
Sleep and Heart Health



According to new findings published in the European Heart Journal, going to sleep between 10:00 and 11:00 pm is associated with a lower risk of developing heart disease compared to earlier or later bedtimes.

Dr David Plans of the University of Exeter, UK, explains that our body's circadian rhythm regulates our physical and mental functioning. Results from the study show that early or late bedtimes are more likely to disrupt the body clock and may also have adverse consequences for cardiovascular health. Why this is so remains unclear.

There are numerous analyses that have investigated the link between sleep duration and cardiovascular disease but the relationship between sleep timing and heart disease remains unexplored. In this study, the researchers used data of 88,026 individuals in the UK Biobank. The average age of the study participants was 61 years and 58% of the participants were women. Investigators collected data on sleep onset and waking up time over a period of seven days using a wrist-worn accelerometer. Participants completed demographic, lifestyle, health and physical assessments and questionnaires. They were then followed up for a new diagnosis of cardiovascular disease, which was defined as a heart attack, heart failure, chronic ischaemic heart disease, stroke, and transient ischaemic attack.

The follow-up period was 5.7 years. During this time, 3.6% of the participants developed cardiovascular disease. Incidence was highest in those with sleep times at midnight or later and lowest in those with sleep onset from 10:00 to 10:59 pm.

Compared to sleep onset from 10:00 to 10:59 pm, there was a 25% higher risk of cardiovascular disease with a sleep onset at midnight or later, a 12% greater risk for 11:00 to 11:59 pm, and a 24% raised risk for falling asleep before 10:00 pm. In a further analysis by sex, the association with increased cardiovascular risk was stronger in women, with only sleep onset before 10:00 pm remaining significant for men.

Dr. Plans said: "Our study indicates that the optimum time to go to sleep is at a specific point in the body's 24-hour cycle and deviations may be detrimental to health. The riskiest time was after midnight, potentially because it may reduce the likelihood of seeing morning light, which resets the body clock."

Dr Plans notes that the stronger association between sleep onset and cardiovascular disease in women is unclear. It could be due to differences in how the endocrine system responds to disruption in the circadian rhythm. It could also be because of the age of the female participants as women's risk of cardiovascular disease increases after menopause.

Overall, the researchers conclude that sleep timing is a potential cardiac risk factor and is independent of other risk factors and sleep characteristics. Therefore, it should be an important factor to consider when targeting and working towards lowering the risk of heart disease.

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