

Excessive Sleepiness during the Day: An Indication of Increased Risk of Alzheimer's disease

Taking a quick and short nap during the day might be considered a normal act at workplace but an excessive sleepiness and drowsiness during the day might be an indication that there is an increased risk of Alzheimer's disease. In a recent study conducted by "Global Brain Health Institute" University of California San Francisco and published in *Alzheimer's & Dementia: Journal of the Alzheimer's Association*, it was unearthed that as the tangles of a specific protein called Tau are developed in the brain, it causes the death of certain nerve cells that are responsible for the wakefulness during the day. The study was conducted on 20 postmortem individuals; 13 of whom were patients of Alzheimer's disease and compared with the 07 who were not.¹

What actually happens is that nutrients are moved around within the nerve cells through a structure (microtubules) that is formed in collaboration with the Tau protein. This protein not only help in developing that structure but also ensure its strength and stability. It was found the Tau protein in the brain with Alzheimer's gave way and collapsed, causing the formation of tangles. As a result the structure was unable to transport nutrients to the cell, which further led to the death of the cells. This is when a person feels sleepy and drowsiness during the day. These tangles are labeled a sign of Alzheimer's disease. It is to be noted that this study was specifically focused on the onset of changes in human brain caused by Alzheimer's disease and that these areas were not that much looked into in the past. The study concurred that the regions in question are strongly associated with origination and development of the disease. Another study recently conducted by the University of California Berkeley concluded that sleep quality is also associated with the protein tangles. People in their 50-60 years of age who

registered lack of sleep were found with increase protein tangles in their brain. A consistent and long term lack of sleep that stretches through years of life is a strong predictor of Alzheimer's onset and further development.²

Lack of sleep is common phenomena among our young people today; credit to social media and internet. It is alarming, it not only adversely affects their academic performance and social skills but might foster the risk of Alzheimer's disease in later life.

References:

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- 2- Winer JR, Mander BA, Helfrich RF, Maass A, Harrison TM, Baker SL, Knight RT, Jagust WJ, Walker MP. Sleep as a potential biomarker of tau and β -amyloid burden in the human brain. *Journal of Neuroscience*. 2019 Aug 7;39(32):6315-24.

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