

Getting a bad night's sleep could be increasing some people's likelihood of becoming obese

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Credit: University of Glasgow

According to a study led by the University of Glasgow, and published today in the *American Journal of Clinical Nutrition (AJCN)*, abnormal sleeping habits increase the risk of obesity for those who are genetically predisposed to being overweight.

The findings, based on data from the UK Biobank, emphasise that while

genetics have a large role to play in obesity, lifestyle also plays an important role.

Researchers looked at the effects of abnormal sleeping habits such as short [sleep](#) duration (less than 7 hours sleep a night) and long sleep duration (more than 9 hours sleep a night), along with daytime napping and [shift work](#).

The study, which is the first of its kind to examine the interactions of sleeping habits and genes with obesity, found that in people with high [genetic risk](#) for obesity, both short sleep durations (less than 7 hours per night) and long sleep durations (more than 9 hours per night) further increased risk of carrying excess weight, compared with those who slept for normal durations (between 7 and 9 hours every night).

Long sleepers with high genetic risk of obesity were about 4 kg heavier, and short sleepers were about 2 kg heavier, than those with similarly high genetic obesity risk with normal sleep durations. In contrast, there was no clear link between [sleep duration](#) and body weight in those with a low genetic risk of obesity.

The negative effect of abnormal sleep on someone already predisposed to obesity happened irrespective of diet, health concerns or socio-demographic factors.

Dr Jason Gill, from the Institute of Cardiovascular and Medical Sciences, said: "These data show that in people with high genetic risk for obesity, sleeping for too short or too long a time, napping during the day, and shift work appears to have a fairly substantial adverse influence on bodyweight. However, the influence of adverse sleep characteristics on bodyweight is much smaller in those with low genetic obesity risk – these people appear to be able to 'get away' with poorer sleep habits to some extent."

The study also provides evidence that the association between genetic susceptibility to obesity and actual body weight is affected by other sleep characteristics including: napping during the day, shift work, and nightshift work.

The authors suggest that these findings make a case for further intervention studies to determine the benefits of healthier sleeping habits, particularly in individuals genetically susceptible to obesity.

Dr Carlos Celis said: "It appears that people with high genetic risk for [obesity](#) need to take more care about lifestyle factors to maintain a healthy bodyweight. Our data suggest that sleep is another factor which needs to be considered, alongside diet and physical activity."

More information: Carlos Celis-Morales et al. Sleep characteristics modify the association of genetic predisposition with obesity and anthropometric measurements in 119,679 UK Biobank participants, *The American Journal of Clinical Nutrition* (2017). [DOI: 10.3945/ajcn.116.147231](#)

Provided by University of Glasgow

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