A preview of the efficiency of systemic family therapy in treatment of children with posttraumatic stress disorder developed after car accident

Preliminarna procena efikasnosti sistemske porodične terapije u lečenju dece sa posttraumatskim stresnim poremećajem izazvanim saobraćajnom nezgodom

Miodrag Stanković*†, Grozdanko Grbeša*‡, Jelena Kostić*, Maja Simonović*†,
Tatjana Milenković*, Aleksandar Višnjić§

*Clinic for Mental Health Protection, Clinical Center Niš, Niš, Serbia; †The State University of Novi Pazar, Serbia; ‡The Faculty of Medicine, University of Niš, Serbia;
§The Institute for Public Health, Niš, Serbia

Abstract

Background/Aim. Traumatic stress refers to physical and emotional reactions caused by events which represent a life threat or a disturbance of physical and psychological integrity of a child, as well as their parents or guardians. Car accidents are the main cause of posttraumatic stress disorder (PTSD) in children. The aim of this study was to preview clinical efficiency of systemic family therapy (SFT) as therapy intervention in treatment of children with posttraumatic stress disorder (PTSD) traumatized in car accident under identical circumstances of exposure. We pointed out the importance of specific family factors (family cohesion and adaptability, emotional reaction of the parents) on PTSD clinical outcome.

Methods. The sample of this clinical observational study included 7-sixth grade pupils – 5 boys and 2 girls, aged 13. All of the pupils were involved in car accident with one death. Two groups were formed – one group included three children who were involved in 8 SFT sessions together with their families. The second group included 4 children who received antidepressant sertraline in the period of three months.

Results. Two months after the car accident, before the beginning of the therapy, all of the children were the members of rigidly enmeshed family systems, considering the high average cohesion scores and the low average adaptability scores on the FACES III. Three months after the received therapy, having evaluated the results of the therapeutic approaches, we established that the adaptability scores of the families included in the SFT were higher than the scores of the families of the children who received pharmacotherapy with one boy still meeting the criteria for PTSD.

Conclusion. Systemic family therapy was efficient in the treatment of children with PTSD, traumatized in car accident. Therapy efficiency was higher when both parents and children were included in SFT than in the case when they were not included in the family therapy. The change in the functioning of the family systems was not accidental or simply time-dependant, but it depended on the therapy which was applied and the increased level of family adaptability as the main risk factor of retraumatization.

Key words: stress disorders, post-traumatic; child; family; accidents, traffic; questionnaires; therapeutics.

Apstrakt


Correspondence to: Miodrag Stanković, Clinic for Mental Health Protection, Clinical Center Niš, 18 000, Niš, Serbia. Mob.: +381 63 1049 501. E-mail: adolescencia@shb.rs

DOI: 10.2298/VSP1302149S

UDC: 616.89-053.2-08::656.1.08-058.66
Introduction

Traumatic stress refers to physical and emotional reactions caused by events which represent a threat to life or disturbance of physical or psychological integrity of a child or a person of critical importance to the child. The term "retraumatization" is used to denote reactivation of a trauma and to describe a mild and passing or marked and permanent increase in posttraumatic stress disorder (PTSD) symptoms. In both classifications of mental disorders, in all revisions, the criteria for diagnosing PTSD in adults were the same to those in children and adolescents, except in the last revision of DSM IV classification.

Systemic family therapy (SFT) is, by definition, a therapeutic method designed to change nonfunctioning patterns of family interaction in stressful situations and transitional points in the family’s life cycle. SFT does not focus on the cause, treatment of symptoms or diagnosing an individual disorder in identified patients.

Car accidents are the main cause of PTSD in children in industrialized countries. Six months after the trauma, 25%–30% of the children who survived car accidents and up to 78%–82% of those who already met the criteria for acute stress disorder met the criteria for PTSD. It is apparent that a traumatic event is necessary, but insufficient to cause PTSD in conditions of equal exposure to trauma, i.e., that there are other, indirect, factors for appearance and continuation of PTSD, in both children and adults. The reactions of the child’s environment (parents, the public) also represent a risk for secondary retraumatization. The ability of parents and guardians to control and manage their own emotions, as well as to be emotionally available to the child after the trauma, represents the most important measure for the degree of psychological disturbances the child will experience after the trauma and the most important protective factor in retraumatization. An elevated degree of anxiety and neuroticism, as well as the existence of other mental problems represent important individual predisposing factors and increase the vulnerability to traumatic experiences.

It has been shown that in adults, unlike in children, personal belief that they would experience death during an incident or the presence of a traumatic death or body mutilation of another person represents a high risk factor for the development of psychopathology. In some of the described cases, an indirect traumatic event, such as realizing that the child had been exposed to trauma, was enough to develop a traumatic reaction in the form of peritraumatic stress disorder in parents. An inadequate emotional and social support longitudinally increases emotional and social isolation of adults, as well as the intensity of PTSD symptoms.

The key symptoms of PTSD have been classified into three groups: re-experiencing, avoidance and hyperarousal. In children and adolescents, the symptoms may vary or be incompletely manifested due to the way children manifest symptoms of re-experiencing or emotion towards a traumatic event. It is typical that the symptoms show a tendency towards grouping around the signal of re-experiencing while children and adolescents attempt to avoid an emotional experience of the trauma, which leads to a series of signs showing an increase in psychological arousal. That is why PTSD may be undiagnosed or misdiagnosed as depression, generalized anxiety, or a mixed conduct and emotional disorder leading to omitting the required therapeutic interventions. The fifth edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-V) is going to propose special criteria for PTSD in preschool and school children, as well as in adolescents. The introduction of a new entity – Developmental Trauma Disorder is also going to be proposed.

So far, no psychotherapeutic approach to treating PTSD developed after a car accident has shown superiority, but multiple studies have emphasized the efficiency of trauma focused cognitive-behavioral therapy (TF-CBT) as the record of TF-CBT efficiency has been well supported by data in the literature, but the data about TF-CBT superiority over SFT is very limited. On the other hand, the data of SFT influence on war veterans suffering from PTSD is very well supported, especially those regarding the key importance of social and emotional support from the patient’s closest environment, also affected by the disorder, but whose symptoms are significantly less present. The efficiency of both monotherapeutic SFT and SFT in combination with other therapeutic methods (especially with cognitive-behavioral therapy) has also been well documented.

Recovery from PTSD includes integration and organization of the traumatic memory into a coherent content, as well as the establishment and maintenance of emotional control during repeated exposure to real or conditioned trauma signals.

The aim of this clinical observational study was to show clinical efficiency of SFT as therapy intervention in treatment of children with PTSD, traumatized in a car accident under identical circumstances. We pointed out the importance of family reactions to acute traumatization of children, as well as the significance of these specific family factors (parents’ emotional reaction, family cohesion and adaptability) on PTSD clinical outcome.
Methods

The sample of this observational study included of 7 pupils from the same, sixth grade elementary school class, 5 boys and 2 girls, aged 13. In May 2009, all of the pupils were involved in a car accident. Out of 50 pupils who were on the bus in which one of their fellow pupils died, the seven previously mentioned children developed clinical symptoms of PTSD two months after the accident, and together with their parents sought for psychiatric help. Other pupils were not available for research. None of the study subjects eyewitnessed the actual death of their classmate at a moment of bus crash.

They were diagnosed according to the semi-structured diagnostic interview Kiddie-Sads-Present and Lifetime Version (K-SADS-PL) and according to DSM-IV-TR inclusion criteria, subsequently based on their medical history, the medical history of their relatives, their psychological status and psychological testing. None of the seven children had any comorbid physical or mental disorder. No participant of the study renounced the applied therapeutic procedures.

Two groups of instruments were used for testing. The first group of instruments was used to determine the children’s general and specific psychological functioning and to make a diagnosis (K-SADS-PL and DSM-IV-TR classifications). Psychological testing was performed using the WISK IQ test, while personality characteristics were reviewed using Eysenck’s EPQ test.

The second group of tests was used to determine possible mediatory factors in maintaining symptoms in children. Relations within their families, their organization and communication were reviewed with a systemic interview of families and by using the FACES III questionnaire, while the emotional functioning of the parents was determined using the Beck’s Anxiety Inventory – BAI, which the parents filled out during their first interview and three months later.

Taking into account basic needs of the patients, as well as therapy recommendations and ethical dilemmas, we provided our test subjects with nondirective supportive therapy (NST) for posttraumatic reactions and 8 sessions of individual, TF-CBT. The principles and techniques regarding TF-CBT have been well documented, as have those regarding NST.

Two groups of examinees were formed. One group was made up of 3 children who, along with their families, took part in 8 sessions of SFT, while the other group was made up of four children who were treated with an antidepressant selective serotonin re-uptake inhibitor (SSRI) sertraline (50–100 mg) in the period of three months, with a single dose taken each morning. The inclusion criteria for family therapy were negative attitudes of parents towards the use of drugs in children. This could be a problem in randomizing, but such attitude would certainly represent an inclusion limitation of those children in the medication treatment protocol.

The SFT included: direct conversation about the trauma-triggering event, psychoeducation about the family’s reactions to the traumatic event and their skills to adaptation, the use of reframing and externalization techniques aided by “trauma narratives”, challenging networking and overprotection, narrowing intrusiveness and triangulation, supporting attempts at solving the problem completely and independently.

Results

All the test subjects had symptoms of: re-experiencing (intrusive thoughts, images, scenes about the traumatic event, recurring nightmares with oneric sequences of the accident); avoidance/inhibition (avoiding to talk about the accident, avoiding to ride the bus, not going on field trips or excursions, showing lack of motivation to study, avoiding contact with other children); hyperarousal (increased irritability and anger management problems, difficulty in focusing attention accompanied by hypervigilance).

Place of residence (country-town), IQ, personality characteristics (Table 1) did not influence the development of symptoms. The average values from Table 1 did not show statistically significant differences between the sexes.

Two months after the car accident and before the treatment, all the children from the research were the members of family systems which, at that point, were organized rigidly, taking into account the elevated average scores on the cohesion scale and low scores on the adaptability scale on FACES III (Figure 1).

After the evaluation of the therapy, in the group of children involved in SFT a decrease in the level of cohesion and increase in adaptability was noted in both groups, but the difference in the group of children involved in SFT was more noticeable.

Three months after applying the therapy, evaluating the results of the applied therapeutic approaches, it was noticed that the boy, involved both in TF-CBT and pharmacotherapy, still met the K-SADS-PL and DSM-IV criteria for PTSD. All of the mothers had significantly higher scores on the Beck's

---

anxiety scale, as did most of the fathers (suspected peritraumatic stress syndrome/peritraumatic dissociation). After the evaluating of the parents’ BAI scores, a significant difference between the first and the scores after the applied therapy was noted in both groups (Figure 2).

Fig. 1 – Scores on the FACES-III questionnaire before and after the applied therapy; NST – nondirective support therapy; TF-CBT – trauma-focused cognitive behavioral therapy; SSRI – selective serotonin re-uptake inhibitor (sertraline); SFT – systemic family therapy

Fig. 2 – Scores on the Beck’s Anxiety inventory (BAI) before and after the applied therapy; NST – nondirective support therapy; TF-CBT – trauma-focused cognitive behavioral therapy; SSRI – selective serotonin re-uptake inhibitor (sertraline); SFT – systemic family therapy

Discussion

So far, there has been no “golden standard” for diagnosing or monitoring PTSD symptoms in children and adolescents and that is why we were guided by the recommendation that a clinical interview, an examination and a family’s medical history were optimal in diagnosing PTSD in children. It was shown that TF-CBT therapy, in combination with SSRIs and SFT, showed a favorable tendency towards the prevention of PTSD and reduction of anxiety and depression, which is in accordance with the findings of the National Institute for Health and Clinical Excellence.

In this pilot clinical preview we showed that NST and TF-CBT, in combination with both therapies tested (SSRI and SFT) had a favorable tendency towards PTSD prevention, but that the combination of NST with TF-CBT and SFT led to a higher level of family adaptability than the combination of NST with TF-CBT and pharmacotherapy (SSRI).

The fact that the tested children were the members of family systems which were, at the time, rigidly organized, can be interpreted as an attempt of the family system to stabilize the chaos in disturbed family routines after an acute traumatic event and a powerful emotional response from the parents (elevated scores on BAI), which probably had a powerful negative effect on the development and maintenance of symptoms in children.

Three months after starting the therapy, the level of compensatory family cohesion was greatly reduced in both tested groups, but it was noted that the level of adaptability in the group of children and families included in SFT was considerably increased in comparison with the level of adaptability in the families of the children treated with pharmacotherapy. Our findings may, on one hand, signify a low base level of capacity for adaptability in family systems, which may be viewed as a significant risk factor, but it can also show the significance of family therapy in correction of this dimension, which was increased in children treated with SFT. The significance of the obtained results also lies in the fact that the positive change in family systems functioning is not random and time-dependent, but depends on the type of therapy applied. This is also backed up by the fact that the boy who was included in SSRI therapy, and whose parents, mother in particular, continued to show a high degree of anxiety reactions, still had symptoms of PTSD.

Data from the literature also show that high scores of a family system on the adaptability scale correlate with the harmful influence on the manifestation of different symptoms, which has been observed in abused children as well. Therefore, it can be discussed that in both cases (increased and decreased family adaptability), the child is under greater risk of losing security (the problem of organized and predictable behavior of the environment) and identity (“is no longer the child that used to be before the trauma”), since, by the parents’ behavior, the structure of family system is being compromised, age boundaries blurred, and routines and rules are not maintained, which conceptualizes the child as „traumatized“. This places it in the position in which it mentally attenuates the traumatic event, which is made significantly more difficult by new interactions in the family.

Our results show that without including family members in the therapy and the simultaneous adjustment of family functioning and the way it interacts with the child, the family continues to function according to dysfunctional patterns, which reinforce the position of the child as “the PTSD child”, and that of the parents as “the parents of a PTSD child”, in a situation when the disorder is not endogenous.

*One of the examined families reacted with the fall in adaptability and rise in cohesion to such an extent that the relatives came to console the parents in an atmosphere of grief at the loss, which objectively did not occur, as the boy in question survived the accident with no physical injuries.

Such systemic model of family dynamics is in accordance with other findings in the literature. Hence, we believe that the greatest efficiency of SFT is in the area of regulating the level of adaptability in family functioning. Thus, the findings of this study confirm the validity of inclusion of this type of therapy in preventing traumatization and retraumatization by changing the family’s perception of the child from that of a “traumatized child” towards a new definition of “a child facing a psychological problem caused by an unpleasant experience”, together with encouraging the parents to sustain reasonable discipline, family hierarchy and routines during the stressful period.

Conclusion

A combination of TF-CBT and SFT showed a higher clinical efficiency in the reduction of PTSD symptoms in comparison with a therapeutic approach which included TF-CBT and pharmacotherapy with SSRIs. SFT showed clinical and tested efficiency in regulating adaptability levels in family functioning. Thus, the level of adaptability in family functioning. Such systemic model of family dynamics is in accordance with other findings in the literature. Hence, we believe that the greatest efficiency of SFT is in the area of regulating the level of adaptability in family functioning. Thus, the findings of this study confirm the validity of inclusion of this type of therapy in preventing traumatization and retraumatization by changing the family’s perception of the child from that of a “traumatized child” towards a new definition of “a child facing a psychological problem caused by an unpleasant experience”, together with encouraging the parents to sustain reasonable discipline, family hierarchy and routines during the stressful period.

R E F E R E N C E S


Received on July 1, 2011.
Revised on February 20, 2012.
Accepted on March 12, 2012.