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# Association Between Alzheimer's Disease and Obesity

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## ABSTRACT

Introduction: Alzheimer's disease (AD) is characterized by progressive loss of cognitive ability, with deposits of extraneuronal beta-amyloid peptides and neurofibrillary tangles derived from intracellular TAU proteins in the central nervous system (CNS). This disease, due to the aging population, has been increasing significantly, being, some studies, related to obesity. Objective: To associate the relationship of obesity with the onset of AD. Methodology: Researches carried out in the SciELO, CAPES Periodical Portal, PubMED and BVS databases between 2014 and 2017. The descriptors were "Alzheimer" and "obesity", being the inclusion criteria of complete articles in humans, addressing neurology, medicine and metabolism. Results and Discussion: We found 16 related articles, of which five included the theme addressed, being read in the whole. AD increases chronic inflammation, oxidative stress, and vascular changes. These effects are enhanced by obesity, which is considered a systemic inflammation. Adipose tissue is responsible for the release of inflammatory molecules, such as interleukin-6, tumor necrosis factor-alpha and adiponectins, which affect different organs and can influence the CNS, impairing brain functions. One of the experiments reported involved the high fat diet, showing the significant increase of phosphorylated TAU proteins and beta-amyloid proteins in the brain, being considered indicative of induction of the disease. As aging and metabolic diseases alter the metabolism of the whole organism, the brain is an affected organ, contributing to the onset of AD. Conclusion: Changes of adipose tissue can influence characteristics of aging, as a cognitive fragility, favoring its progress towards diseases that lead to dementia. In spite of the malignant evidence of some adipose tissues, they are still scarce in the studies related to the subject, being necessary more investments in the area for tests and, possibly, future studies of treatments in this field.

**Keywords:** Adipose tissue; Alzheimer; Obesity

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