

Sleep Deprivation and Sluggish Brain Activity

Sleep is one of the fundamental biological needs of human beings. It is of utmost importance for human body to function properly and the case doesn't limit itself to the physiology but also greatly affects the brain health, cognitive functions and of course, the psychology. Sleep deprivation or insufficient sleep may be either chronic or acute. There are empirical evidences that lack of sleep leads to poor communication that negatively affects the ability to rightly perceive the visual input and the human memory as well.

In a study conducted by Nir Y *et al.*, 2017 an interesting phenomenon was observed that lack of sleep slows down the activity of the brain. A normal brain always registers a quick reaction but neurons in a sleep deprived brain were quite slow in responding to a certain stimulus; the transmission was slow and took more time because the firing of the neurons was weaker. Another finding was made that with lethargic brain activity, cellular activities are also slowed down in the same part of brain. As a consequence, there are sleep-like waves that interfere and interrupt brain's activity and subsequently decrease the performance in the task at hand. This observation led to the suggestion that these observed parts of the brain were actually drowsing, unable to keep up with the active parts of the brain – leading to lapses in brain activity. Putting it into perspective, sleep deprivation affects the brain in a similar way as does the alcohol consumption.¹

Further more sleep deprivation might increase the prevalence of depression, fatigue, clumsiness, obesity, diabetes, heart attacks and stroke, cognitive impairment and may lead to an early death as well. Students spend a lot of time with digital gadgets and internet that has significantly affected the sleeping habits, leading

to increased physical and mental health issues. The aggregate population and especially the students, must understand the importance of sleep, if they are to be a productive part of the society and world. Moreover, students are more prone to this phenomenon as they have more work load of studies and they also tend to remain in touch with the modern day technical advancements. They spend more time on laptops, cellular phones etc. Under the influence of media, web technology etc, students are adversely getting affected.

It is the duty of parents and teachers to guide the students to follow a disciplined life focus on academics and take a quality sleep. It will lead to a healthy generation of young people who may contribute for the betterment of society, become competent professionals and work wonders.

Reference:

- 1- Nir Y, Andrillon T, Marmelshtein A, Suthana N, Cirelli C, Tononi G, *et al.* Selective neuronal lapses precede human cognitive lapses following sleep deprivation. *Nature Med.* 2017 Dec;23(12):1474-80

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Asian Journal of Allied Health Sciences