

# Benzodiazepines and Related Drugs as a Risk Factor in Alzheimer's Disease Dementia

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Benzodiazepines (BZDs) and Z-drugs are compounds widely prescribed in medical practice due to their anxiolytic, hypnotic, and muscle relaxant properties. Yet, their chronic use is associated with cases of abuse, dependence, and relapse in many patients. Furthermore, elderly people are susceptible to alterations in pharmacodynamics, pharmacokinetics as well as to drug interaction due to polypharmacy. These situations increase the risk for the appearance of cognitive affectations and the development of pathologies like Alzheimer's disease (AD). In the present work, there is a summary of some clinical studies that have evaluated the effect of BZDs and Z-drugs in the adult population with and without AD, focusing on the relationship between their use and the loss of cognitive function. Additionally, there is an assessment of preclinical studies focused on finding molecular proof on the pathways by which these drugs could be involved in AD pathogenesis. Moreover, available data (1990-2019) on BZD and Z-drug use among elderly patients, with and

without AD, was compiled in this work. Finally, the relationship between the use of BZD and Z-drugs for the treatment of insomnia and the appearance of AD biomarkers was analyzed. Results pointed to a vicious circle that would worsen the condition of patients over time. Likewise, it put into relevance the need for close monitoring of those patients using BZDs that also suffer from AD. Consequently, future studies should focus on optimizing strategies for insomnia treatment in the elderly by using other substances like melatonin agonists, which is described to have a much more significant safety profile. © Copyright © 2020 Ettcheto, Olloquequi, Sánchez-López, Busquets, Cano, Manzine, Beas-Zarate, Castro-Torres, García, Bulló, Auladell, Folch and Camins.

Alzheimer's disease

benzodiazepines

cognition

dementia

risk factors

alprazolam

benzodiazepine derivative

diazepam

donepezil

galantamine

lorazepam

memantine

midazolam

paroxetine

psychotropic agent

rivastigmine

venlafaxine

Alzheimer disease

amnesia

anxiety disorder

Article

cognitive defect

depression

drug use

follow up

GABAergic transmission

human

insomnia

mild cognitive impairment

molecular mechanics

nonhuman

pathogenesis

patient monitoring

risk factor

sleep deprivation