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Obesity as a predisposing factor of neurocognitive dysfunction in adults

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Introduction: Obesity is, today, a health problem that reaches pandemic figures. Some authors also suggest that this condition has an impact on neurocognitive dysfunction.

Objective: The main objective is to approximate, through a review of the literature, the relationship between obesity and neurocognitive dysfunction.

Methodology: A bibliographic review has been carried out following the PRISMA criteria. The review and search was carried out in January 2024, including articles published in the last 5 years. PubMed has been used as a database. The articles have been filtered based on inclusion and exclusion criteria. The search equation was the following: ("Cognitive Dysfunction"[Mesh] OR "Cognitive decline" OR Cognitive impairment) AND ("Obesity"[Mesh] OR Obesity).

Results and conclusions: The authors reveal that a diet high in fats and carbohydrates causes obesity and, subsequently, cognitive impairment, due to the lesions observed in several brain areas such as the hippocampus. It has also been reported that peripheral inflammation, as a product of obesity, promotes inflammation of brain areas, thereby causing alterations in synaptic plasticity, neurodegeneration and acceleration of brain atrophy. These events can cause important alterations in cognitive function. On the other hand, atherosclerotic disease causes peripheral arterial disease and has been associated with a significant increase in cognitive impairment. On the other hand, in relation to the alteration of brain structures associated with executive memory and short-term memory, the authors reveal that the alterations are related to gray matter, white matter and the hippocampus since they are sensitive to the increase of inflammatory proteins, metabolic alterations and stress. For its part, the pathophysiology described in dyslipidemia suggests that high cholesterol levels can lead to dementia.

Biography

Sara Barbero Gina-Llado is a PhD candidate in Biomedicine and Health Sciences from the European University of Madrid. Master's Degree in Inclusive Education and Society. Graduated in Psychology from the European University of the Atlantic with a double major: Work and Organizational Psychology and Clinical Psychology. She currently carries out her professional activity as a psychologist, researcher and research support technician at Valdecilla Health Research Institute (IDIVAL) within the Research and Innovation in Surgery group. At the same time, she is doing her doctoral thesis at the Marqués de Valdecilla University Hospital. She has trained in the field of clinical research and cognitive impairment.