



# Hallucinations in Military Traumatic Brain Injury: A Systematic Review

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## ABSTRACT

**Introduction:** Traumatic brain damage caused by blast exposure during war is standard, and it is usually complicated with psychiatric complications. Military traumatic brain injury (TBI) is one of the foremost challenging issues as it can cause serious and constant psychosis and even personality changes, in addition to extreme mental and neurological disorders. Hallucinations are common symptoms of TBI in military personnel. This study aimed to examine the prevalence, characteristics, underlying mechanisms, and processes of hallucinations in military personnel who had TBI during war, explosions, and related events.

**Search Strategy:** Despite the lack of research and articles in this field, the relevant data for this study was collected from PubMed and ScienceDirect databases by a thorough search of the keywords "hallucinations", "brain injury", and "TBI". The inclusion criteria were related to hallucinations in TBI patients, and both quantitative and qualitative studies were included. Finally, a total of 73 articles were found, of which 16 were reviewed.

**Results:** Hallucinations can be categorized into various types, including auditory, visual, and tactile experiences. Research indicates that the underlying mechanisms of hallucinations in military TBI may involve disturbances in neural pathways, altered sensory processing, and changes in brain communication. These hallucinations may be associated with both the physical injury to the brain and the psychological impact of experiencing traumatic events during combat. The prevalence of non-traumatic hallucinations often coexist with other psychological disorders; however, TBI-related hallucinations do not always, but can sometimes, accompany psychological conditions such as schizophrenia. An effective approach for treating patients may involve a combination of medication and rehabilitation techniques.

**Conclusion and Discussion:** The prevalence of hallucinations in military TBI patients can be a critical concern; they can disturb a person's daily work and affect the quality of civilian life. The research findings highlight the prevalence of hallucinations as a commonly overlooked symptom of TBI, underscoring the significance of accurate diagnosis, effective treatment, and long-term prognosis. Finding the complex relationship between hallucinations and military TBI is critical to the improvement of successful pharmacological medications and support for those who are suffering.

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