# Prevention of Post-traumatic stress disorder by Early Psychological Interventions Following theOctober 7th Massacre in Israel

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On Saturday, 7 October 2023, the Jewish holiday of Simchat Torah, our entire country woke to a reality of the worst terror attacks it has ever known, despite its long history of wars and terror. These horrific attacks included killing and burning babies, children, women, men, and the elderly; raping women; beheading babies; destroying settlements; and kidnapping more than 240 civilians and soldiers. The severe traumatic events created different circles of those exposed to trauma. In each group, the intensity of the trauma was different and had different characteristics.

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) [1], the definition of a traumatic event is an event in which there is exposure to an actual threat or threatened death, serious injury, or sexual abuse in one or more of the following ways:

1. Direct experience of the traumatic event(s)
2. Personal witness to the event(s) that happened to others
3. Hearing that the traumatic event(s) happened to a close family member or friend
4. Repeat or extreme exposure to difficult details of the traumatic event(s), for example, first responders who collect human remains, police officers, and rescue forces who are repeatedly exposed to details of child abuse

The first circle of those exposed to trauma includes the residents of the Gaza Envelope settlements who experienced the loss of family members and friends, as well as the destruction of their community. They lost loved ones and property. They faced physical injuries, fatal damage to their support system, and uncertainty pertaining to hundreds of missing hostages whose fate is still unknown. Moreover, the first circle of traumatized people were those dealing with the harsh and poignant experiences in the absence of their homes and community that are so vital for the recovery processes.

The second circle includes the participants at the Nova party who had come to celebrate and found themselves amid a murderous terrorist attack. Some individuals had been under the influence of psychoactive drugs or other substances. The people in this circle also experienced loss of friends, whether killed, taken hostage, or missing.

The third circle includes the residents of southern Israel who continue to live in a war zone and are subjected to constant rocket bombardment. The fourth circle includes Israel Defense Forces soldiers and other military and support teams that continue to fight and are exposed to severe traumas. These people too are subjected to the loss of friends and relatives.

The fifth circle includes search and rescue teams who handle the dead bodies in various horrible states, ranging from decay to mutilation; residents of northern Israel who were evacuated from their homes and experience acute uncertainty; residents of central Israel whose friends and relatives have been injured, killed, or taken hostage and who are subjected to missile attacks targeting them sporadically; and volunteers who are exposed to harsh sights and scenes without proper trauma training.

In contrast to terror events like the World Trade attack, which occurred on September 11, 2001 (9/11) in the

United States where the starting and ending points of the event are known, the Israeli victims are still under a real threat of ongoing war, a state known as continuous traumatic stress (CTS) [2]. Based on these definitions, it may well be argued that most of the Israeli population has experienced some sort of trauma during the past few weeks.

Risk factors for psychopathology following trauma include the intensity of the trauma, loss of property, loss of loved ones, sustained physical injuries, and the recognized lack of a system, all of which are the direct result of the destruction of the settlements and of entire communities. Therefore, some of the people in these circles are at greater risk of developing post-traumatic stress disorder (PTSD) and other trauma-related disorders such as anxiety disorders, obsessive-compulsive disorder (OCD), depression, and drug and alcohol abuse [3].

According to the DSM-5 [1], PTSD includes four clusters of symptoms:

- Intrusive symptoms (recurring memories of the event, nightmares, flashbacks)
- Avoidance symptoms (avoidance of thoughts and feelings related to the trauma and avoidance of trauma reminders like places, stimuli, situations)
- Negative cognitions and emotions (negative beliefs about the world and oneself, feelings of guilt, negative emotions, a marked decrease in interest, a feeling of detachment and alienation from people, emotional numbness)
- Symptoms of hyperarousal (hypervigilance, hyperarousal, sleep disturbances, concentration and memory difficulties)

Immediately after a traumatic event, most people will present with symptoms, which are considered a normal reaction that will gradually subside over time. Although for most people the symptoms are considered normal, for others the symptoms are numerous and severe and may be diagnosed as acute stress disorder (ASD). According to the DSM-5 [1], people demonstrating nine symptoms from all five symptoms sets (intrusive, avoidant, dissociative, negative emotion, hyperarousal) from 3 days to one month after the event meet the diagnosis of ASD. Although the DSM states that ASD can be diagnosed 3 days following a traumatic event, it may be prudent to delay a diagnosis until a full week after the event because over time patients who can be effectively treated or are at higher risk of developing PTSD can be identified. Even though most people will demonstrate symptoms immediately following the trauma, in most cases the symptoms will decrease and diminish after one to three months. Spontaneous recovery within a year, even without treatment, is possible. Research has shown that among people demonstrating PTSD symptoms 4–6 weeks after the trauma, one-third will recover in 3 months. For another third, the symptoms become chronic and persistent, leading to a diagnosis of PTSD [4].

The lifetime prevalence of PTSD is 5% in men in the general population and 10% in women [5]. Among veterans, however, the percentages are higher and stand at approximately 20%, depending on the study [6].

Despite the high prevalence of PTSD, research has consistently shown that the most common outcome following potential trauma is a stable trajectory of healthy functioning or resilience, also known as the resistant/resilient trajectory [7,8]. In a study conducted 8 years after 9/11, researchers found that among 4035 police responders, longitudinal PTSD symptoms were best characterized by four classes, with the majority (77.8%) in a resistant/resilient trajectory, while the rest exhibited chronic (5.3%), recovery (8.4%), or delayed onset (8.5%) symptom trajectories [9].

PTSD is a disabling disorder affecting function in all areas of life. The health and financial costs of PTSD are the highest among psychiatric disorders [10]. Identifying those individuals who show significant ASD symptoms may help prevent PTSD as trauma-exposed ASD adults are more prone to developing PTSD [11-13].

## IS IT NECESSARY TO START TREATMENT IMMEDIATELY AFTER TRAUMA?

Many times, after a large-scale trauma such as the 9/11 terror attack, a tsunami, or for that matter the current situation in Israel, mental health professionals and others rush to provide help immediately after the event. The question is whether we have forgotten one of the most important rules in medicine, *primum non nocere*, first do not harm. Perhaps some interventions immediately after trauma may change the course of the healing process or even be harmful. Maybe it is worth saving efforts and resources for those who are truly at risk of developing PTSD.

## PSYCHOLOGICAL DEBRIEFING

Psychological debriefing (PD) is one of the most widely implemented interventions after exposure to potentially traumatic events. Although people have reported that PD was helpful for a short while after the application, the medium- and long-term effects of PD on the response to trauma are questionable. In fact, one meta-analysis

found that PD following a traumatic event was associated with increased PTSD symptoms compared to no treatment [14]. A Cochrane review of 11 different studies that compared PD to no treatment at all showed that PD offered no real value in preventing PTSD [15]. Four different studies [16-19] pointed to adverse long-term effects. Research data showed the ineffectiveness of PD in preventing PTSD in individuals who had experienced civilian traumas. Moreover, one session of PD performed within 48 hours after the trauma may impair natural recovery.

One exception is Battlemind PD, which is a more constructed method, guided with specific questions. It was proven effective in thousands of U.S. soldiers returning from Afghanistan and Iraq who showed fewer signs of PTSD, depression, and sleep problems compared to controls [20].

Possible explanations for the adverse long-term effects of PD may include warning people that future symptoms might increase symptom crystallization. For some people, providing no treatment so soon after the trauma might be better as repression might work. Sometimes it is better to process the trauma with one's own support system or organizational culture rather than with strangers or outsiders. People may be more resilient than expected. Every medical intervention has the potential to cause harm, but alternatives could improve the situation [19].

In a meta-analysis of 61 studies [21], a variety of psychological interventions in the first post-trauma period were evaluated. The results showed that for people exposed to trauma who were not pre-screened for traumatic stress symptoms, there were no clinically significant differences between any intervention and normal care. Conversely, for people who reported PTSD symptoms, benefits were found for trauma-focused cognitive-behavioral therapy and eye movement desensitization and reprocessing (EMDR), with the differences being the greatest for those diagnosed with ASD and PTSD.

## PSYCHOLOGICAL TREATMENTS FOR ACUTE STRESS DISORDER

The most effective treatments for PTSD, proven in many controlled studies, include cognitive behavioral therapies (CBT) and EMDR [22-25]. CBT include exposure therapy, cognitive therapy (like CPT), and stress inoculation therapy (SIT) [26]. Prolonged exposure (PE) therapy is a specific exposure therapy protocol developed by Foa and colleagues [27] and is the gold standard evidence-based treatment (EBT) for PTSD [28]. PE has proven to be effective across a wide range of trauma types and populations [26,29]. The PE protocol is a short treatment of 8–15 sessions once or twice a week. It is comprised of four main components: relaxation training, education about common reactions to trauma, in vivo exposure, and imaginal exposure.

In Israel, the outbreak of the second intifada in 2000, which heralded an increase in terrorism and operational military activities, sharpened the need for a short-term EBT that could be quickly implemented among therapists. Starting in 2002, PE treatment was implemented in Israel, and to date more than 50 workshops have been conducted by Foa, Nacasch, and colleagues [30,31]. After the workshops, the therapists were supervised. Studies that examined the effectiveness of treatment in Israel, both among PTSD patients presenting with civilian traumas and among combat and terror-related PTSD patients, have been conducted [30,31].

## PROLONGED EXPOSURE TREATMENT FOR ACUTE STRESS DISORDER

Several studies demonstrated the efficacy of the short version of PE in ameliorating ASD and preventing PTSD in the first period after the trauma compared to active control and delayed exposure [32-35]. A study conducted in Jerusalem by Shalev and co-authors [36] compared early and delayed exposure-based, cognitive, and pharmacological interventions for preventing PTSD. A structured clinical interview was conducted by telephone nine days after the trauma. Patients diagnosed with ASD, and later with PTSD, were randomly divided into five groups: PE, CT, wait list for 12 weeks (WL), escitalopram 20 mg, and placebo. The treatment started on average 29 days after the trauma. The results of the study showed that PE, CT, and delayed PE (WL) effectively prevented chronic PTSD in survivors and was superior to waiting and the other control group. Interestingly, there was no difference between escitalopram, placebo, and the WL group in the prevention of PTSD. Moreover, there was no difference between early PE and delayed PE. One of the important premises of this study was that a delay in providing treatment did not increase the risk of chronic PTSD. The authors concluded that when a trauma involving a large number of victims was combined with a lack of experienced therapists, it was preferable to wait with EBT, which yielded the same results as treatment in the early stages, than to apply other treatments that were not necessarily effective.

Considering the recent traumatic events in Israel, the number of people

who have experienced trauma is enormous, and there are variable characteristics among the survivors. In our opinion, variable characteristics of the traumas must be considered and treated accordingly to evaluate effective treatment. An assessment must be performed based on the various characteristics of the trauma as well as diagnosis of the disorders that are presented (e.g., normal grief, realistic fear resulting from uncertainty about abducted relatives, ASD, depression, anxiety disorders) together with an assessment of previous mental disorders that may increase the risk of psychopathology. Survivors who have recently lost a first degree relative are now in the stages of normal grief. Those who lost their homes and whose community was destroyed may need treatment that will help them find strength and resilience in addition to processing the traumas within the community. Survivors should start CBT treatments only after their lives are more stable. Families of hostages are in the midst of severe trauma and in an unbearable situation, accompanied by uncertainty and concern, and therefore preventive CBT treatments for PTSD are irrelevant. At this point, we can only offer supportive interventions using their support systems and problem-solving interventions. In our opinion, brief CBT, which has been proven effective in preventing PTSD, should only be offered to those who have experienced a focused trauma and present with ASD and have not lost their home, do not live in the conflict areas, or have not lost a first degree relative. In addition, brief CBT should not be offered to someone for whom a member of their close circle is still missing or taken hostage. People who qualify for CBT, such as many of the Nova party survivors, can benefit from a brief PE (BPE) treatment, with an adjustment of the original protocol to the current war situation in Israel. BPE involves 4–5 weekly sessions. The treatment includes an explanation of common reactions after trauma to normalize and validate the reactions of the victim and to teach relaxation exercises through breathing. The two central aspects of the therapy are the in vivo exposure, in which the patients gradually expose themselves to trauma reminders to avoid anxiety provoking situation and stimuli (e.g., sleeping in the dark, staying alone at home, going to the grocery, listening to music) and imaginal exposure in which patients are asked to recount the traumatic memory in a safe place in order to organize the narrative of the traumatic memory and process feelings of fear, anger, sadness, and guilt.

## CONCLUSIONS

We presented the course of events following a trauma, reviewed the existing literature regarding psychological treatments to prevent PTSD, and evaluated the complexity of the various circles of those who were exposed to trauma on 7 October 2023. It is important to remember that even following severe trauma, most people show a path of resilience and recovery. However, a significant percentage of those who experienced trauma and witnessed horrific events will present with PTSD and other disorders, and therefore preventive treatment is important. Still, we must remember *primum non nocere* and weigh the severity of the trauma, the characteristics, and the symptoms against the time of intervention.

In mass trauma and in the absence of sufficiently competent therapists, the resources for treatments proven to be effective must be directed to groups that are at higher risk of developing post-traumatic disorders. PTSD is not the only disorder to develop following a trauma, and other disorders such as OCD, depression, substance use, and pathological grief are also a risk that must be considered and treated according to the various EBT protocols and guidelines.

The traumas experienced on 7 October 2023 were so horrific and complex that we must carefully consider the treatment approach, especially since we are still at war and therapy is being conducted under real threats.

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**No two persons ever read the same book.**

Edmund Wilson (1895–1972), American writer, literary critic, and journalist

**The great thing about getting older is that you don't lose all the other ages you've been.**

Madeleine L'Engle (1918–2007), writer