We spend one third of our lives sleeping, but it’s not a waste of time! Sleep is essential for our well-being.

Sleep is regulated by the sleep waves and the circadian rhythm – the so-called biological clock. The oscillatory profile of sleep waves is followed by the rhythmic expression of the genes that regulate the circadian rhythm (clock genes).

In 2017 the Nobel Prize of Medicine and Physiology was awarded to researchers that uncovered the mechanisms that control the circadian rhythm. Michael Rosbash, Michael Warren, young Jeffrey Connor Hall.

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Day

Night

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After a long plane trip, there is a mismatch between the time of day at arrival and departure, causing a deregulation in the biological rhythm. This phenomenon is called jet-lag.

SOMETIMES THERE MAY BE A DELAY IN PEAK MELATONIN RELEASE. THERE IS A NATURAL DELAY IN THE ACTIVE PERIOD OF THE TEENAGERS, WHICH DOES NOT OCCUR IN CHILDREN AND ADULTS.

Therefore, in the early morning, teenager productivity is lower, which should be considered for school planning.

This delay could lead to insomnia that promotes sleep deprivation.

Changes in work shifts also induce biological rhythm deregulation. But the problem is not working at night or during the day, but the regularity of this activity.

Sleep apnea is characterized by respiratory interruptions during sleep leading to sleep deprivation.

Sleep deprivation could also be related with other pathologies such as neurodegenerative disorders (Alzheimer, Machado-Joseph, Parkinson, Huntington), metabolic diseases, infertility, cardiovascular disease, and cancer.

Everyone has their own rhythm and maintaining regular sleep hours is as important as other aspects of a healthy lifestyle. Preserve our rhythms and enjoy life!

And regularity is important! Sleeping a lot on weekends does not compensate for sleep deprivation during the week.

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Hypothalamus - Suprachiasmatic nucleus

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