Is sleeping behavior in your genes?

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Two regions (loci) of DNA that may be associated with the amount of time people spend sleeping are identified this week in Molecular Psychiatry.

Sleeping outside the normal range of sleep duration — sleeping too much or too little — has been linked to a number of conditions, including psychiatric illness, diabetes, and heart disease. These associations are poorly understood; however, previous studies have indicated that sleep duration is at least partly heritable.

Daniel Gottlieb and colleagues examined self-reported sleep duration and genetic data from 47,180 individuals of European ancestry, in addition to 4,771 African-Americans. The authors identified two loci that may be associated with sleep duration, and investigated previous genome studies for information about these loci. They found that the first locus, associated with longer sleep duration, has been linked to both a more favorable metabolic profile and lower risk of attention deficit hyperactivity disorder. The other locus identified, associated with shorter sleep duration, has been linked to several psychiatric disorders, including increased depression and schizophrenia risk.

Although the mechanisms underlying these associations remain unclear, the authors speculate that the first locus identified may regulate sleeping behavior through altering hormone levels, as it is near a gene called PAX8 that is involved in thyroid development. However, further studies are needed to confirm and understand the associations between these loci, sleep duration, and disease.

Please link to the scientific paper in online versions of your report (the URL will go live after the embargo ends): http://dx.doi.org/10.1038/MP.2014.133

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