

Infradian and Ultradian rhythms:

Infradian-The menstrual cycle: Governed by monthly changes in hormone levels which regulate ovulation. Typical cycle is 28 days. During each cycle rising level of hormone oestrogen cause the ovary to develop an egg and release it. After ovulation, the hormone progesterone helps the womb lining to grow thicker, readying the body for pregnancy. If the pregnancy does not occur. The egg is absorbed into the body, the womb lining comes away and leaves the body.

Research study: Stern and McClintock- 29 women with irregular periods. Samples of pheromones were gathered from 9 women at different stages of their menstrual cycles, via a cotton pad placed in their armpit. Worn for at least 8h. Treated with alcohol and frozen then rubbed on the upper lip of the other ps. Day 1- pads from the start of the menstrual cycle applied to all 20 women. Day 2- pad from the second day of the menstrual cycle and etc. They found that 68% of women experienced changes to their cycle.

Seasonal affective disorder (SAD): depressive disorder, has a seasonal pattern of onset. Low mood, general lack of activity. Circannual Rhythm could be caused by disrupted sleep/wake cycle. Melatonin cause SAD, during the night the pineal gland secretes melatonin until dawn when there is an increase of light. During winter the lack of light in the morning means this secretion process continues for longer. This is thought to have a knock-on effect on the production of serotonin in the brain.

Ultradian-Stages of sleep: 90 min -> stages 1 and 2: light sleep, easily woken. At the beginning brainwave patterns start to slow down and become more rhythmic (alpha waves) becoming even slower as sleep becomes deeper (theta waves). ->Stages 3 and 4: involve delta waves are still slower and have a greater amplitude. This is deep sleep or slow wave sleep it is difficult to rouse someone at this point. -> stage 5 REM sleep: body is paralysed yet brain activity speeds up resembling the awake brain. Highly correlated with dreaming.

Evaluation:

Evolutionary basis of the menstrual cycle: useful in the past. One proposed by Schank argued that if there were too many females cycling together within a social group, this would produce competition for the highest quality males.

Methodological limitations: there are other factors affecting menstrual cycles. Other studies failed to find any synchronisation.

Evidence support the idea of different stages in sleep: Dement and Kleitman monitored sleep patterns of 9 adults in a sleep lab. EEG recorded brainwave activity, other researchers found the same results.

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