

Short Sleep Duration and Obesity

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Introduction

- Currently obesity became prevalent over the whole world.
- Obesity is mainly driven by environmental factors, although genetics may play a role
- Changes in the basic balance between energy intake and expenditure are obviously responsible for the current obesity pandemic.
- Although sleep research has mainly concentrated on the cognitive consequences of sleep loss, sleep may be a factor that alters both sides of the energy balance . 1

Pathophysiology

- Recent evidence has begun to suggest a mechanistic link involving metabolic hormones
- Circulating **leptin** and **ghrelin** levels, two opposing hormones in appetite regulation. 1

- Sleep restriction is associated with changes in **leptin** and **ghrelin** levels, changes in other hormones. 1

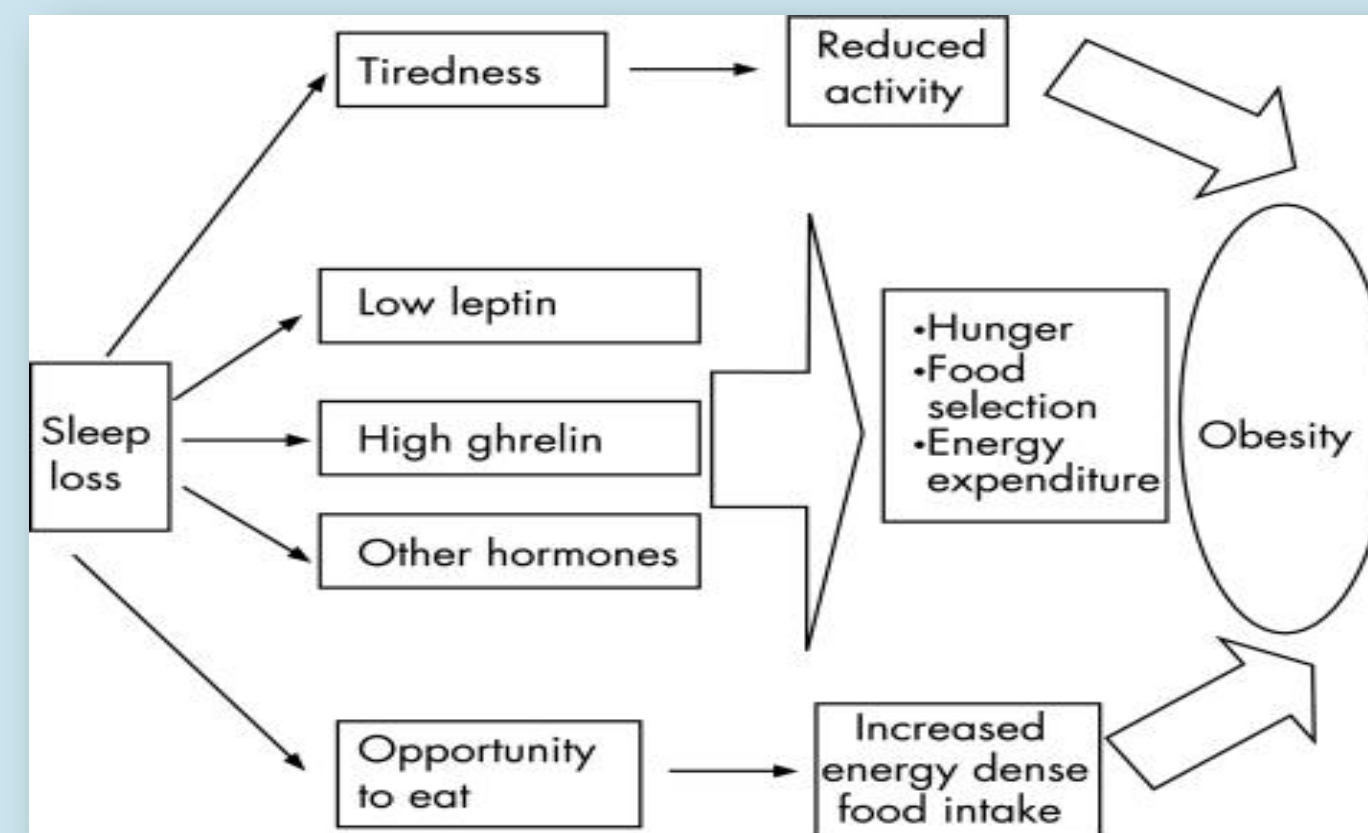


Diagram showing the pathophysiology 1

Discussion

- A study on **9668** Japanese children aged three years who were all born in Toyama prefecture, Japan, in 1998. For the comparison between obese and non-obese children revealed Frequency of sleeping <10 h was greater in obese children (**29.3%**) and that in non-obese children (**13.7%**). 2

- A study in 1992 includes **1031 cases** selected in a population of five year old school children showed Short sleep duration was associated with increased risk of obesity .3
- A Study on **814 men and 958 women**, aged 15 y and older in 1994 show that the prevalence for obesity is lower for people sleeping ≥ 9 h than those sleeping ≤ 6 h; prevalence for obesity was **24%** lower for each additional sleeping hour/day.

Conclusion

- Sleep is not only for the brain but also for the rest of the body. Recent evidence suggests that sleep loss, could be a risk factor for chronic diseases, such as obesity and diabetes.

References

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