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# Trauma, psychosis, post-traumatic stress disorder and the application of EMDR

## *Trauma, psicosi, disturbo da stress post-traumatico e l'utilizzo dell'EMDR*

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**SUMMARY.** In this article we describe three interactions between trauma, post-traumatic stress disorder (PTSD) and psychosis: 1. many patients with psychotic disorders suffered from traumatic life experiences that play an important role in the onset and content of their psychosis; 2. the experience of psychosis as well as its psychiatric treatment may result in post-traumatic stress symptoms; 3. if psychosis and PTSD occur simultaneously, there is a substantial risk for reciprocal negative reinforcement of both symptom groups as well as for potentially ongoing traumatization. Although these interactions are highly relevant from a clinical perspective, they usually remain unattended in routine care. The three interactions will be illustrated by a case history as well as an impression of the psychological treatment including EMDR. We recommend to pay attention to traumatization and comorbid PTSD in routine care for people with psychosis, as well as to offer them treatment.

**KEY WORDS:** trauma, PTSD, psychosis, schizophrenia, EMDR.

**RIASSUNTO.** In questo articolo descriveremo tre interazioni tra trauma, disturbo da stress post-traumatico (PTSD) e psicosi: 1. molti pazienti con disturbi psicotici hanno subito esperienze di vita traumatiche che giocano un ruolo fondamentale nell'insorgenza e nel dar forma al contenuto della loro psicosi; 2. sia l'esperienza psicotica sia il suo trattamento psichiatrico possono causare la sintomatologia da stress post-traumatico; 3. nel caso in cui la psicosi ricorra assieme ad un PTSD, vi è un rischio sostanziale che i due quadri clinici si rinforzino reciprocamente in maniera negativa, oltre a un potenziale protrarsi della traumatizzazione. Sebbene queste interazioni siano clinicamente molto rilevanti, raramente vengono tenute in considerazione durante la pratica clinica di routine. Le tre interazioni verranno illustrate attraverso un caso singolo e una descrizione di un trattamento con EMDR. In conclusione raccomandiamo di prestare attenzione, durante la pratica clinica di routine, alla traumatizzazione e a una co-diagnosi di un PTSD nei casi che presentano un disturbo psicotico, oltre che offrire un trattamento a questi pazienti.

**PAROLE CHIAVE:** trauma, PTSD, psicosi, schizofrenia, EMDR.

## INTRODUCTION

Although a psychotic disorder is often accompanied by at least one other disorder, comorbid psychopathology hardly ever is diagnosed. Psychotic patients rarely get questioned about traumatic experiences. As a result, the role of trauma in psychotic symptoms is underexposed and a post-traumatic stress disorder (PTSD) is often not recognized (1-3). Research shows that 50-98% of patients with psychosis have experienced traumatic life-events, with an average of 3.5 traumatic events per

patient (2,4). Of women with psychosis, 69% state to have been abused during childhood, either sexually (48%) or physically (48%). In men, this is 59%, of whom 28% report sexual abuse and 50% physical abuse (5). The prevalence of comorbid PTSD in patients with psychoses is high compared to the general population: 11-67% versus less than 5% (2,6-10). Also, PTSD and psychotic symptoms overlap significantly, and distinctions can be hard to make. For instance, negative symptoms of schizophrenia are similar to emotional numbing

and avoidance in PTSD. Also, hallucinations in psychosis can resemble flashbacks in PTSD (11). Morrison (12) argues that the appraisal of intrusions rather than its phenomenology determines whether these are seen as symptoms of either PTSD or psychosis. Both hallucinations and flashbacks are unpleasant and uncontrollable experiences. The main difference is that hallucinations are usually explicitly attributed to an external source. Others find that, in half of the auditory verbal hallucinations, a relationship exists between the content or theme of the voices and the characteristics of experienced trauma (13). In a literature review, Jones (14) concludes that most hallucinations are a form of inner speech, experienced as coming from outside, but that a less prevalent type of hallucinations may be viewed as involuntary intrusions from personal memory. In the latter group, hallucinations may be directly related to trauma, as a type of flashbacks.

Treatment of PTSD is hardly ever offered to people with psychotic disorders. Clinicians think that the likelihood of symptom worsening is high and thus do not offer treatment. As people with severe psychiatric illnesses are usually excluded from studies, there are few data on the utility of standardized treatment protocols for people with comorbid problems (15). We will first give an overview of research findings on the effects of psychological treatment of PTSD in psychotic patients. Next, we describe three interactions between trauma, psychosis and PTSD:

1. traumatic events constitute an important factor in the development of psychosis;
2. psychosis and experiences in psychiatric treatment can be traumatic and cause PTSD;
3. PTSD and a psychotic disorder are mutually reinforcing psychopathologies.

We will illustrate these interactions within a case history, and show how Eye Movement Desensitization and Reprocessing (EMDR) can be applied during treatment. Protocols for the conceptualization and application of EMDR are described in detail in handbooks (16).

## RESEARCH FINDINGS

A randomized trial on the treatment of PTSD in patients with severe mental illnesses shows that a cognitive-behavioral program based on cognitive restructuring is more effective than supportive counseling (17). A pilot study found that exposure therapy in patients with schizophrenia or schizoaffective disorder was effective for reducing PTSD symptoms without adverse effects (18).

In an open trial, subjects diagnosed with a psychotic disorder as well as comorbid PTSD (estimated mean duration of over 13 years) received a maximum of six Eye Movement Desensitization and Reprocessing (EMDR) therapy sessions (19). EMDR reduced PTSD symptoms as well as auditory verbal hallucinations, delusions, anxiety symptoms, depression symptoms, and self-esteem. Interestingly, EMDR was applied without adapting the basic protocol and without delaying the actual treatment by first conducting stabilization-techniques. The drop-out rate was only 18.5 percent and no adverse events, such as suicide attempts, self-mutilation, aggressive behaviour or hospital admissions, occurred.

In conclusion, emerging research indicates that patients with a psychotic disorder can safely be exposed to psychological treatments for PTSD. Currently, a sufficiently powered Randomized Controlled Trial is being conducted in the Netherlands, applying EMDR and Prolonged Exposure therapy.

## INTERACTIONS BETWEEN TRAUMA, PTSD AND PSYCHOSIS

We will discuss three interactions between trauma, PTSD and psychosis. The case report of Carl is included to illustrate these interactions and to provide an impression of trauma therapy using EMDR.

### Carl

*Carl is 58 years old and diagnosed with schizoaffective disorder, a personality disorder, and benzodiazepine dependence. During childhood, Carl was a victim of incest, and he spent his youth in orphanages and boarding schools. At the age of 20 he got married and the couple raised a son and a daughter. At the age of 43 Carl witnessed a deadly accident while he was working at a railway station. After several attempts to resume work and a conflict with his supervisor, he quit his job. He experienced flashbacks, got depressed, and started hallucinating. He became convinced that his supervisor was constantly monitoring his thinking and, by telepathy, tried to incite suicide. In the years that followed, Carl was admitted to a psychiatric hospital almost each year, with coercive measures.*

*Now Carl has been hospitalized for a few months and he does not recover. A few weeks ago the flashbacks of the accident at work returned and he is frightened and confused. He sees and hears his supervisor constantly. He thinks his life is worthless and burdensome*

to others. He does not dare to leave the closed ward because he fears what will happen when he becomes overwhelmed by hallucinations and flashbacks outside. He is hyper aroused and highly explosive towards the other patients and staff.

## TRAUMATIC EVENTS CAN LEAD TO PSYCHOSIS

There are indications that the relationship between trauma and psychotic symptoms is causal in nature. Particularly auditory hallucinations - in both healthy voice hearers and psychotic patients - are associated with traumatic experiences. About 70% of the adults hearing voices state that the voices began after a traumatic or highly emotional event. Less than 20% have never been the victim of sexual abuse or emotional neglect in childhood (20-22). Bebbington et al. (23) found a strong relationship between trauma and subsequent psychosis in over 8,500 UK citizens. Particularly sexual abuse significantly increased the risk of psychosis (OR = 15.47, corrected for other factors OR remains 3.93). This association was also found in the Netherlands: Janssen et al. (24) examined 4,045 people and found that people with moderate trauma compared with those without trauma history were more likely to develop psychotic symptoms (OR = 10.6), or such a severe psychosis that professional care was necessary (OR = 5.3). People with severe trauma were even more at risk for these symptoms (OR = 48.4, respectively 7.31). Thus, attending to traumatic life experiences is crucial in the case formulation and treatment of psychosis. It enhances insight and reveals possibly relevant treatment targets (25) for which EMDR may be useful.

### Carl

*The therapist diagnoses a comorbid PTSD and provides Carl with psycho-education about post-traumatic symptoms and a normalizing rationale for his psychotic symptoms. The therapist offers treatment with EMDR to reduce the flashbacks.*

*The first target is easily selected: the most intrusive flashback image (a few seconds before the fatal train crash) together with the negative cognition "I am powerless" evoke maximum stress, grief and pain. In three sessions the Subjective Units of Disturbance (SUD) decreases from 10 to 0 and the credibility of the belief "I can handle it" (the image) increases to maximum. The selected target image changes and fades.*

*In his associations during the desensitization phase Carl makes statements about helplessness, guilt and re-*

*sponsibility. After a few times "back to target" Carl emphasizes things like "I'm a victim too" and "I did all I could". Although the sessions are difficult for Carl, he experiences no disadvantages. The flashbacks of the accident subside and hyper arousal symptoms diminish.*

*Carl was traumatized during childhood but experienced no intrusions of those events. The flashbacks of the deadly accident he witnessed were overwhelming and Carl had delusional interpretations. Basic EMDR was applied, without modifications, accomplishing impressive effects for the flashbacks. However, although the hallucination content was traced back to the accident, the hallucinations themselves were unaffected by the EMDR-treatment so far.*

## PSYCHOSIS AND PSYCHIATRIC TREATMENT CAN BE TRAUMATIC AND CAUSE PTSD

Symptoms of psychosis as well as their psychiatric treatment may lead to PTSD symptoms. Several studies have found PTSD as a consequence of psychosis. E.g., in a review on this subject Bendall, McGorry and Krstev (26) conclude that mainly positive symptoms of psychosis cause "post-psychotic" PTSD symptoms. However, a problem in diagnosing PTSD due to psychosis is "criterion-A" of DSM-IV-TR (27). This states that perceived threat or danger as well as negative emotions during the traumatic event must have been present. Most researchers agree that the experiences during treatment in psychiatry can meet criterion-A of PTSD, but there is some disagreement on whether delusions and hallucinations also meet the criterion (26). Some argue that patients with psychosis experience very real threats and that these should therefore be accepted as "criterion-A" traumatic events (12). A study by Kilpatrick et al. (28) supports this position by showing that it is the *interpretation* of an event, rather than the objective severity, that predicts whether a person will develop PTSD. Mueser, Lu, Rosenberg, and Wolfe (29) investigated the influence of the criterion-A and found that in a group of 38 patients, who had recently experienced psychosis, 66% met the criteria of PTSD without criterion-A strictly applied. When taken strictly, 39% met the criteria of PTSD.

### Carl

*Carl still experiences hallucinations, visual and auditory. Several times a day, the image of his former supervisor appears, telling him to go to the railway and throw himself in front of the train. It upsets him a lot and he*

dares not leave the closed ward, fearing he may lose control.

*EMDR is applied in subsequent sessions. Carl is asked to bring into mind the picture of his supervisor, telling him to kill himself, together with the negative cognition (NC) "I'm am powerless". At first, suicidal thoughts come up during the desensitization. Then bursts of anger, a clear statement that Carl does not want to die, and finally the conviction that he has suffered enough. In the third session the SUD score drops to 0. The therapist installs the positive cognition ("I can handle it"); the validity of this cognition rises, but lingers at 6.*

*Carl still does not dare to leave the ward, thinking he may be unable to control his actions. Using Resource Development and Installation (RDI) Carl achieves an indifferent attitude towards the hallucinations as well as enhanced control over his emotions and behaviour. He quits his safety behaviours and eventually gets dismissed from the hospital.*

*Experiencing hallucinations is an ongoing trauma for Carl; he believes his life is still in danger. He avoids various types of triggers and keeps getting anxious when hallucinating. Even though the delusional interpretation of hallucinations receded, Carl was still preoccupied with them.*

*After targeting the most distressing hallucination, the emotional impact was reduced. Using RDI, he felt stronger and dysfunctional safety behaviour (staying inside) was tuned down.*

## **SYMPTOMS OF PTSD AND PSYCHOSIS ARE MUTUALLY REINFORCING**

In patients with a psychotic disorder as well as PTSD, there is a *dose response effect*: the worse the trauma, the higher the risk of psychotic symptoms and the poorer the prognosis (5,24). Psychotic patients experience more problems with delusions and hallucinations, and more disruption in daily life, in case of a comorbid PTSD (29). Mueser, Rosenberg, Goodman and Trumbetta (30) developed an interactive model about trauma, PTSD and the impact on severe mental disorders such as schizophrenia. It assumes that PTSD affects the course of psychosis and schizophrenia both directly and indirectly. Symptoms such as avoidance, flashbacks, and hyper arousal can exacerbate psychotic symptoms directly, e.g.: withdrawal reduces the opportunities to test delusional ideas; flashbacks may be interpreted in a delusional way; and a state of hyper arousal may serve as an ongoing motor behind psychotic experiences. The indirect route consists of in-

creased risk of substance abuse and re-traumatization (e.g. by clinical admissions), leading to interpersonal distrust and negative self-evaluations. These issues in turn affect psychosis adversely as well as the patients attitude towards relationships with others, including therapists. Thus, the patient is caught in a downward and self-perpetuating cycle, in which psychosis and PTSD are mutually reinforcing. Adequate treatment of an existing PTSD may disrupt this spiral.

### **Carl**

*Treatment is continued and delivered at home by a multidisciplinary Flexible Assertive Community Treatment (FACT) team. It consists of pharmacotherapy, cognitive behavioural therapy, intensive case management, counselling for family members, and peer support.*

*At home, the RDI protocol is repeated several times to mobilize and strengthen self-efficacy, self confidence, and pride. The impact of positive experiences is enhanced and Carl now ventures to investigate and test his concerns about the world being a dangerous place for him, using cognitive techniques and behavioural experiments. His case manager guides and supports him in reducing safety behaviours and expanding behaviour activation.*

*In the case described, different symptom clusters overlapped and influenced one another. There was a negative spiral: for a long time symptoms persisted and got worse. Core beliefs like "the world is dangerous", "others cannot be trusted", and "I'm powerless" - that had their origins in childhood - were confirmed in the present by ongoing symptoms and his stay in a closed ward. Carl tended to jump to delusional conclusions and applied this cognitive style to his PTSD symptoms as well. Safety behaviours kept him from reconsidering his beliefs. Merely the thought of giving up some of these behaviours greatly stressed him, which was a common trigger to start hallucinating. The hallucinations, in turn, confirmed his negative core beliefs. Carl was caught in ongoing trauma and psychosis.*

*When the basic protocol of EMDR was applied (target accident at work) the flashbacks decreased, hyper arousal was reduced, and perceived powerlessness receded. Targeting the most distressing hallucinations installed an indifferent attitude towards the residual symptoms. Carl felt strong enough to pick up cognitive behavioural therapy.*

## **CONCLUSIONS AND ADVICE FOR TREATMENT**

The interactions between trauma, PTSD and psychosis are complex. Relatedness, overlap, and mutual

influence make it difficult to judge differential diagnostic criteria. However, unpleasant life experiences are important in the development of psychosis. A significant proportion of patients with psychosis suffer from PTSD. We recommend offering psychological treatment, in which EMDR may be useful. By targeting traumatic experiences that underlie voices or negative conclusions about the self (e.g. "I am vulnerable") or others (e.g. "others cannot be trusted"), symptom relief can be achieved. It will often be necessary to continue with traditional CBT for psychosis.

There are many reasons why clinicians do not ask about traumatic events in the lives of patients with psychoses (for an overview see reference n. 3, p. 104). An important one is fear of the consequences of discussing trauma. In addition, clinicians sometimes doubt the validity of the memories of patients with psychoses. However, although deformations do occur, patients with schizophrenia are generally reliable in the traumas they report; they rather tend to under- than over-report trauma (31,32). Most patients as well as laymen regard traumatic life experiences as an important cause of psychosis (33). This in itself should be sufficient reason to discuss trauma during treatment.

We recommend that the professionals will be more aware of the impact of negative life experiences in psychosis, that they will more quickly recognize a comorbid PTSD, and, finally, that they will offer treatment using evidence-based interventions.

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