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Post-traumatic stress disorder and how it affects memory

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Abstract: Post-traumatic stress disorder (PTSD) generates different debates about its impacts on memory. Stress is linked to the production of cortisol, which has the function of keeping our body in "alert", thus generating fight or flight behaviors, but with human evolution, these innate survival behaviors have been poorly adapted to the present day, thus causing in the long term the development of mental disorders such as PTSD causing memory impairment. The objective of this article was to convey the damage caused by PTSD in memory, the discussions regarding contemporary interpretations of trauma, the evolution of the understanding of trauma over time, in addition to pointing out the differences between Brazilian and foreign articles. In order to develop this study, a literature review was used to address the aforementioned themes.

Keywords: Memory; Post-Traumatic Stress Disorder (PTSD); Violence; History; Psychological trauma.

1. Introduction

When discussing Post-Traumatic Stress Disorder (PTSD), one of the most frequently asked questions is how the disorder can affect the individual's memory and what memory it affects. According to research by Emygdio *et al.* (2019), it was observed that two of the five memories studied suffer some type of damage because of PTSD, in addition to showing different issues between PTSD cases in other countries and in Brazil. (Emygdio *et al.*, 2019)

At first, it is necessary to point out a difference between PTSD articles in Brazil and in other countries (Emygdio *et al.*,

2019).

When they read foreign articles, it was noticed that the individuals affected by the disease were mostly men, ex-combatants or military personnel; However, in the Brazilian scientific reading, the studies are focused on cases of domestic violence against women. According to Garcia (2013), the study carried out by the Institute of Applied Economic Research (IPEA) shows that each year 5,664 women are killed as victims of violence, 472 each month, 15.52 per day, that is, one woman is killed every hour and a half as victims of violence in Brazil (Garcia, 2013).

If we take into account all types of violence against

women, this number becomes even more frightening. According to the Women's Service Center, in 2014 alone, 52,957 complaints of violence against women were made. Thus, violence has become a subject of extreme relevance for debate, whether it is carried out by the agencies responsible for the country's security and well-being, by the scientific community and by society itself, thus seeking a means of intervention to reduce the number of cases of violence (Menicucci, 2014).

Thus, the individual who is exposed to a dangerous situation reacts by facing or fleeing from it; Thus, he reacted with stress, shifting his energy from long-term activities to immediate actions. The stressful event is first processed by the amygdala, which is responsible for the immediate emotional reaction. After your reaction, the information will be processed by the prefrontal cortex, which is responsible for containing instinctive alarms triggered by the amygdala. In addition to neuronal modifications, the biology of the human body also changes, thus causing physical and biological signals in relation to the stressful event. However, a high level of stress can cause a variety of health problems (McEwen, 2003).

2. Methodology

National and international articles were used, following linguistic criteria common in systematic reviews, focusing on the relationship between PTSD and its memory impairment. During the filtering process, articles that were not related to PTSD, its memory impairments, and the specification of only one group of individuals were excluded. Thus, it was possible to select the data of interests in the selected studies, referring to Post-Traumatic Stress Disorder.

3. Results and Discussion

Sanfelippo (2018) critiques the contemporary interpretation of trauma, arguing that there is an anachronism in applying current distinguishing elements, such as nervous shock and emotions, to past historical contexts. He highlights that the understanding of trauma has evolved over time, with different interpretive paradigms, and emphasizes the importance of avoiding reductionist approaches that do not consider the sociocultural and psychodynamic complexities involved in trauma. Traumatic incarnate, the relationship between pain and fear intertwines in a cycle that transcends individual experience and becomes a collective heritage rooted in the body and mind. This memory, inscribed in the neural connections, becomes instinct, a scar of experience accumulated over generations.

The doctrine of forgetting, as argued by Allan Young (1995), suggests that late nineteenth-century medicine introduced a conception of memory that went beyond its traditional definition linked to cognition. This new approach considered the retention of disturbing secrets to have pathogenic effects on the individual, while their confession

was seen as a healing action. This concept, called the "pathogenic secret," had a significant impact on the development of modern dynamic psychiatry.

It is interesting to observe how the intersection between memory and trauma has influenced the conception of the self over time, especially in the context of psychology and medicine. Understanding the role of forgetting and traumatic memory in the formation of individual identity is crucial for understanding contemporary psychological and social dynamics. (Ribot, 1883)

This paper highlights that PTSD is among the mental disorders because it does not fit easily into the traditional syndromic framework of the DSM. While other disorders are defined by specific sets of symptoms, PTSD is more nonspecific and inconsistent in its presentation. However, despite this lack of symptomatic clarity, PTSD has become clinically relevant due to its distinct association with traumatic events and the underlying mechanism of traumatic memory. This suggests that PTSD has been built on an exceptional approach that challenges standard syndromic logic while maintaining an internal coherence, resulting in its increasing clinical importance (Ferreira & Ortega, 2023).

Reflections on the concept of trauma show its historical nature, arising from the convergence between the perception of tissue injury in the surgical stages of the seventeenth century and the speculations about nervous shock in the nineteenth century. These trajectories have given rise to different research approaches, some emphasizing the somatic aspects, while others focus on the physiological and psychological perturbations of trauma (Sanfelippo, 2018).

Psychological research also provides insights into the long-term effects of trauma on mental and emotional health, including the development of disorders such as post-traumatic stress disorder (PTSD). This evidence complements the multifaceted understanding of trauma and its complex interaction with biological, psychological and social factors, and the definitive separation of these matrices from traumatic memory will take place throughout the twentieth century, after a process of differentiation that radicalized the sharing of the phenomenon of traumatization in the form of progressively heterogeneous and increasingly heterogeneous cosmologies of trauma. to a large extent, even antagonistic (Ferreira & Ortega, 2013).

By resisting knowledge and degradation by time, or by finding the most disruptive expressive means, trauma transports its victims to the past and encloses them in the instant of its event. For this reason, more than a pathology of memory, it is, in fact, a pathology of time. As we conceive it, trauma is a historical invention resulting from the conversion of violence into traumatic damage (Young, 1995).

The central idea is that the psychiatric literature often suggests that the physical trauma of the seventeenth century evolved into psychic trauma in the psychodynamic disciplines of the late nineteenth century. However, this perspective is challenged by Young, who argues that the two types of trauma are linked by genealogy, not direct similarity. In other words,

they share a common traumatic matrix regardless of how they manifest themselves somatically or psychologically (Allan Young, 1995, 1996a, 1996b).

Theories of the general adaptation of the fight-and-flight response are more contemporary than ever, since threat perception, i.e., the transcription of the stimulus into a given psychobiological response, will demonstrate by what means stress has replaced memory as the essential language of the most disturbing human experiences. This change of names is not a simple reorganization of vocabulary; above all, it represents a profound transformation of rationality by which trauma will be visualized and scrutinized, in a movement that will abandon its internal effects to accentuate its external causes (Cannon WB, 1932).

Stress is related to the production of a hormone called cortisol, which allows our body to be in an "alert" state. In this way, we are able to face emergency situations. Nerve impulses are transmitted to the hypothalamus, increasing blood pressure and blood sugar, so we have the energy to face the stressful situation. Thinking about human evolution, these were innate survival mechanisms, which for today are often poorly adapted, this becomes a problem, because in the long term one of the consequences is to impair memory (Ferreira & Ortega, 2023).

4. Conclusion

It is concluded that the traumas experienced throughout the history of each individual, consequently reflected in their memory, cause post-traumatic stress disorder. Thus, to elucidate the final considerations of this work, the problem was rescued, which is how post-traumatic stress disorder affects memory and we came to the conclusion that this problem occurs due to the high defense capacity of each human being and the nerve impulses that are generated in a risk situation, but as we currently no longer use this mechanism recurrently, This generates a momentary pressure that impairs memory.

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