OPEN ACCESS Freely available online

ISSN: 2168-975X
Brain Disorders & Therapy

Perspective

Negative Memory in Post-traumatic Stress Disorder Patients

Toldo Zhab*

Department of Neurosurgery, University of Nigeria Nsukka, Enugu, Nigeria

DESCRIPTION

Posttraumatic Stress Disorder (PTSD) is characterized by distinct symptoms such as recurrent, involuntary recollection of the trauma in the form of intrusive thoughts, nightmares, or vivid sensory memories following a traumatic experience, such as a fight, violent crime, psychological trauma, or a vehicle road accident. It's important to be noted that vehicle accidents are the leading cause of PTSD in the general population. Most importantly, PTSD victims appear to relive the occurrence in its entirety, rather than simply recalling it as a previous event. Meanwhile, trauma or trauma-related unpleasant emotional inputs can affect cognition significantly, especially memory performance.

During emotional anticipation, activation is reduced in the lateral prefrontal cortex but increased in the medial prefrontal cortex, amygdala, and insula. In the presence of negative stimuli, activation was more strongly linked with the level of PTSD symptoms in the ventral frontolimbic regions (particularly the ventromedial prefrontal cortex, inferior frontal gyrus, and ventral anterior cingulate gyrus) than in the context of neutral words. In contrast, activation inside the ventral executive network, particularly the middle frontal gyrus, dorsal anterior cingulate gyrus, and inferior parietal lobule, was inversely linked with PTSD symptoms. Also, in reaction to task-irrelevant visual distractions, the PTSD group's brain activity differed significantly from that of the control group. To be more specific, enhanced activity in the ventral emotion-processing regions (the amygdala, ventrolateral prefrontal cortex, and fusiform gyrus) was associated with trauma distractors in the PTSD group, whereas activity in the dorsal executive regions (the dorsolateral prefrontal cortex and lateral parietal cortex) was associated with working memory, and attention was disrupted by the distractors regardless of their trauma content. Yet, when emotional cues were offered as distractions before or during the task, some researchers observed increased activation in the dorsal executive areas, possibly indicating compensatory activation to maintain goal-directed behavior.

Furthermore, functional neuroimaging investigations of working memory have confirmed that the inferior frontal cortex plays a role in inhibitory processes. The activity of the inferior frontal cortex is related to subjective assessments of distractibility for task-irrelevant emotional stimuli delivered during the delay interval of a working memory test. The inferior frontal cortex is important not only in modulating the emotional reaction caused by potentially distracting emotional inputs, but also in reducing the deleterious influence of distracting emotions on on-going cognitive activities. The uses of the superior cerebral lobe in limiting the influence of negative emotional distraction on working memory in PTSD have not been determined. Unfortunately, little is known about the brain process behind the impairment of working memory caused by unpleasant emotional distraction. The mechanism has crucial implications, as PTSD is characterized by greater vulnerability to emotional distraction. Thus, the impact of negative emotional distractors on working memory in healthy controls and PTSD patients following motor vehicle accidents was studied using a technique known as functional Magnetic Resonance Imaging (fMRI), as well as the neural mechanism for the impairment of cognitive function by negative emotional distractors in PTSD. The negative (compared to neutral) would result in higher activation of emotion-processing brain areas in the PTSD group and impair the function of the inferior frontal cortex in PTSD patients.

Correspondence to: Toldo Zhab, Department of Neurosurgery, University of Nigeria Nsukka, Enugu, Nigeria, E-mail: stefenrezaze02@gmail.com

Received: 02-Jan-2023, Manuscript No. BDT-23-20566; **Editor assigned:** 06-Jan-2023, Pre QC No. BDT-23-20566 (PQ); **Reviewed:** 20-Jan-2023, QC No BDT-23-20566; **Revised:** 27-Jan-2023, Manuscript No. BDT-23-20566 (R); **Published:** 03-Feb-2023, DOI: 10.35248/2168-975X.23.12.194

Citation: Zhab T (2023) Negative Memory in Post-traumatic Stress Disorder Patients. Brain Disord The. 12:194.