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THE ROLE OF INFLAMMATORY CYTOKINES IN SUICIDAL BEHAVIOR

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Introduction: Evidence suggests that inflammatory mediators may play a critical role in the pathophysiology of major depression and suicidal behavior. Immunological differences have been found in patients with affective disorders and suicidal behavior. Especially, increased levels of pro-inflammatory cytokines have been reported to correlate with the severity of depression and various cytokines have been identified as potentially relevant in understanding the pathophysiology of affective disorders/suicidality.

Objectives: We aimed to review the current literature to investigate the association between inflammatory cytokines and suicidal behavior.

Methods: A systematic review of the current literature was conducted to investigate the association between inflammatory cytokines and suicidal behavior. Only articles from peer-reviewed journals were selected for inclusion.

Results: Most studies reported the association between suicidality and IL2, IL-6, IL-8, TNF-α and VEGF levels that have been found altered in suicidal behavior. The presence of major depressive disorder (MDD) with suicidal ideation/attempts was associated with differences in inflammatory cytokine profile when compared to that without suicidal ideation/attempts. Most suicide attempters or subjects with suicidal ideation showed an imbalance of the immune system but this does not imply the existence of a causal link. Also, not all studies showed a positive correlation between inflammatory cytokines and suicidal behavior.

Conclusions: Inflammatory cytokines play a key role in the pathophysiology of suicidal behavior. However, further additional studies should elucidate the molecular mechanisms of the immune activation pathways underlying suicidality.

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