

EDITORIAL

EMDR in paediatrics and rehabilitation: An effective tool for reduction of stress reactions?

Having to cope with life-threatening injury or illness can be very stressful for children and their parents. In medical settings children—and parents—can be traumatized by various events both before and during hospitalization as well as during the rehabilitation-phase (e.g. for children: acutely becoming injured, painful medical procedures or unpleasant treatment by medical staff, having permanent scars; for parents: hearing that ones child has a life-threatening condition, seeing the child suffering or having to deal with the temporary or permanent consequences for their child). Although most children and parents display remarkable resilience over time, stress levels can remain extremely high for a part of these children and parents throughout the entire hospital period and thereafter, culminating in various stress reactions. These reactions can be summarized in a framework of Paediatric Medical Traumatic Stress (PMTS). PMTS is defined as ‘a constellation of psychological and physiological responses of children and their families to pain, injury, serious illness, medical procedures and invasive or frightening treatment experiences’ [1]. Typical PMTS reactions are: nightmares, intrusive images, fear reactions, anger outbursts and depression.

PMTS reactions not only affect paediatric patients, but also their families and healthcare systems [1]. Around 30% of children and parents show severe PMTS reactions in the first month after life-threatening injury or onset of illness, influencing recovery and development negatively. Around 10–15% will remain symptomatic even after 3–6 months [1–5]. Identifying factors that might be associated with severe PMTS reactions is important, since medical events are not by definition traumatic for all children and their families. Whether a medical event is experienced as traumatic is determined by the subjective experience of the event and not so much by objective markers like severity of illness or survival statistics [1–5]. For example, children that experience a lot of pain or perceive the injury or illness as life-threatening have a higher risk of developing chronic and pathological reactions. Parents that experience high levels of stress

(intense fear) during the hospital period or had mental health problems existing already before also have an increased risk for severe PMTS reactions. In short, the objective severity of the injury or illness is apparently not a strong risk factor for the development of pathological reactions [1–5].

Children and parents at risk should be identified early by paediatricians and other members of medical staff. Accordingly these children should be referred to a behavioural health specialist (i.e. paediatric psychologist, psychiatrist), because this specialist is able to provide treatment interventions that can prevent chronic and pathological PMTS reactions to arise. Early application of treatment interventions in paediatrics is not common, unfortunately. However, several evidence-based interventions are available presently. In paediatrics, for instance, the Creating Opportunities for Parent Empowerment (COPE) programme and the Surviving Cancer Competently Intervention Programme (SCCIP) are promising stress reduction interventions [6,7]. In general traumatic stress literature, more efficacious treatment interventions are mentioned [8]. Both children and their parents could profit from them if these interventions would be applied sooner and more often.

One of these evidence-based treatment interventions is Eye Movement Desensitization and Reprocessing (EMDR), developed by Shapiro [9]. Clinical efficiency of EMDR for children has been demonstrated by a recent meta-analysis [10] and other studies [11,12]. Support for the use of EMDR in adults can be found in ~20 randomized controlled studies in adults [13]. EMDR is now recommended as one of the first choice treatments for Post-traumatic Stress Disorder, together with Trauma Focused Cognitive Behaviour Therapy—in several practice guidelines [14–16]. An example of an extensively researched programme for TFCBT is the one developed by Cohen et al. [17].

With EMDR various stress reactions, resulting from disturbing memories of stressful life experiences, can be reduced. The procedure is characterized by a structured protocol and starts

with the activation of all elements of a memory-representation: visual, cognitive, emotional and physical. Once activation of the memory has been established, the second phase starts off. There a process of associations and reflections by the patient is facilitated and stimulated. The patient is asked to focus internally on emotionally disturbing material coming up and simultaneously externally on bilateral stimulation (e.g. following the horizontally moving fingers of the therapist with the eyes, listening with earphones to tones alternately in each ear or hand-tapping) during sets of 30–45 seconds. After each set of dual attention (internal and external) the patient is asked to report shortly whatever comes to mind. This alternating process of dual attention and making notice of internal changes is repeated until the distress level—evoked by the memory-representation—is neutralized. The distress level is rated by the Subjective Units of Disturbance Scale (SUDS). This scale is used for measuring the subjective intensity of disturbance or distress currently experienced and functions as a benchmark to evaluate the progress of treatment.

Application of EMDR should be taken into consideration whenever there is suffering from PMTS reactions—particularly intrusive memories, flashbacks, nightmares, anxiety and guilt feelings—or when these reactions interfere with either the recovery process or acceptance of a new situation. EMDR has some specific strengths: it can bring about quick relief and strong positive and lasting results; the procedure is relatively easy to go through for patients, because they do not have to talk much about their negative experiences; for this same reason the procedure is applicable to very young children, to mentally retarded children or adults and also to people that cannot be treated in their native language; for therapists who are adequately trained the procedure is relatively easy to apply; it can be a valuable time- and money-saving tool for hospitals that have adequately trained behavioural health specialists available.

Examples where EMDR was used successfully

Christopher, 4 years old, was admitted to the hospital after a near drowning accident. He developed severe respiratory and circulatory problems. During hospitalization Christopher was having nightmares and screamed throughout the night, asking for his parents to be at his side constantly.

I do not want to stay here, I want to be with my mommy and daddy. I am afraid that the water will come over me again.

Christopher's mother was plagued by guilt feelings and she was not functioning adequately since the event. She had severe sleeping problems and was agitated.

I am a bad mother. If I had paid better attention, this would not have happened.

Jane, 8 years old, came to the hospital for haemodialysis because of chronic kidney failure. She developed an extreme fear for injections.

I am furious with all doctors and nurses, because they hurt me tremendously after having promised me that it wouldn't hurt very much. I refuse any injection ever again.

Isabel, 12 years old, was admitted to the hospital after a car crash. During her stay in the hospital she saw the crash happening over and over again in her mind. Isabel started yelling at her parents over little things. She did not dare to close her eyes fearing the images of the car coming towards her over and over.

I cannot stop thinking of the crash. I constantly see and feel it happening again.

Jack, 14 years old, had chronic heart failure. He had a pacemaker with internal defibrillator. This defibrillator went off several times, which was very frightening for him. He stayed constantly panicking and was easily aroused.

I am afraid that the defibrillator will not react correctly when my heart fails.

Laura, 16 years old, was caught in a fire. She had burn marks all over her body. She was in the hospital to recover from them. When she heard her marks would never disappear, she stopped communicating with her parents and with the medical staff. She felt numb inside.

I look like a monster and I will always be like this. I do not want to go back into the world. I do not want people to see me anymore.

Henry, 18 years old, was involved in a scooter accident and one leg had to be amputated, because of irreparable damage. His father became extremely upset

My son is a cripple, which is unbearable. I stimulated him to ride with a scooter. Because of what happened his future is ruined. I am to blame for that.

Members of medical staff involved in the caretaking of seriously injured and ill children have to be alert for severe PMTS reactions in children and their parents. Healthcare professionals should be able to recognize these reactions and identify children and parents that could benefit from

treatment interventions like EMDR. Because many healthcare professionals in paediatrics are not specifically trained in identifying PMTS reactions or children and parents at risk, accurate training material should be developed. An example of material that has been developed recently is the Paediatric Traumatic Stress Toolkit (www.healthcaretoolbox.org). This toolkit is created by The National Child Traumatic Stress Network (NCTSN) and comprises both practical tools and training materials for healthcare professionals to enhance trauma-informed practice. After considering the A-B-Cs (airway–breathing–circulation), professionals should consider the D-E-Fs (distress–emotional support–family) [7–18]. In addition, future research should focus on the development and validation of screening tools to help stratify children and parents at risk like the STEPP [19]. The STEPP appeared to be an effective screening instrument in the US. At this moment research is taking place in the Netherlands (by E. P. M. Van Meijel) in order to validate the STEPP with a few questions added. As long as validated tools are not available, medical staff members should rely on their own observations and those of the parents. Integrated trauma-informed practice together with validated screening tools could be beneficial to families and possibly minimize or even prevent long-term PMTS reactions after life-threatening injury or illness.

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