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## Protection of disease/conditions induced memory impairment by novel pharmaceutical agents

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Memory impairment or dementia can be devastating and can lead to several complications. It can be precipitated as a result of various diseases or conditions including Alzheimer's disease, hypothyroidism, post-traumatic stress disorder, vascular dementia, chronic stress, obesity, aging, sleep deprivation and consumption of high-fat high-carbohydrates diet, whereas it can possibly be treated, various agents. The long-term goal of my studies is to explore novel pharmaceutical agents and interventions that prevent or restores memory impairment induced by various diseases or conditions. In this presentation, I will be discussing my latest results in a group of drugs including nicotine, L-thyroxin, pentoxifylline (PTX), caffeine, vitamin E and C, tempol, etazolate, etc. These agents showed protective properties against memory impairment induced by chronic stress, hypothyroidism, sleep deprivation, Alzheimer's disease, post-traumatic stress disorder and obesity-induced by consumption high-fat high-carbohydrates diet. Results presented are based on pre-clinical studies using standard or innovative animal models of the above diseases or conditions superimposed with chronic drug treatment. Thereafter, behavioral studies were conducted to test the spatial learning and memory using the Radial Arm Water Maze. Additionally, brain regions were usually dissected; and levels/activities of important signaling molecules or biomarkers related to oxidative stress and inflammation will be presented as possible molecular targets for the tested medications. Collectively, presented results will show the possibility of treating or preventing cognitive impairment in various diseases and conditions via the chronic use of novel pharmaceutical agents, which is probably achieved through normalizing the levels or activities of important signaling and biological biomarkers within the hippocampus.

### Biography

Karem H Alzoubi is a productive Scientist. He has published over 200 publications in distinguished international, scientific, peer-reviewed, indexed and refereed journals or international conferences. Additionally, most of the scientific production of his is in journals with high impact factor relative to its area of specialization as per the ISI Web Knowledge and Scopus databases. He has an H-index of 30 (Scopus, 2018). He has obtained his PhD degree in pharmacology from the College of Pharmacy at the University of Houston, Texas, USA. He is now the Dean of the Faculty of Pharmacy at Jordan University of Science and Technology. He has been awarded several national and international research and education excellence prizes. He had his pre-doctoral research in pharmacology, where he was trained on state of the art techniques in behavioral and molecular neuroscience/neuropharmacology of cognitive functions. He has PI-ed or Co-PI-ed over 80 research grants with success and published from every one of them.

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