,0%

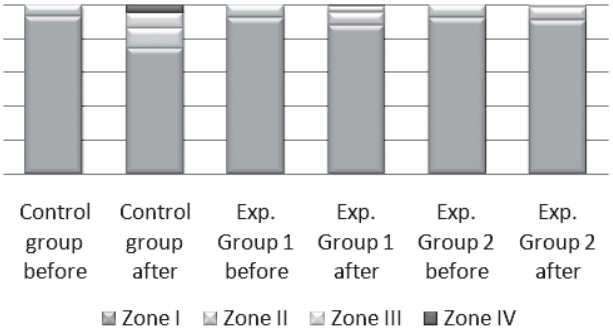

Fig. 1. Comparison of the frequency (P±sp) of different degrees of the adverse effect of the traumatic experiences among participants of all groups

As can be observed in the tables and picture 1 in the control group where psychotraining was not carried out the higher degree of post-traumatic symptoms was identified.

The average scores before deployment (or exposure) for control and both experimental groups were – 0,81; 0,79; 0.83 on IES-R scale respectively. (**table 4**).

Table 4

average scores of the adverse effect of the traumatic experiences before and after deployment (or exposure) among participants of all groups

	before	after
Control group	0,81	1,94
Exp. group 1	0,79	1,69
Exp. group 2	0,83	1,14

We can observe a negative average increased in control and both experimental groups by 13,9%, 11,4%, 37,0% respectively (**table 4, fig. 2**).

On the other hand comparison showed that on the background of the control group there was noticeable improvement by 13,0% in the first control group and 41,0% in the second control group.

Summary: therefore, we can state that RT markedly enhances its effectiveness if it is

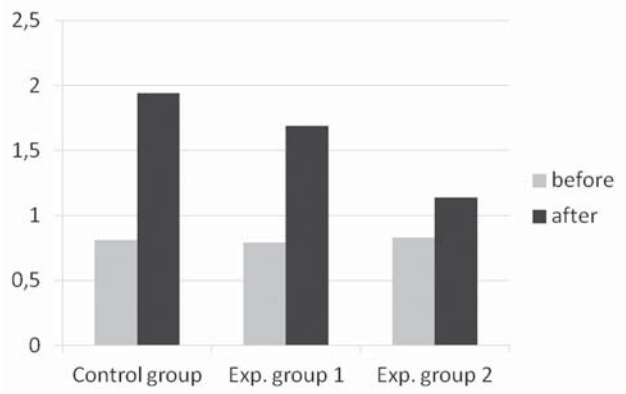

Fig. 2. Comparison of average scores of the adverse effect of the traumatic experiences before and after deployment (or exposure) among participants of all groups

followed by the use of a handout instruction support. So, results of our study have shown that RT as a strategy of developing skills relevant to psychological resistance in adverse circumstances is highly advisable.

Perspectives for future research: implementation of Stress Resilience training in the practice psychotherapy and psychotrainings for alleviation of post-traumatic symptoms in staff deployed in a conflict zone.

References

1. Bryant R. A. Acute stress disorder as a predictor of posttraumatic stress disorder: a systematic review. J. Clin Psychiatry, 2010.
2. Kessler R. C., Sonnega A., Bromet E., Hughes M., Nelson C. B: Posttraumatic stress disorder in the National Comorbidity Survey. Arch Gen Psychiatry, 1995, no. 52, pp. 1048-1060.
3. Breslau N., Kessler R. C., Chilcoat H. D., Schultz L. R., Davis G. C., Andreski P. Trauma and posttraumatic stress disorder in the community: the 1996 Detroit Area Survey of Trauma. Arch Gen Psychiatry, 1998,no. 55, pp. 626-632.
4. Ursano R. J., Bell C., Eth S., Friedman M. Practice guideline for the treatment of Patients with Acute Stress Disorder and Posttraumatic Stress Disorder. American Psychiatric Association, 2010, no. 3.
5. Gidron Y., Gal R., Freedman S. A., Twiser I., Lauden A., Snir Y., Benjamin J. Translating research findings to PTSD prevention: Results of a randomized-controlled pilot study. Journal of Traumatic Stress, 2001, no. 14(4), pp. 773-780.
6. Bryant R. A., Harvey A. G., Dang S. T., Sackville T., Basten C. Treatment of Acute Stress Disorder: A comparison of cognitive behavioral therapy and supportive counseling. Journal of Consulting and Clinical Psychology, 1998, no. 66, pp. 862-866.
7. Bryant R. A., Sackville T., Dang S. T., Moulds M., Guthrie, R. Treating Acute Stress Disorder: An evaluation of cognitive behavior therapy and counseling techniques. American Journal of Psychiatry, 1999, no. 156, pp. 1780-1786.
8. Echeburua E., deCorral P., Sarasua B., Zubizarreta I. Treatment of acute Posttraumatic Stress Disorder in rape victims: an experimental study. Journal of Anxiety Disorders, 1996, no. 10, pp. 185-199.
9. Bryant R. A., Harvey A. G., Dang S., Sackville T. Assessing Acute Stress Disorder: Psychometric properties of a structured clinical interview. Psychological Assessment, 1998, no. 10, pp. 215-220.
10. Bryant R. A., Moulds M. L., Guthrie R. M., Nixon R. D. The additive benefit of hypnosis and cognitive-behavioral therapy in treating acute stress disorder. J Consult Clin Psychol, 2005, no. 73, pp. 334-340.
11. Bryant R. A., Moulds M. L., Nixon R. V. Cognitive behavior therapy of acute stress disorder: a four-year follow-up. Behav Res Ther., 2003, no. 41, pp. 489-494.
12. Bryant R. A., Mastrodomenico J., Felmingham K. L. et al. Treatment of acute stress disorder: a randomized controlled trial. Arch Gen Psychiatry, 2008, no. 65, pp. 659-667.
13. Bryant R. A., Moulds M., Guthrie R., Nixon R. D. Treating acute stress disorder following mild traumatic brain injury. Am J Psychiatry, 2003, no. 160, pp. 585-587.
14. Southwick S. M., Charney D. S. Resilience: The Science of Mastering Life's Greatest Challenges. Cambridge University Press, 2012, pp. 4-24.
15. Robertson I., Cooper C. Well-being: Productivity and Happiness at Work. Palgrave Macmillan, 2011.

ВЛИЯНИЕ СТРЕСС-РЕЗИЛИЕНС ТРЕНИНГА НА ВЫРАЖЕННОСТЬ ПОСТТРАВМАТИЧЕСКОЙ СИМПТОМАТИКИ

Д. Н. Волошина, К. Н. Емец
Харьковский национальный университет имени В. Н. Каразина

Аннотация. На базе личного состава ООН в зоне военного конфликта было обследовано 195 человек среди гражданских лиц и военного состава с помощью модифицированной версии опросника Impact of Event Scale – Revised. Исследование проведено с целью определения эффективности 6-часового Стресс-Резилиенс тренинга по снижению и смягчению общих диагностических критериев острого (ASD) и посттравматического (PTSD) стрессовых расстройств (избегание,

ВПЛИВ СТРЕС-РЕЗІЛІЄНС ТРЕНІНГУ НА ВИРАЗНІСТЬ ПОСТТРАВМАТИЧНОЇ СИМПТОМАТИКИ

Д. М. Волошина, К. М. Ємець
Харківський національний університет імені В. Н. Каразіна

Анотація. На базі особового складу ООН в зоні військового конфлікту було обстежено 195 осіб серед цивільних і військового складу за допомогою модифікованої версії опитувальника Impact of Event Scale – Revised. Дослідження проведено з метою визначення ефективності 6-годинного Стрес-Резіліенс тренінгу щодо зниження і пом'якшення загальних діагностичних критеріїв гострого (ASD) і посттравматичного (PTSD) стресових розладів (уникнення, нав'язливості й гіперзбудливості), проведеного до відправки

навязчивость и гипервозбудимость), проведенного до отправки личного состава в зону конфликта. Результаты исследования показали, что показатели по модифицированной шкале (IES-R) лиц, прошедших 6-часовый Стресс-Резилиенс тренинг, однако не выполнявших в последующем инструкций, прилагаемых в буклете, улучшилась на 13,0 % по сравнению с контрольной группой. Результаты участников эксперимента, которые прошли тренинг и следовали инструкциям, предложенным в буклете, улучшились на 41,0 %. Время пребывания в зоне конфликта составляло 7± 4,5 месяца.

Ключевые слова: Стресс-Резилиенс тренинг, острое стрессовое расстройство, ПТСР, Резилиенс тренинг инструкции.

особового складу в зону конфлікту. Результати дослідження показали, що показники за модифікованою шкалою (IES-R) осіб, які пройшли 6-годинний Стрес-Резіліенс тренінг, проте не виконували в подальшому інструкцій, які додаються в буклеті, покращилися на 13,0 % порівняно з контрольною групою. Результати учасників експерименту, які пройшли тренінг і слідували інструкціям, запропонованим у буклеті, покращилися на 41,0 %. Час перебування в зоні конфлікту складав 7 ± 4,5 місяця.

Ключові слова: Стрес-Резіліенс тренінг, гострийстресовий розлад, ПТСР, Резіліенс тренінг інструкції.

УДК: 616.89-085.84’854

АНАЛИЗ ЭФФЕКТИВНОСТИ ТЕРАПИИ АФФЕКТИВНЫХ НАРУШЕНИЙ В СТРУКТУРЕ АДДИКТИВНОЙ ПАТОЛОГИИ МЕТОДОМ ЭСТ В СОЧЕТАНИИ С ПСИХОТЕРАПИЕЙ

А. З. Григорян
Запорожский государственный медицинский университет

Аннотация. С целью анализа эффективности использования метода электросудорожной терапии у пациентов, страдающих аффективными расстройствами в структуре аддикций, с помощью клинико-психопатологического метода, в рамках которого верификация и квантификация психопатологической симптоматики производилась с помощью шкалы оценки позитивных и негативных синдромов (PANSS), было обследовано 30 пациентов, страдающих полинаркоманиями. На основании данных шкалы оценки позитивной и негативной симптоматики (PANSS), полученных в результате исследования, сделан вывод о высокой эффективности метода электросудорожной терапии в отношении аффективных расстройств в структуре аддикций.

Ключевые слова: электросудорожная терапия, аффективные расстройства, наркомания, шкала оценки позитивной и негативной симптоматики.

Введение

Аффективный компонент играет важнейшую роль в формировании зависимости от психоактивных веществ – как за счет позитивного подкрепления их употребления, так и за счет формирования специфического модуса личностных реакций, лежащих в основе аддиктивного поведения. Помимо этого, именно расстройства аффективной сферы определяют основной вектор перехода наркологического контингента в психиатрическую клинику, формируя широкий спектр коморбидной патологии, требующей специфического подхода к терапии, зачастую трудноосуществимого в условиях современной демаркации наркологической и психиатрической клиник и сфер компетенции.

Наличие сложных психопатогенетических механизмов взаимоотягощающего влияния расстройств эмоционально-волевой сферы и аддиктивной патологии требует не только тщательной дескрипции и анализа, но и поиска конгруэнтных методов терапии, воздействующих на каждый компонент наличествующего комплекса психопатологических нарушений [1–4].

Наличие тяжелых, зачастую резистентных форм аффективных нарушений у пациентов, страдающих патологическими формами зависимости от психоактивных веществ, диктует необходимость включения в спектр терапии биологических методов их купирования, не имеющих практики рутинной эксплуатации в аддиктологической клинике и, следовательно, требующих детального изучения их эффективности [3, 5].

Электросудорожная терапия (ЭСТ), являясь методом выбора для лечения фарма-

 © Григорян А. З., 2015