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Genetic link found between stress-induced sleep loss and intrusive thinking

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The genetic factors that cause increased sleep problems during times of stress seem to be the same as those that make people with intrusive and ruminative thoughts have a higher prevalence of insomnia.

Results indicate that sleep reactivity to stress mediates the genetic relationship between ruminative thoughts (unwanted thoughts that are difficult to control) and insomnia. Findings highlight the importance of revealing the influences of sleep reactivity on ruminative thoughts and insomnia.

According to lead author Naomi Friedman, PhD, senior research associate at the Institute for Behavioral Genetics at the University of Colorado at Boulder, the substantial genetic predispositions to these problems may be modifiable; treatments designed to reduce sleep reactivity to stress might have the potential to improve insomnia related to rumination.

"Identification of genes underlying the association between sleep reactivity to stress and intrusive thinking and ruminative tendencies may enable the development of more targeted pharmacological interventions for insomnia," said Friedman. "At the nonpharmacological level, behavioral treatments could be designed to target specific aspects underlying a tendency towards rumination in the individual across many potential environmental triggers."

The study included 1782 individual twins (1059 females, 723 males)

between the ages of

18 and 30 years. Genetic analyses included 744 complete twin pairs (377 monozygotic and 367 dizygotic). Participants completed an online sleep survey and questionnaires that measured sleep response to stress, frequency of intrusive thoughts, and frequency and severity of three insomnia symptoms (difficulty falling asleep, staying asleep and non-refreshing sleep). Females included in the study had a higher prevalence of insomnia, more frequent intrusive thoughts and higher sleep reactivity to stress. The degree to which genetics influenced each of these traits was not significantly different for males and females, and the relationships among these variables were similar for males and females.

Authors of the study said that the findings of shared environmental influences on intrusive thinking, sleep reactivity to stress and insomnia confirm previous research showing that it may be beneficial for people with higher reactivity to stress and or ruminators to try to modify their environments to minimize their stress levels. Individuals with ruminative tendencies should attempt to discover the particular stressful environmental influences that trigger thoughts that can interfere with their sleep.

Source: American Academy of Sleep Medicine (news : web)