

不眠とメタボ「負の連鎖」
夫の実家を「勘当する」嫁たち

2008.5.25
350円



夫の実家を
「勘当する」嫁たち

睡眠5時間未満は肥満原因!?
不眠とメタボ「負の連鎖」

杉 良太郎
「カラダを語る」
インタビュー 松平 健



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Rx for Obesity: Eat Less, Exercise More, and—Maybe—Get More Sleep

Lynne Lamberg

WASHINGTON, DC—Fondness for super-sized fries and disdain for exercise have boosted the demand for super-sized wheelchairs, hospital beds, and caskets in the United States. Two thirds of US adults today are at least overweight (body mass index [BMI]>25). Nearly one third are obese (BMI>30), and more are morbidly obese (BMI>40) than in years past. Adults of “normal” weight constitute an ever-slimmer minority of the US population. Worldwide, 1 in 4 adults is overweight.

While many of these people eat too much and exercise too little, it is likely that other factors also contribute to the nation’s expanding waistline. A decline in daily hours of sleep, a trend concurrent with the nation’s surge in obesity, may play more of a role in promoting overeating and weight gain than previously thought, according to experts at a 2-day workshop that explored this premise here in March. In 2004, about 3 in 10 US adults aged 30 to 64 years reported they usually slept 6 hours or less a night, up from 2 in 10 adults in 1985 (Centers for Disease Control and Prevention. *MMWR Morb Mortal Wkly Rep.* 2005;54:933).

“Sleep loss and obesity may be interacting epidemics,” said Meir Kryger, MD, professor of medicine at the University of Manitoba, Winnipeg, and chief editor of *Principles and Practice of Sleep Medicine*, the sleep field’s primary text. Kryger is also vice chair of the Washington, DC-based National Sleep Foundation, which cosponsored the workshop along with the Atlanta School of Sleep Medicine and International Life Sciences Institute,

North America. Takeda Pharmaceuticals, Sepracor Inc, and ResMed Corp provided unrestricted educational grants to support the event.

Workshop presenters reported epidemiological, genetic, and endocrine evidence that supports a sleep-obesity connection, discussed how obesity impairs sleep, and reviewed current treatments for obesity. They also announced a novel federally sponsored study to determine whether obese people can learn to sleep longer, and if those who do also lose weight.

MANY PUTATIVE CAUSES OF OBESITY

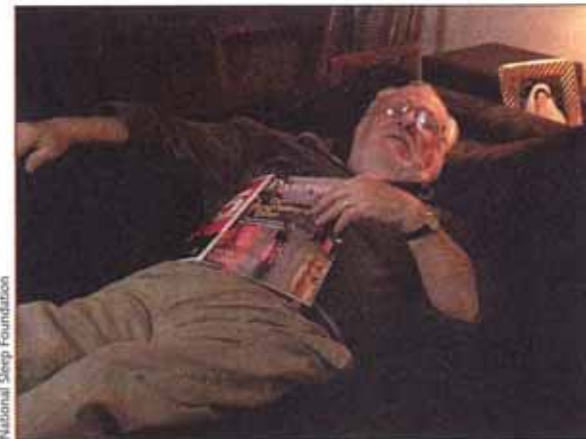
Since 1980, the prevalence of obesity in the United States has doubled in both adults and children and tripled in adolescents.

“We’ve never had an epidemic that we could track and document as thoroughly as this one,” said Laura Kettel Khan, PhD, deputy chief of chronic disease nutrition at the National Center for Chronic Disease Prevention and Health Promotion, Atlanta.

Discussion of causes underlying the obesity epidemic typically focuses on food marketing practices (such as easier access to fast foods and soft drinks) and factors that reduce physical activity (such as television viewing, car ownership, and lack of physical education classes in schools). In turn, other likely contributors get short shrift, said David Allison, PhD, professor of biostatistics and director of the clinical nutrition center at the University of Alabama, Birmingham.

For example, he said, the availability of uniform home heating and air conditioning in the past few decades has reduced human energy expenditure. Moreover, both animals and people consume more food in a thermoneutral zone and eat less when too hot or too cold.

Evidence that this and other factors give rise to obesity is “far from conclusive,” Allison said. So is evidence that reduced sleep plays a role, he cautioned, although the idea is “at least equally compelling.” A review by Allison and colleagues of plausible con-



National Sleep Foundation

Epidemiological, genetic, and endocrine evidence supports a link between inadequate amounts of sleep and obesity.

Epidemiological, genetic, and endocrine evidence supports a link between inadequate amounts of sleep and obesity.

**JAMA
May 24/31,
2006 Vol 295,
No 20, 2341**

The link between short sleep duration and obesity: we should recommend more sleep to prevent obesity

S Taheri

Sleep may affect energy balance. Sleep may not be the only answer to the obesity pandemic, but its effect should be considered seriously, as even small changes in the energy balance are beneficial. Good sleep could be part of the obesity prevention approach.

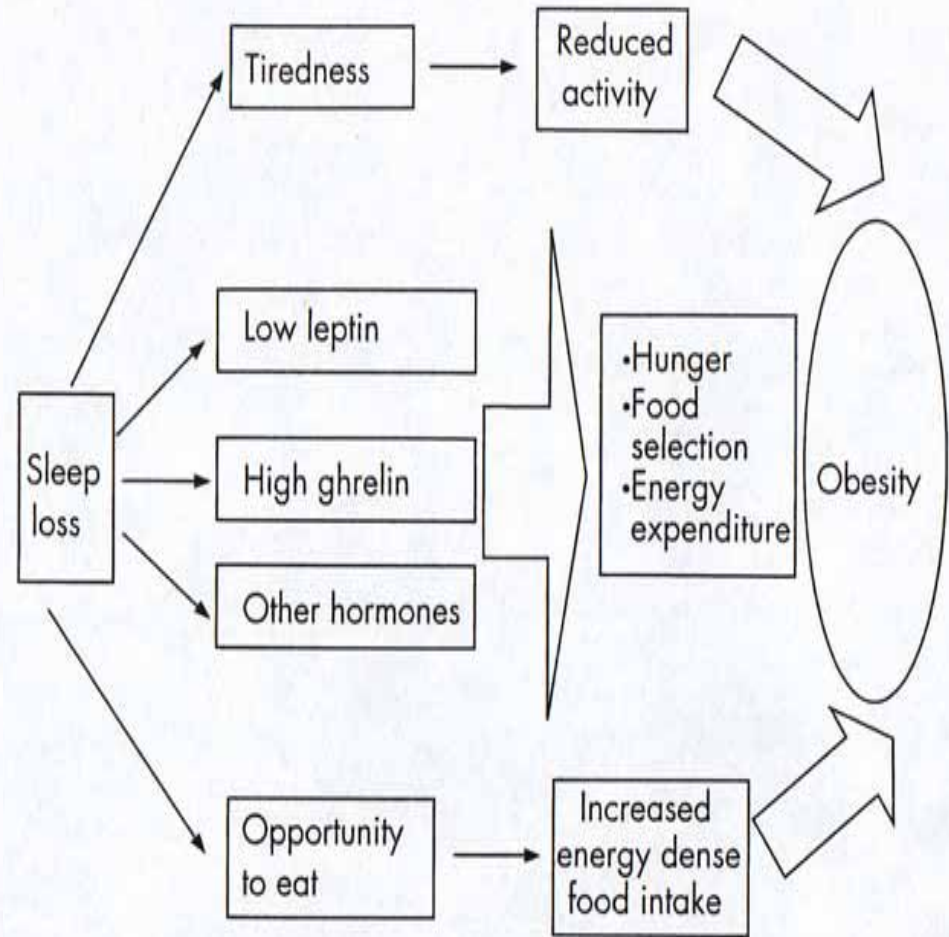


Figure 1 The potential mechanisms through which short sleep duration could result in obesity. Short sleep duration can affect both energy intake and energy expenditure. It results in tiredness that may hamper physical activity, and alters metabolic hormones to increase appetite and affect food selection. Additionally, extra time awake provides increased opportunity for food intake. Other potential mechanisms include effects of sleep on basal metabolic rate, thermic effect of food and non-exercise activity thermogenesis.

寝ないと太る

寝ないと 太る

Taheri S, Lin L, Austin D,
Young T, Mignot E.

Short sleep duration is associated with reduced leptin, elevated ghrelin, and increased body mass index.

PLoS Med. 2004
Dec;1(3):e62.

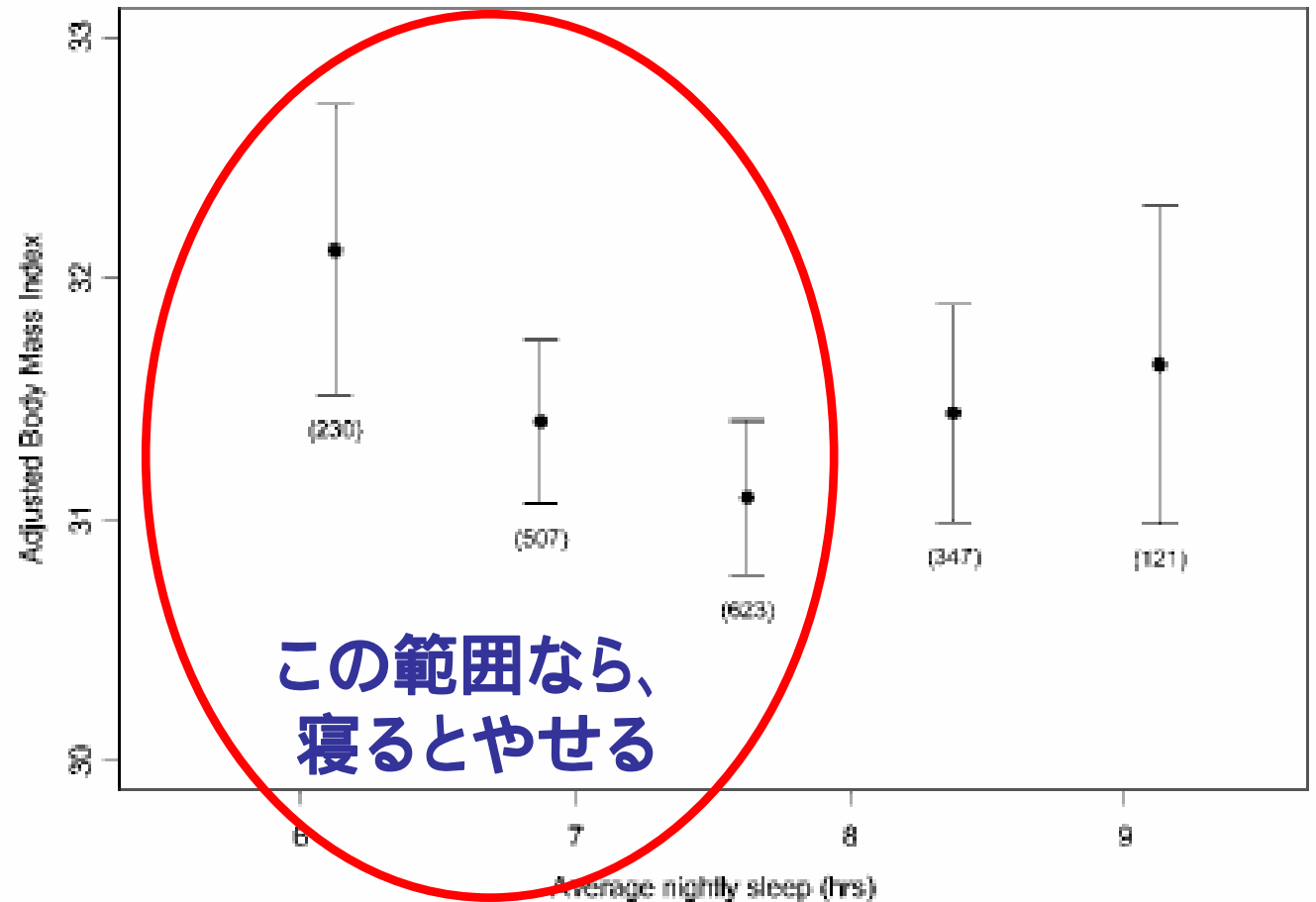


Figure 2. The Relationship between BMI and Average Nightly Sleep Mean BMI and standard errors for 45-min intervals of average nightly sleep after adjustment for age and sex. Average nightly sleep values predicting lowest mean BMI are represented by the central group. Average nightly sleep values outside the lowest and highest intervals are included in those categories. Number of visits is indicated below the standard error bars. Standard errors are adjusted for within-subject correlation.

関連を示す疫学的な証拠

3歳児の肥満に影響する因子

両親の肥満、少ない睡眠時間

(Sekine (富山医科薬科大) ら、2002)

5-6歳児の肥満に影響する因子

少ない睡眠時間

(von Kries ら、2002)

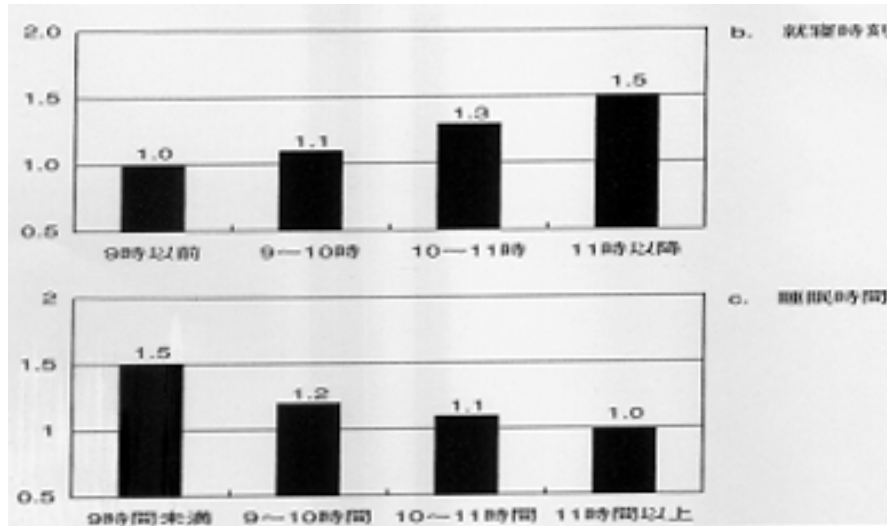
6-7歳児の肥満に影響する因子

遅寝、少ない睡眠時間

(Sekine (富山医科薬科大) ら、2002)

3歳時の睡眠習慣と6年後の肥満

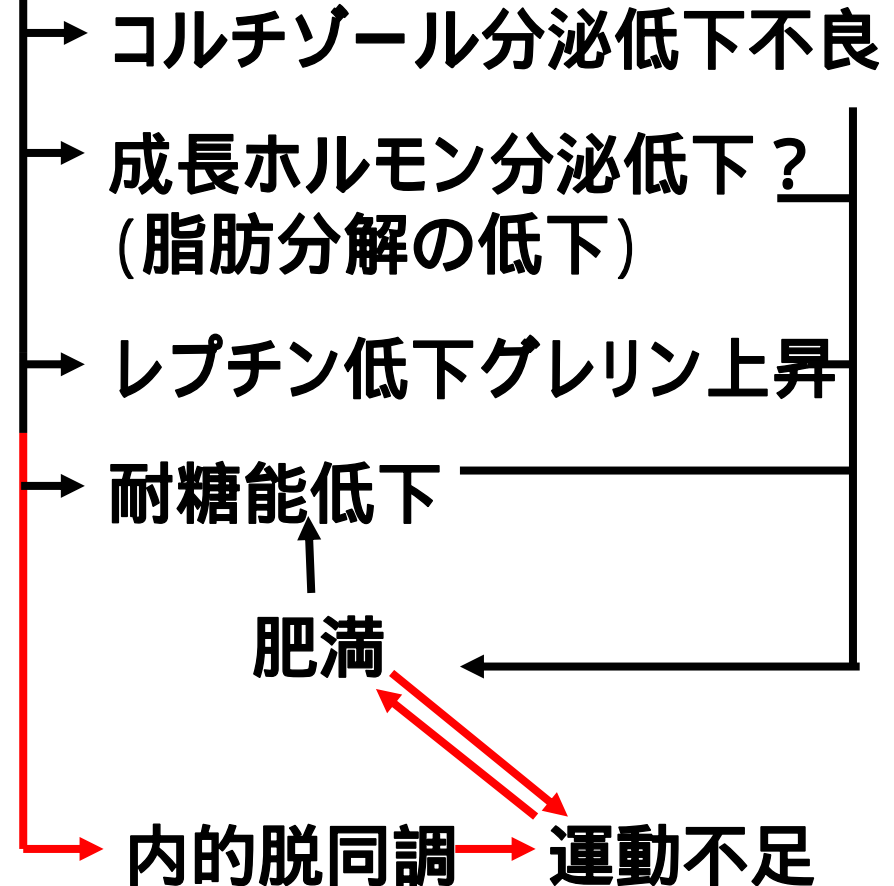
関根道和
(富山医科薬科大)



遅寝

睡眠不足

遅寝と肥満



メタボリックシンドローム報道の落とし穴

メタボ対策には運動と食事が重要。

食事に気をつけよう。 **食品・薬品メーカー**

運動しよう。 **運動ジム・運動用具メーカー**

時間がない 退社後の運動 夜の運動

交感神経賦活 眠れない 太る **メタボは持続**

メタボに関する様々な業界(医療、食品、運動、報道等)

(業界は儲かるがヒトの質は低下 : 近視眼的な経済至上主義)

寝るという簡単なことでメタボは減り、ヒトの質は高まる。

メタボ対策には運動、食事、そして眠りが重要

肥満の連鎖

青は安全弁、赤は危険な連鎖への第一歩？

- ・グレリンは強力な摂食促進作用を持つペプチド。
- ・レプチンは脂肪細胞より分泌され、中枢(視床下部)に作用し、食欲を抑制、エネルギー消費を増大する。

徐波睡眠



オレキシン

レプチン、グレリン

睡眠不足

覚醒、食欲

摂食

オレキシン

眠らない



睡眠

報酬系(ドパミン)の関与？
周期が24時間よりも長い
生体時計の関与？