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## **Application of hypnosis, yoga and relaxation techniques in the treatment of Post-traumatic Stress Disorder – literature review**

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**ABSTRACT:****Introduction and Purpose:**

Post-traumatic stress disorder (PTSD) presents a complex clinical picture, making treatment challenging. Current pharmacological approaches predominantly target the serotonin system, yet treatment efficacy remains variable. Growing interest in non-pharmacological approaches

arises from challenges in identifying effective drug treatments. Dysregulation of the autonomic system and respiratory irregularities highlight the potential of relaxation methods in managing PTSD symptoms. Our study aims to assess the efficacy of unconventional methods such as hypnosis and relaxation techniques as complementary or alternative treatments for PTSD.

**The State of Knowledge:**

Numerous studies demonstrate significant reductions in negative PTSD symptoms, particularly re-experiencing, avoidance, and excessive anxiety, through relaxation techniques, meditation, and mindfulness interventions. Promising results are seen in both adult and pediatric populations affected by trauma.. Hypnosis-assisted therapy shows potential in alleviating anxiety, dissociation, and sleep disturbances. Breathing yoga and mindfulness-based therapy also show promise in reducing PTSD symptoms, although further research is needed.

**Conclusion:**

Our review underscores the potential of non-pharmacological interventions, like hypnosis, yoga, mindfulness, and relaxation techniques, in alleviating PTSD symptoms. Despite study limitations, these approaches offer valuable adjunctive therapies. Future research should focus on validating their efficacy through well-designed trials. Integrating these techniques into treatment plans could enhance overall well-being for individuals with PTSD, bearing in mind the importance of individualized care.

**Key words:** PTSD; trauma; hypnosis; yoga; relaxation techniques; mindfulness; treatment

**Introduction:**

Post-traumatic stress disorder (PTSD) is a mental health condition characterized by a varied and intricate clinical presentation, which is making treatment challenging. The latest DSM-5 classification classifies the disease under the heading 'Post-traumatic and stress-related disorders'. Key diagnostic features include

1) directly experiencing or witnessing a stressful event,

2) re-experiencing symptoms associated with the event, including experiencing nightmares or illusions of repetition of the trauma, called flashbacks,

3) attempts to avoid situations, places and people that remind one of the traumatic event, and:

4) symptoms of agitation, such as irritability, concentration problems and sleep disturbances.

Along with the above features, cognitive and mood deterioration often co-occur. [3-5] The underlying causes of PTSD are diverse and not fully understood, adding to the complexity of managing the condition. Pharmacological approaches to treating PTSD primarily focus on targeting the serotonin system (SSRI drugs), or serotonin and noradrenalin system (SNRI) although treatment remains largely based on trial and error [1,6-7]. The prevalence of PTSD in the general population is difficult to determine due to changing criteria for diagnosis [3], and differences between countries and regions of the world. [8] What remains consistent is the urgent need to search for new and effective treatments for PTSD, driven by the well-established correlation between PTSD and patients' suicidal ideation and attempts [9,10]. Recent reports suggest an increasing number of PTSD patients as a result of experiencing cancer in childhood or in parents after childhood cancer experience. Together with the rapidly increasing number of oncology patients, this throws up further evidence of the need to study the topic of PTSD. [11-13]

The challenges in identifying effective drug treatments indicate a growing interest among researchers in investigating non-pharmacological approaches [2]. Excessive anxiety, which is one of the criteria for the diagnosis of PTSD, suggests a dysregulation of the autonomic system. A significant number of patients with PTSD reveal elevated sympathetic nervous system activity while attenuated parasympathetic one. [2,14] This is confirmed by symptoms such as low respiratory sinus arrhythmia, a measure of cardiac vagal control and a significantly elevated heart rate. In addition, the research with threat of shock revealed blunted electrodermal responses in the PTSD group [14]. In individuals grappling with PTSD, the constant state of heightened alertness often arises from an overactive sympathetic nervous system alongside weakened parasympathetic control over heart function. Moreover, respiratory irregularities are commonly observed in these patients. Understanding these physiological mechanisms sheds light on why the investigation of relaxation methods holds promise in managing PTSD symptoms. By targeting these underlying imbalances, such techniques offer hope for restoring a sense of calm and balance to individuals affected by trauma.

**Aim:**

Therefore, the aim of this article is to examine the evidence assessing the efficacy of unconventional methods such as hypnosis, relaxation techniques, and other mind-body interactions as complementary or alternative treatments for patients with PTSD.

**Methods:**

The study entailed searching freely accessible databases such as PubMed, the National Library of Medicine, Google Scholar, and Cochrane, with keywords like ‘PTSD’, ‘hypnosis’, ‘relaxation techniques’ and ‘treatment’. Articles were selected based on their titles and abstracts. Ultimately, only articles written in English and related to potential unconventional PTSD treatment, mostly containing the possible application of given hypnosis and other mind-body techniques.

**Results:**

The studies we analyzed report a significant reduction in the negative symptoms associated with post-traumatic stress disorder. Symptoms that were primarily prevented were re-experiencing, avoidance and numbing, and excessive anxiety. [2] Several separate studies showed that anxiety symptoms decreased in Hurricane Katrina victims after various forms of meditation and mindfulness techniques were used in therapy. [15]

Furthermore, results confirming the effectiveness of relaxation techniques and meditation have also been published in the paediatric population. In a study with children affected by the tsunami in Sri Lanka within in which the therapy started within months after the mass disaster. The results after 6 months follow-up was promising. The recovery rates were 81% for the children who underwent Narrative Exposure Therapy for children (KIDNET) group and 71% for those in the meditation-relaxation (MED-RELAX) group. [16] Moreover, presumably the population of children undergoing therapy had already experienced traumatic events such as wars or other crises. Due to the more complex and multi-causal traumatization, it can be assumed that it might have been more difficult to had achieved positive outcomes. [16-18] Other research on children and adolescents experiencing conflict in Gaza shows evidence of reduced levels of hopelessness and depression after using techniques such as guided imagery, meditation and breath training. This is very important because there is speculation that it is these symptoms that may be associated with an increased risk of suicidal thoughts, attempts and acts. [19] Similar promising results were revealed by studies using spiritual-hypnosis assisted therapy as treatment for children traumatized by the 2002 Bali terrorist attack. The

numbers were clear- the improvement rate after 2-months follow-up were nearly 80% for children which underwent hypnosis assisted therapy and only 24% for control group. [20] Hypnosis has the potential to expedite the establishment of a therapeutic alliance and enhance treatment outcomes more rapidly and effectively. Utilizing hypnotic methods can prove especially beneficial for individuals experiencing symptoms such as anxiety, dissociation, widespread pain, and sleep disturbances. Moreover, hypnotic techniques can aid in navigating through traumatic memories, strengthening coping mechanisms, and fostering a sense of proficiency. [21,23]

Another interesting and promising therapeutic modality for PTSD patients is the use of Breathing Yoga. A study of this technique was conducted in a population of survivors of the 2004 Asian tsunami. The results show a reduction in Post-traumatic Checklist-17 (PCL-17) scores and allow us to conclude that breathing yoga can reduce symptoms of psychological distress and is worth further research in reducing symptoms in people experiencing disasters. [24]

The US Government has surveyed war veterans using a novel technique of Mindfulness-based therapeutic sailing (MBTS). Although the study focused on substance use disorders, nearly 80% of those surveyed also suffered from PTSD. Patients found the technique pleasant and were satisfied with the tests. Although the results for PTSD symptom reduction were not statistically significant, the favorable findings for other psychiatric disorders may suggest that further research into the use of this technique in PTSD as well is recommended, and further results may be more concrete. The authors also point out the importance of other mindfulness-nature contacts that can serve patients. [26]

Although research clearly demonstrates the effectiveness of non-conventional, based on mind and body practices approaches in trauma patients, it should not be forgotten that the vast majority are, and can still only be, effective adjunctive therapies to cognitive behavioural therapy or pharmacological treatment. [22] Specifically, in a study directly comparing cognitive-behavioral therapy and the use of relaxation techniques alone in post-traumatic stress disorder and various anxiety disorders, the results indicate the higher effectiveness of cognitive-behavioral therapy alone than relaxation alone with respect to PTSD. [27] There is a lack of study comparing pharmacological treatment to relaxation. Nevertheless, the multiple evidence of harmlessness, symptom minimisation and, above all, improvement in quality of life should lead clinicians treating patients with PTSD to consider these techniques as complementary to treatment. Importantly, in PTSD therapy, as in many other mental health

disorders, the individuality and inclinations of the patient must be taken into account in order to tailor the therapy as much as possible to the patient's needs. [25]

### **Discussion:**

In many cited studies there were a lack of proper randomized controlled trial group. The clear explanation for such a bias lies in the ethical obligation demanding immediate aid following a traumatic incident, coupled with the impossibility of withholding treatment from the injured. In addition, the difficulty of objectively measuring outcomes in individual studies can be a problem. The scales used are not always consistent and are almost always based on the subjective opinions of patients. However, if one were to consider this as a source of potential error, the feeling of subjective improvement in health, the alleviation of symptoms of anxiety or co-occurring depression is the most important therapeutic effect for people suffering from PTSD. In the light of today's medical knowledge, it is impossible to find the only valid treatment or treatment support for post-traumatic stress disorder. The variety of causes that may cause it and the individual risk factors or specific characteristics of each patient make it necessary to look for an individual approach in order to tailor the best possible treatment - be it pharmacological, therapeutic or precisely an unconventional approach based on the techniques we study. What is important and what we aim to do in our study is to shed light on the unequivocal positive results in many studies and the huge variety of mind-body connection techniques that can be used to improve the quality of life of bad-experienced patients. Nowadays, medicine still underestimates the potential for the effective use of non-pharmacological, unconventional treatments in therapy, even though the results are often promising. What should be emphasized again is the lack of reports of harmful effects of any relaxation methods or hypnosis. We believe that the published research in favor of these techniques will succeed in helping as many patients as possible.

### **Conclusion:**

In conclusion, our review highlights the potential of non-pharmacological interventions, particularly hypnosis and relaxation techniques, in alleviating symptoms associated with PTSD. Despite the limitations in study design and outcome measures, the evidence suggests that these approaches offer valuable adjunctive therapies to traditional treatments. The observed reductions in negative symptoms, such as anxiety and avoidance, underscore the

importance of considering mind-body practices in comprehensive PTSD management. Moving forward, future research should focus on conducting well-designed randomized controlled trials to further validate the efficacy of these interventions. Clinicians should also consider integrating these techniques into treatment plans, recognizing their potential to improve the overall well-being and quality of life for individuals living with PTSD.

### **Statement of the authors contribution**

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