

# Fat kids linked to lack of sleep

October 19 2006

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Soaring levels of obesity might be linked to children sleeping fewer hours at night than they used to, claims Dr Shahrads Taheri of the University of Bristol.

Dr Taheri, reporting in the Archives of Disease in Childhood, blames the increasing availability of computers, mobile phones, TVs and other such gadgets on the diminishing nightly quota of sleep, and suggests they should be banned from children's bedrooms.

Dr Taheri cites the emerging body of research on the impact on the body of a fall in the nightly quota of sleep, which reflects circumstances in real life, rather than sustained sleep deprivation, which tends to be more extreme.

This research shows that shorter sleep duration disturbs normal metabolism, which may contribute to obesity, insulin resistance, diabetes, and cardiovascular disease. Even two to three nights of shortened sleep can have profound effects, the laboratory data suggest.

One study indicated that insufficient sleep at the age of 30 months was associated with obesity at the age of seven, suggesting that this could programme the part of the brain regulating appetite and energy expenditure, says Dr Taheri.

But it is also a problem for teenagers in whom the need for sleep increases during this critical developmental period, he says.

Another piece of research shows that levels of leptin, a hormone produced by fat tissue when energy stores are low, were more than 15% lower in those sleeping five hours compared with those clocking up eight.

Similarly, ghrelin, a hormone released by the stomach to signal hunger was almost 15% higher in those with a five hour sleep quota.

Sleep loss also disturbs other hormones, including insulin, cortisol (stress hormone), and growth hormone, says Dr Taheri, who adds that hormonal changes could boost the desire for calorie rich foods.

And poor sleep sets up a vicious cycle. It leads to fatigue, which leads to reduced levels of physical activity, which leads to lower energy expenditure, which leads to obesity, which itself leads to poor sleep, explains Taheri.

Dr Taheri acknowledges that the mechanisms behind obesity are likely to be complex. "Sleep is probably not the only answer to the obesity pandemic, but its effect should be taken seriously, as even small changes in energy balance are beneficial," he says. "Good sleep could be promoted by removal of gadget distractions from bedrooms and restricting their use," he suggests.

Source: University of Bristol

Citation: Fat kids linked to lack of sleep (2006, October 19) retrieved 6 May 2024 from <https://medicalxpress.com/news/2006-10-fat-kids-linked-lack.html>

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