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Heritability of sleep quality in a middle-aged twin sample from Spain

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Abstract

Study Objectives

Sleep quality is associated with health throughout the life span, which is particularly salient in middle-age and older adulthood. Sleep quality appears to be influenced by both genetic and environmental factors. However, there is still limited information about genetic influences on sleep quality in middle-aged adults, and particularly in those from certain geographical locations. We estimated the magnitude of genetic and environmental influences on sleep quality in a representative sample of middle-aged Spanish twins.

Methods

The sample comprised 2150 individuals born between 1939 and 1966, who participate in the Murcia Twin Registry. To estimate the heritability of sleep quality variables, we performed univariate analyses for the global score on the Pittsburgh sleep quality index and for each of its components.

Results

We found moderate but significant heritability (34%) for sleep quality. The genetic variance of the components of the Pittsburgh index ranged from 30 to 45 per cent, except for sleep efficiency for which no genetic influence could be detected. In summary, there was a moderate genetic influence on most dimensions of sleep quality in a sample of adult male and female twins. Shared environment influences were not found.

Conclusions

This study adds new information regarding the underlying determinants of sleep quality by providing heritability estimates in a middle-aged population-based representative sample from a geographical location that has not been included in studies of this type previously. This could provide a reference point for future research regarding sleep research in middle-age.

adult, dizygotic, heritability, monozygotic, sleep duration, sleep quality, twins

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