

The Development of the Diagnosis and Treatment of PTSD: How Did 'Shell Shock' Influence the Understanding of PTSD?

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Introduction

Post-Traumatic Stress Disorder (PTSD) was formally recognised as a mental health diagnosis in 1980, with the publication of the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) by the American Psychiatric Association. Its diagnosis has been affected by historical and political events, particularly wars. Studies on veterans have played a pivotal role in propelling the diagnosis and treatment of PTSD (Friedman, 2023). This essay will explore the impact of "Shell Shock" on the diagnosis and treatment of PTSD by introducing the historical background of shell shock and its treatment; then it will discuss the paradigm shift in the 1970s, which promotes the diagnosis of the disorder. Later, the essay will compare historical and modern approaches to the understanding and treatment of the disorder from psychological and neuroscientific perspectives and examine the integration of cognitive therapies with physical mechanism-based treatments. Moreover, the question of whether PTSD should be regarded as a single, unified, and stable disease category or as a complex, personalised condition that varies among individuals will be evaluated.

Historical Background of "Shell Shock"

Before the 20th century, the concept of "trauma" was rarely associated with psychological status. If a soldier experienced a breakdown during a battle, he was usually thought to have a mental illness or to have been affected by the surroundings, like climate, or the consequences of other diseases (Jones & Wessely, 2005). It was not considered that the combat experiences might emotionally and mentally affect a healthy soldier, nor was it recognised that wars could lead to long-term psychological effects. Attention to the consequences of war on mental health increased significantly with the outbreak of World War I. During WWI, "shell shock", a psychological condition caused by the stress from combat, became a significant issue in the military. By the end of the war, there were about 80,000 reported cases of shell shock merely in the UK army (History Editors, 2018).

The term "shell shock" was first published in 1915 in *The Lancet* by Charles Myers in his article "A Contribution to the Study of Shell Shock". It was once believed that shell shock was caused by injuries after explosions on the battlefield, such as microscopic cerebral haemorrhage, resulting in symptoms like panic, tremors, and sleep problems (Jones & Wessely, 2007). However, it later discovered that many soldiers who exhibit the same symptoms have not been close to explosions or even have not been directly involved in a fight. This discovery stimulated

a shift in attention from organic damage to psychological factors and neurological symptoms, which were considered neurasthenia. Shell shock gradually came to be regarded as a presentation of psychological trauma rather than physical injuries.

During WWII, such symptoms were described as "battle/combat fatigue", emphasising exhaustion and avoiding the diagnosis as a severe mental disorder. The exhaustion was thought not serious and could be recovered by resting naturally. This was not the first time where such traumatic symptoms were considered as "fatigue" and "exhaustion." In 1939, the British government decided to not pay pensions to soldiers with psychiatric injuries from the war due to a potential increased financial compensation for neurosis (Shephard, 1999). Shell shock was not treated the same as other mental disorders. However, based on the data from the National Centre for PTSD, about half of the army discharged during WWII was associated with 'combat fatigue' (Friedman, 2023).

Development of the treatment of "Shell Shock" and the diagnosis of PTSD

The treatment for shell shock was varied during the war period. While post-traumatic problems were seen as individual problems or fatigue, soldiers with fewer symptoms were often sent back to the battlefield after only a few days of rest, and no actual therapy was applied to them. In contrast, for those with severe symptoms, hydrotherapy and electrotherapy were applied (Friedman, 2023). The electrophysiologist Adrian invented a specific electrotherapeutic treatment for soldiers with shell shock. He thought the pain from the current was necessary for the therapy, not only for eliminating certain symptoms but also for disciplinary, especially if there was any malingering (Tatu, 2018).

During WWI, the PIE method, introduced by the French army in 1915, was used as an intervention for combat stress reactions (Jones et al., 2006). PIE stands for "Proximity to battle, Immediacy of treatment and Expectation of recovery"; its purpose was to send soldiers back to the battlefield in a short period. The treatment was often provided close to the front lines to maintain a connection with the army and to avoid reinforcing the impression of illness, making soldiers feel they were still in the battle. The intervention was always provided immediately; a quick treatment was believed to be more effective and could recover in a shorter time. Hence, soldiers can go back to the battlefield quickly. The "Expectancy" indicated the positive expectation for soldiers and the hope that they could return to the army soon. At that time, this therapy was believed to effectively treat over 80% of soldiers (Jones & Wessely, 2002). However, its effectiveness was deemed less than claimed during WWII. In addition to the PIE techniques, due to the pressured nature of war and the demand for soldiers, drugs were frequently involved -- for instance, sedatives were used to reduce overactivity and secure rest and drugs were used on the autonomic nervous system directly (Stein & Rothbaum, 2018).

How did shell shock help to advance the recognition of PTSD? The formal diagnosis of PTSD may have been influenced by the 'paradigm shift' in the understanding of psychological trauma in the 1970s (Jones & Wessely, 2006). Before the 1970s, people who experienced long-term mental conditions were considered as a result of their own problems, such as a family history in mental illness or being influenced by childhood experiences. The individual always took responsibility but not the traumatic event, which was only seen as a trigger point to the mental problem (Jones & Wessely, 2007). People thought such post-traumatic distress would recover naturally. The shift happened when the responsibility was shifted from the subject to the terrifying event itself; and individuals were forgiven for the blame (Jones & Wessely, 2007). This shift reflects an advance in understanding the consequences of experiencing traumatic events and their long-term effects; it also underlines how the environment and society influence people psychologically.

If seeing DSM as a reference, the process of recognising and diagnosing PTSD had lasted over decades. After WWII, a category related to psychological issues, describing the extreme behavioural responses to stressed events like combat, was defined as "gross stress reaction" in DSM-I (APA, 1952). During the Vietnam War, DSM-II introduced the term "transient situational disturbance", including the acute responses from facing stress (APA, 1968). In 1980, PTSD was finally recognised as a diagnosis with specific diagnostic criteria in DSM-III. It was first called "Post-Vietnam syndrome".

The percentage of war-related psychological injuries during the Vietnam War was not high. However, after going back to normal life, many servicemen began to display a range of delayed symptoms. To some extent, if it could be demonstrated that the conflict inflicted long-term psychological harm on American soldiers, it could become one of the rationales to end the war. The recognition of PTSD as a legitimate psychiatric disorder became a way to undermine the U.S. government's continuation of the war (Jones & Wessely, 2007). As a result, PTSD became a politically influenced psychiatric diagnosis. This recognition confirmed that the cause of PTSD is from outside traumatic events instead of merely an individual's responsibility or internal reasons, corresponding to the paradigm shift.

According to the DSM-5, the latest version, PTSD is defined by eight diagnostic criteria; for example, criterion E includes the traumatic arousals which were triggered by or became worse after the event, symptoms including feeling hard to concentrate, having difficulties sleeping, being irritable or aggressive, and having intensified startle reactions. Symptoms need to persist over a month and are not caused by other illnesses or medications (APA, 2013).

Modern studies in PTSD and its treatment

Has shell shock influenced modern research on PTSD? Undoubtedly, it has. For instance, in 1916, psychiatrist Fred Mott proposed a biological explanation for shell shock, attributing it to carbon monoxide poisoning. He also suggested it reflected a weakness in the body or mind,

particularly linked to the central nervous system (Mott, 1916). While Mott's interpretation was later proven inaccurate, his idea of exploring shell shock through a neurological aspect pointed the right way.

Modern psychiatrists and neurologists have turned to studying brain structures and functions using advanced technology to study PTSD, such as fMRI and PET. It has been discovered that PTSD influences several regions of the brain. The amygdala, in the medial temporal lobe, is in charge of the 'alarm system'. When people experience danger, it sends signals to remind them, protecting their safety (Uniformed Services University of the Health Sciences, 2019). However, a person who has PTSD may overreact even when facing a safe condition, thus causing panic. Trauma also influences the functioning of the prefrontal cortex. A well-functioning prefrontal cortex helps to make decisions, regulate attention, and inhibit responses. However, for veterans with PTSD, their prefrontal cortex cannot manage the work well. The dysfunction of the amygdala and prefrontal cortex results in overactivity to any event related to the trauma, and the intense physical reactions for those should not trigger fear responses. In addition, the volume of the hippocampus may be reduced due to the disorder. This increases the reactivity of the amygdala and decreases the activity of Broca's area (Hull, 2002). At the same time, this may influence memories and cause flashbacks.

Studying the function of brain regions not only helps to figure out why people with PTSD behave differently and why PTSD causes such symptoms but also provides more opportunities and directions for treatments. For instance, the low-dose cortisol treatment can effectively reduce the symptoms (Aerni et al., 2004). Other than this, with the development in psychology and psychiatry, there are many other treatments and preventions nowadays.

One of the most effective and widely used treatments for PTSD is Cognitive Behavioral Therapy (CBT), including Cognitive Processing Therapy (CPT), focusing on changing cognitive distortions and associated behaviour. Brief Eclectic Psychotherapy (BEP) also contains a mix of cognitive-behavioral techniques and psychodynamic approaches (APA, 2020). Additionally, medications such as SSRIs, including paroxetine, are often prescribed for treatment. Eye Movement Desensitization and Reprocessing (EMDR) therapy uses bilateral stimulation on eye movements while patients recall traumatic memories, helping to reduce the emotional association with those memories (APA, 2017). Besides, Transcranial Magnetic Stimulation (TMS) is considered a safe treatment for PTSD (Edinoff et al., 2022). Prevention and early intervention are also critical in stopping the progression of acute stress responses into PTSD following traumatic events.

Discussion

Comparing CBT with treatments like medications or TMS, it is more focused on the individual's traumatic experiences and personal needs. It has minimal side effects, making it safer for long-

term treatment. Where SSRIs may cause headaches and TMS may lead to scalp discomfort and muscle twitching (Mayo Clinic, 2018). However, CBT requires participation, which may not be suitable for individuals with severe symptoms. On the other hand, it is possible to argue that PTSD, as a mental disorder, should depend more on feelings and awareness of the mind, even though it has a physical representation of the brain. Patients and therapists could focus more on personal feelings and thoughts instead of the symptoms. Treatment, like medications, always targets the mechanism of neurotransmitters. Drugs do not address the underlying trauma, only treating the symptoms but not resolving the root causation of the questions.

Nevertheless, it is still arguable that if medication or other treatments could solve all the issues in the brain and let patients not recall the terrifying memories, making all brain regions work appropriately, then the effectiveness and necessity of cognitive or talking therapies would be questioned. For now, it might be better to integrate CBT and mechanism-based treatments to achieve a better approach, recognising that both mind and body are involved in trauma. The combination of modern therapies corresponds to shell shock in some ways; at the very beginning, the treatment for shell shock was mainly physical (e.g. rest and electrotherapy). However, as the understanding evolved, people gradually realised the vital role of an individual's feelings and experiences.

Further comparing treatments for shell shock during WWII to those used today reveals a "shift": the more we understand and recognise, the more mature and effective the treatments become. For example, the PIE method during the 20th century often included rest and sedation to comfort and normalise those symptoms. Creating a feeling for soldiers of not getting disorders. Also, the immediate intervention prevented symptoms from becoming chronic and severe and could reduce the period for therapy. However, later studies showed that 60% of Vietnam War veterans with post-war traumatic disorders went on to develop psychiatric illnesses, diagnosed with personality and behavioural disorders (Renner, 1973). Similarly, WWII veterans who experienced moderate to severe combat were found to be 13.3 times more likely to have PTSD symptoms 45 years later compared to non-combat veterans (Spiro et al., 1994). While short-term treatments appeared successful in returning soldiers to battle, they may have contributed to long-term psychological issues after the war. Soldiers were treated as tools of war rather than respected as individuals, and their personal experiences and needs were often neglected.

No matter whether it was the neglect of the individual or the underlying causes of events, people affected by trauma often lacked respect and understanding before PTSD was formally recognised as a psychiatric condition in the 1980s. It seems that when trauma was assumed to be a personal thing, the root causes were ignored; when attention shifted to the external causes, individual needs were neglected. The uncertainty swing between the patient and the event underlines the difficulty in achieving a comprehensive understanding of trauma. Hence, finding a balance in treatment is crucial.

As a psychiatric issue, for example, shell shock, there is always a shared common trigger among soldiers -- combat itself. However, the symptoms and presentations of PTSD vary widely among individuals, reflecting its complexity. While some may present symptoms aligning with DSM-5 criteria, such as sleep problems or heightened nervousness, others may exhibit behavioural issues like alcoholism, aggression, or substance abuse (Renner, 1973). Such complicatedness represents the need for treatment -- respect causes and individual differences in experience and response. If only refer to the DSM-5, then PTSD may be seen as a single, unified, and stable disease category. However, cultural, personality and contextual differences influence how an event is experienced and expressed. For example, soldiers from different wars may experience various symptoms depending on the region, local culture, and military practices. Similarly, cultural norms shape the psychological response; soldiers from collectivist and individualist cultures may present different symptoms. Furthermore, personality traits and individual experiences influence how an event is understood and processed, thus resulting in different symptoms. Therefore, it is necessary to consider individual differences carefully when diagnosing and treating PTSD.

Conclusion

Overall, this essay explores how shell shock was first identified during WWI, demonstrates its early treatments and its role in shaping the recognition and diagnosis of PTSD. The further displaying of modern research in brain structure, physical mechanisms, and cognition has deepened the understanding of this disorder. Besides the development of diagnosis and treatment, the complexity of the trauma deserves more attention. So, how did 'shell shock' influence the understanding of PTSD? It was not only the historical development of psychiatry that advanced the scientific knowledge of PTSD, but also the interwind of cultural, societal and individual differences influenced the recognition and therapy. The shift from personal responsibility to the impact of a traumatic event and its political influence highlights the societal impact on psychological issues. It is always significant to integrate the lessons from history with contemporary improvement, and to achieve a comprehensive understanding of the people who have suffered from trauma. The discussion between different treatments also underlines that modern approaches should balance between the body, the mind and the trauma.

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