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## APPLICATION OF MOLECULAR DOCKING AND CADD IN NEURODEGENERATIVE DISEASES

Smitha A\*, Mr. Kabilan J, Dr.Karthickeyan.K

Department of Pharmacy Practice, School of Pharmaceutical Sciences, Vels Institute of Science and Technology and Advanced Studies(VISTAS), Pallavaram, Chennai 600117

Email: smithajoy1204@gmail.com

### Abstract

NDs (neurodegenerative diseases), including Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis and Huntington's disease, are some of the most common chronic illnesses worldwide. These disorders mainly affect the brain and nervous system; at this time, there is no complete treatment available for any type of NDs. Finding effective treatments for NDs continues to be a major challenge in medical research. The use of computer-aided drug design (CADD) has become an essential resource for drug discovery today. By allowing scientists to identify and sort potential drug compounds through computer-based techniques prior to laboratory testing, CADD can significantly reduce the number of compounds that would require experimental testing and thereby minimize the amount of time, cost, and effort applied to drugs during their development. This article reviews how CADD and molecular docking techniques are used to develop drug candidates targeting NDs. It describes several therapeutically relevant targets of new drug treatments for NDs. The limitations associated with CADD and molecular docking techniques are also referenced; however, CADD will continue to be a major asset in the discovery process of new drugs for NDs.

**Keywords:** Alzheimer's disease; Parkinson's disease; CADD; neurodegenerative diseases; molecular docking; drug discovery.