

عنوان مقاله:

THE EFFECT OF OBESITY AND RELATED METABOLIC ABNORMALITIES ON BRAIN STRUCTURE AND FUNCTION: CRITICAL REVIEW OF NEUROIMAGING STUDIES

محل انتشار:

سومین کنگره بین المللی و پانزدهمین کنگره تغذیه ایران (سال: 1397)

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خلاصه مقاله:

Background and Aim: Globally, overweight and obesity is a significant public health problem associated with other metabolic abnormalities including higher level of inflammation, insulin resistance and endothelial dysfunction. Wide range of evidences suggested that obesity and these metabolic abnormalities can affect the structure and function of brain. **Methods:** The brain alternation underlying obesity has evaluated in few studies. Low grade inflammation through increasing pro-inflammatory factors has impact on the size and activity of specific brain regions. Also neurological studies have proposed that insulin resistance can alter the results of these techniques due to insulin entry to brain. Endothelial dysfunction in blood-brain barrier as a consequence of inflammation, increased microvascular permeability and impaired microcirculatory blood flow to CNS which influences the brain activity and structure in obesity. **Results:** Obesity independently can change the results of brain diagnostic tests including EEG, structural and functional MRI, and PET in several studies. Low grade inflammation, insulin resistance and endothelial dysfunction as obesity-related complication altered the results of the mentioned tests including too. **Conclusion:** More neurological studies are needed to recognize the relationship between obesity, fat distribution, and also weight loss with brain structure and function assessed by available techniques. This field of study manifests other mechanisms involved in .obesity, and potential treatment opportunities

کلمات کلیدی:

Obesity; Brain diagnostic techniques; Neuroimaging; Inflammation; Insulin resistance; Endothelial dysfunction

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