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Modulating olfactory dysfunction via lavender oil inhalation to treat dementia in a mice model of Alzheimer's disease

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Alzheimer's disease (AD) is a chronic neurodegenerative disease pathetically affecting the quality of life of the individual struck by it, especially the geriatric population. Pathologically characterized by A-beta and tau depositions, AD has a profound functional deficit of the "sense of smell" which remain unnoticed and could possibly be an effective target to diminish the dementia symptoms associated. Lavender oil (LO) is a rich source of linalool and is found to be a potent calming remedy in humans and an effective neuroprotective. Inhalation of LO by an Amyloid beta1-42 ((A β) Intracerebroventricular) injected female C57BL/6 mice could significantly reduce the A β induced primary olfactory dysfunction followed by memory deficits measured through behavioral studies. Levels of Serotonin, GABA and glutamate neurotransmitters in the olfactory bulb and hippocampus along with acetylcholinesterase levels were proportional to the animal's behavioral response and provided basic mechanistic support of LO in the enhancement of cognitive domain. Aromatherapy is considered as one of the best alternate solution to numerous health problems especially those related to brain and our study contributes significant evidence to consider them as an effective replacement to better the disease without affecting the patient's daily life. Further combinatorial studies could also position them as a viable adjunct along with the conventional treatment routines prescribed for the AD sufferers.

Biography

Anjali Raj has completed her Masters With GPAT scholarship at the age of 25 years from JSS Academy of higher education and research and is currently pursuing her doctoral studies from the same institution. Her major field of interest is Alzheimer's Disease and aspires to find a cure to the disease which benfite the sufferers without affecting their quality of life. She is a DST inspire fellow and only has one publication to her credit.

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