

20.20: Weight and Sleep Apnea

Learning Objectives

- Excess Body Weight and Sleep Apnea

Research conducted by

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Statistical article authored by

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Case study prepared by

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Overview

In his statistical article, “Standard deviation versus standard error,” UK researcher Philip Sedgwick presents us with an interesting discussion of the proper use of standard deviation (SD) and standard error of the mean (SEM). He uses an example of a weight loss study of 63 obese men suffering from obstructive sleep apnea who were being treated with continuous positive airway pressure (CPAP). The weight loss program lasted one year. Outcome measures included change in body weight measured in kilograms (kg).

More than 60% of people experiencing obstructive sleep apnea are obese. CPAP therapy is the most common treatment. It uses a machine and mask to prevent the airway from collapsing, thus enabling a person to breathe more easily during sleep. Weight loss is an effective treatment for sleep apnea.

Questions to Answer

What is the proper use of the SD? What is the proper use of the SEM?

Design Issues

None for the Sedgwick article.

Descriptions of Variables

Table 20.20.1 : Description of Variables

Variable	Description
Weight	Body weight at baseline in kg
Weight change	Change in body weight at one year from baseline in kg

Links

What Is Sleep Apnea?

t Table (two-tailed) for significance and calculation of confidence interval

Johansson et al. article

References

- Sedgwick, P. (2011). Standard deviation versus standard error. BMJ, 343, d8010.
- Johansson, K., Hemmingsson, E., Harlid, R., Lagerros, Y. T., Granath, F., Rössner, S., Neovius, M. (2011). Longer term effects of very low energy diet on obstructive sleep apnoea in cohort derived from randomised controlled trial: prospective observational follow-up study. BMJ, 342, d3017.

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