

Sapped: Exploring potential connections between devitalizing anemia and insomnia

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A good night's sleep is essential for a healthy body and mind, for when we sleep is when the body resets, repairs, and refreshes itself. A lot of people, however, have trouble falling or staying asleep, a condition

known as insomnia that affects up to 30% of the population. It is usually caused by an underlying psychiatric or clinical condition and is associated with a poorer quality of life. Recent genome wide analyses have revealed that a gene MEIS1 is linked with insomnia. Interestingly, this gene has also been implicated in restless leg syndrome and iron-deficiency anemia (IDA), the latter caused by a decrease in the oxygen transporter in the blood—hemoglobin (Hb). While studies have shown a correlation between anemia and sleep disorders in infants and children, less is known about their association in adults.

Thus, in a collaborative study published in *Chinese Medical Journal*, researchers from China and the USA have carried out a cross-sectional analysis to understand the association between [insomnia](#) and anemia in a cohort of 12,614 Chinese adults.

The study's lead scientist, Professor Xiang Gao, explains what motivated him and his colleagues to pursue this work, "Anemia could be a novel risk factor for insomnia, a common sleep disorder. Previous studies are limited in terms of adjusting for variables such as sleep parameters and inflammation status. In the current study, we wanted to overcome these lacunae and explore the dose-dependent relationship between hemoglobin levels and insomnia," he says.

Participants were asked to fill out a questionnaire on their lifestyle habits, health status, and clinical and laboratory assessments at the time of enrollment. These parameters were re-evaluated every two years. Anemia was assessed by measuring Hb levels. An Hb level below 12.0 g/dL in women and below 13.0 g/dL in men was defined as anemia.

Next, insomnia was assessed using the Chinese version of the Athens Insomnia Scale (AIS) with an eight-point questionnaire. The first five questions were related to the sleep procedure including sleep induction, night awakening, awakening early in the morning, total sleep duration,

and sleep quality. The remaining three questions assessed their overall well-being, functioning, and daytime sleepiness. An AIS score of more than 6 was considered as insomnia.

Variables including age, [physical activity](#), smoking and [alcohol consumption](#), history of diabetes, blood pressure and cholesterol were adjusted in the analysis. The researchers also used chronic inflammation (high sensitivity C Reactive Protein ≥ 1 mg/L) as a measure to distinguish iron-deficient and non-iron deficient cases of anemia. Furthermore, as [chronic inflammation](#) and poor kidney function (estimated Glomerular Filtration Rate

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