

Epigenetic and biological signatures of early life traumatic events: A putative effect of EMDR

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Traumatic experiences, particularly those during childhood, are related to an increased risk of developing mental and physical disorders in adulthood and are associated with different kinds of biological dysregulations. The molecular mechanisms underlying this connection are still unclear. To elucidate these mechanisms, association studies using different approaches, ranging from genetic, epigenetic, expression and protein to neuroimaging studies have identified a number of candidate vulnerability systems, but probably each one contributes to a small portion of the complex mediation and multiple concurring interactions are at play to modulate the individual risk. Extremely interesting are the studies that observed epigenetics changes as consequences of early stressful experiences, since epigenetic mechanisms are a relevant key factor in the transcription processes.

Additionally, a parent who has experienced traumatic events may consciously or unconsciously influence their children through the way the trauma has impacted their own life. A question that has emerged alongside the recognition of trauma's chronic and transformative behaviors, is whether their psychological effects could also be passed to offspring through biological mechanisms.

Finally, a relevant key point is to understand if evidence-based trauma-focused psychotherapies, such as EMDR, can help to restore biological dysfunctions associated to the exposure to traumatic experiences

The lecture will explore biological dysregulations identified following traumatic events, particularly those occurring in childhood, and examine the potential role of trauma-focused psychotherapy, in addressing these dysregulations. Furthermore, recent research on the epigenetic mechanisms linked to parental trauma and its effects on offspring will be discussed.

Learning objectives

1. Biological dysregulations and epigenetic effects linked to the exposure to early life stress
2. Transgenerational transmission of trauma
3. Can EMDR help restore biological dysfunctions associated to the exposure to traumatic experiences?