主任

有密切關係。雖然期間的詳細
康代謝管理，也逐漸獲得學界

理的關係，亦早為臨床工作人
關，均是臨床上的重要議題。
對各類型特殊睡眠疾患，探

睡眠障礙與體重管理

署立雙和醫院精神科
北醫睡眠中心
李信謙

2010.10.24

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Sleep Pattern in Modern Society

1. Sleep Duration has decreased
2. Sleep Deprivation is commonly seen
3. The Quality of Sleep declines with age

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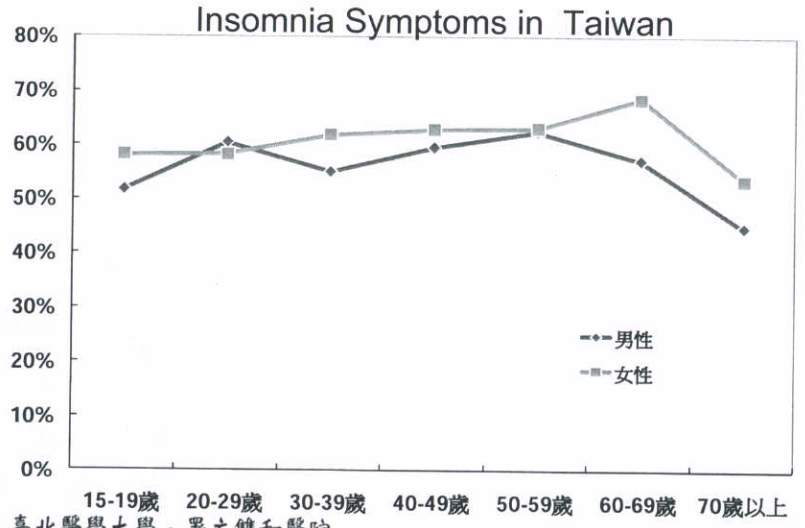
Sleep Pattern in Our Society



TSSM, 2009

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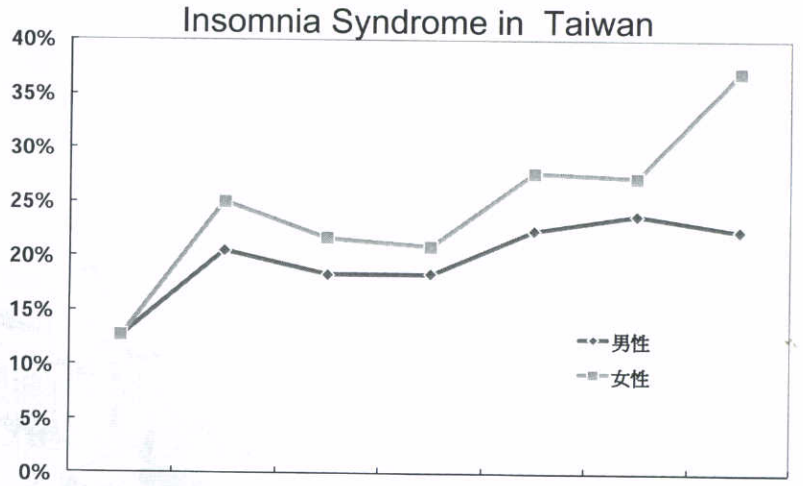
Sleep Pattern in Our Society



TSSM, 2009

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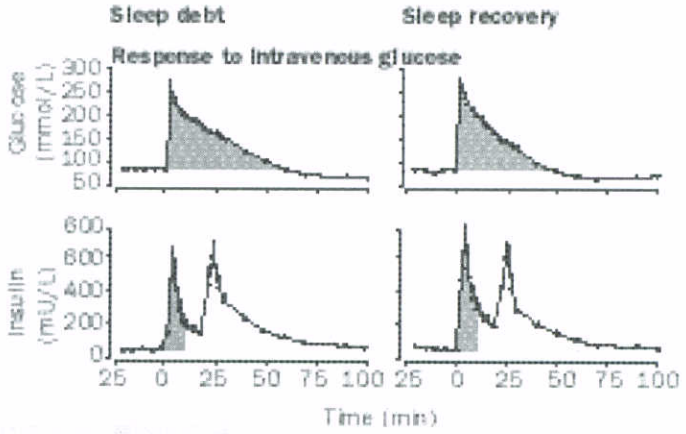
Sleep and Hormone Release

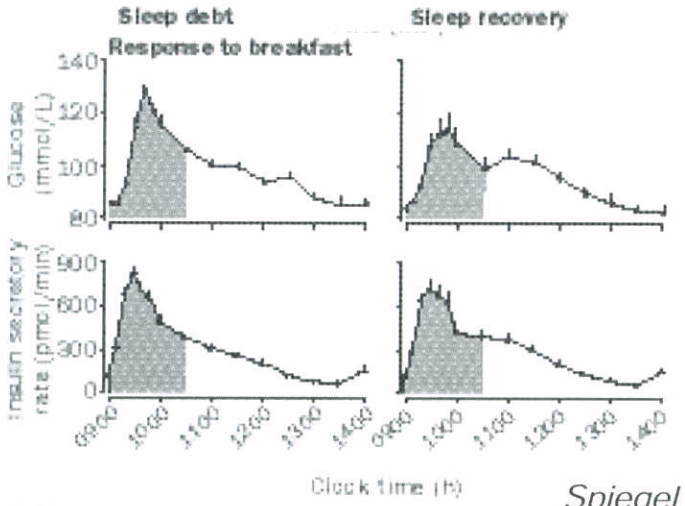
1. The release of HPA hormones are inhibited
2. The release of GH & Prolactin is increased
3. Glucose metabolism is modulated by Sleep

Sleep and Hormone Release



Spiegel et al., 1999

Sleep and Hormone Release



Spiegel et al., 1999

Sleep Duration and Diabetic Risk

1. The suppression of Slow Wave Sleep results in decreased insulin sensitivity
2. Short sleep duration is associated with an increased risk of Diabetes
3. Insufficient sleep may be a risk factor for more severe Diabetes

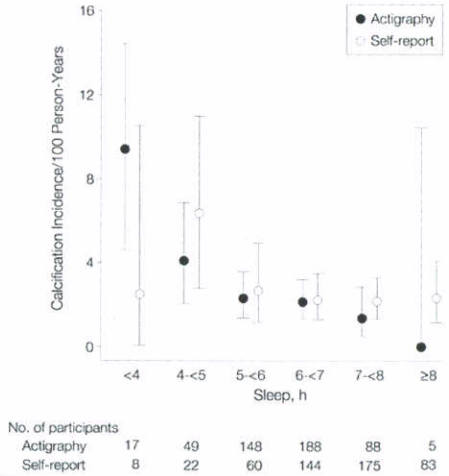
Sleep Duration and Diabetic Risk

	Hours of sleep per day				
	≤5	6	7	8	9+
Total diabetes					
n	122	576	731	422	118
Person years	28,608	169,859	281,601	157,904	29,941
Age-adjusted relative risk	1.57 (1.28–1.92)	1.27 (1.12–1.44)	0.98 (0.87–1.11)	1	1.47 (1.19–1.80)
Multivariate model without BMI*	1.29 (1.05–1.58)	1.16 (1.02–1.32)	1.02 (0.91–1.16)	1	1.32 (1.07–1.62)
Multivariate model including BMI (8 categories)*	1.18 (0.96–1.44)	1.10 (0.97–1.25)	1.02 (0.91–1.16)	1	1.29 (1.05–1.59)
Symptomatic diabetes					
Age-adjusted relative risk	1.85 (1.44–2.37)	1.33 (1.13–1.56)	0.97 (0.83–1.13)	1	1.54 (1.18–2.01)
Multivariate model without BMI*	1.52 (1.19–1.96)	1.21 (1.03–1.43)	1.01 (0.86–1.18)	1	1.39 (1.07–1.81)
Multivariate model including BMI (8 categories)*	1.37 (1.07–1.77)	1.13 (0.96–1.34)	1.00 (0.86–1.18)	1	1.36 (1.04–1.73)

*Adjusted for shiftworking (from 1988), hypercholesterolemia, hypertension, smoking, snoring, exercise, alcohol, depression (from 1992), postmenopausal hormone use, and family history of diabetes.

Ayas et al., 2003

Sleep Duration and CVD Risk

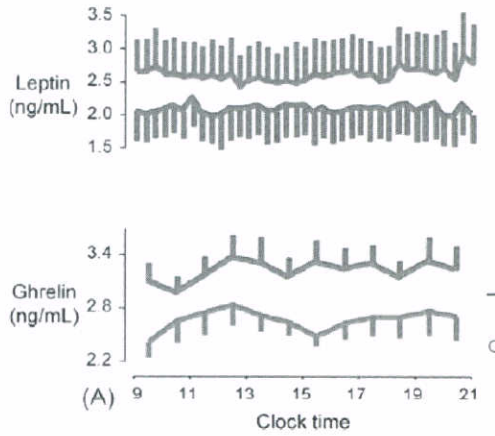


King, C. R. et al. JAMA 2008;300:2859-2866.

Sleep Duration and Appetite/Obesity

1. Sleep duration plays an important role in the regulation of Leptin and Ghrelin
2. Sleep restriction could be associated with significantly increased hunger and appetite
3. Short sleep duration is an important risk factor for Obesity

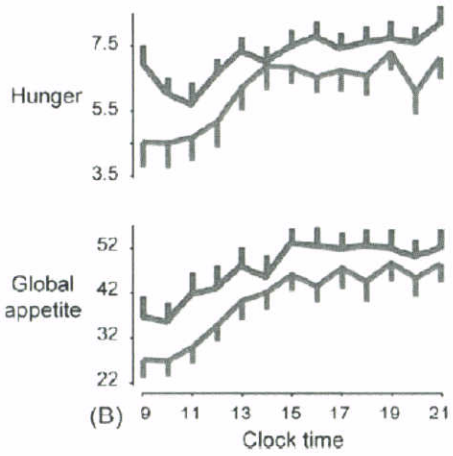
Sleep Duration and Appetite/Obesity



	P value	change
Leptin	0.041	-19%
Ghrelin	0.038	+24%

Spiegel et al., 2004

Sleep Duration and Appetite/Obesity



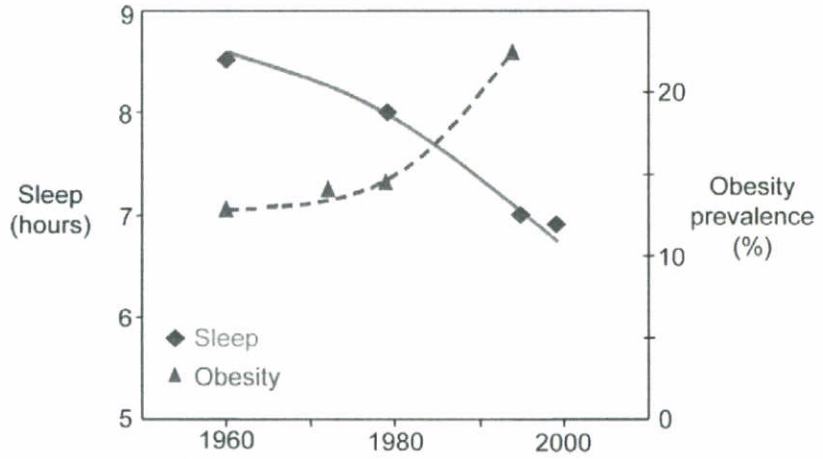
After 2 days of 4 h bedtime

After 2 days of 10 h bedtime

	P value	change
Hunger (cm)	<0.01	+19%
Global appetite (cm)	0.010	+20%

Spiegel et al., 2004

Sleep Duration and Appetite/Obesity



Cauter et al., 2008

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Study On Going…

Treatment of obesity with extension of sleep duration: a randomized, prospective, controlled trial.

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