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Study links disturbed circadian rhythm with Alzheimerâ??s Disease

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Disrupted circadian rhythms result in anxiety, hyperactivity, and memory deficits



Researchers from Shoolini University, in Solan, have investigated the cause-and-effect relationship between aberrant circadian rhythms and Alzheimer's disease (AD) pathology in rats exposed to light for prolonged periods, and report that the anti-depressant fluoxetine may alleviate these neurological symptoms.

"Cells of various organs in the body are synchronized to the day-night cycle, and release different biochemical substances including hormones in a time-specific manner. Untimely expression of these hormones can trigger anxiety, cognitive impairment, and memory loss, all symptoms of brain disorders such as AD", said the researchers.

Once the researchers found that circadian rhythm disruption due to chronic light exposure caused memory and cognitive deficits in the rats, their next hypothesis was that fluoxetine, a drug used for treating anxiety and hyperactivity, could alleviate physiological and functional abnormalities associated with circadian rhythm disruption. Sure enough, fluoxetine treatment prevented oxidative damage, A? accumulation, and rescued memory and cognitive deficits in the treated rats. Amyloid? (A?) is the pathogenic protein known to form aggregates in AD.

This study certainly "sheds light" on the cause-and-effect relationship between circadian rhythms and AD progression, paving the way for future investigations on this important topic.