

News

Circadian Clock and Probable Body Effects

Filza Kashif

Pretty interesting study exhibited that our liver can sense time by detecting light and works accordingly, which means our body parts have clocks linked to one central main clock that notifies them do their chores as human do. But are they able to differentiate between natural and artificial light? Woefully, no, this is perilous.

Cell, the journal reported story about the research of scientists linked to University of California, Irvine and Institute of Research in Biomedicine in Barcelona, Spain which described their search on bred mice to study whether the body clocks functions or not when the central clock in hypothalamus is disabled.

Scientists, after they disabled the whole circadian system, excluded liver's clock enabled to discover whether it worked or it stopped.

"The results were quite surprising. No one realized that the liver or skin could be so directly affected by light." said Sassone-Corsi, Donald Bren Professor of Biological Chemistry.

Surprisingly, liver was capable to detect light and performed routine tasks same as food digestions, conversion of glucose to energy but halted when came across continuous darkness. It was presumed that liver detected light and dark through signals from other organs.

"The future implications of our findings are vast. With these mice, we can now begin deciphering the metabolic pathways that control our circadian rhythms, aging processes and general well-being." Sassone-Corsi said.

In future, scientists indicated, after further study they'll be able to find out how these clocks communicate with each other, their aspects and the connection between metabolic pathways which influence circadian rhythms and aging processes.

Earlier, other than natural light, scientists also examined the effects of artificial light on human body's circadian system which enlightened that usage of mobile and tablets at night is hazardous causing problems regarding health.

"Because of modern lifestyles, it's easy for people's circadian systems to get confused" he said. "In turn, that can lead to depression, allergies, premature aging, cancer and other health problems. Further mice experiments could uncover ways to make human internal clocks less misaligned," Sassone-Corsi added.

Scientists reckoned that use of phone or laptops in night will confound our circadian system and vulnerable to body parts originating crucial diseases such as depression and it may activate premature ageingsyndromes.

Keywords:

Circadian system, Circadian rhythms, *aging processes*, hypothalamus, central clock, metabolic pathways, *mice experiments*

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