GET RID OF THAT LATE-NIGHT SNACK!

THE RELATION BETWEEN THE TIMING OF FOOD INTAKE AND WEIGHT GAIN

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Brief message

Welcome to my brief message. I am Quentin Marsman, 21 years old, and currently in my fourth year of the study Medicine. I joined RAMS because of my interest in science and writing and to develop my scientific skills. I have written articles for RAMS for almost three years now. Unfortunately, this brief message was my last. About the topic, I have been interested in food and lifestyle for quite some time now as it is an important part of one's health. Then I came across the topic of late-night eating. I became interested and decided to make a brief message about it. I hope you enjoy reading this brief message!

Late-night eating is an activity we all participate in once in a while. We all enjoy that snack right before bed after an evening with intense exercise or a hamburger after going to the bar. Nevertheless, these snacks could be more detrimental to our health than we might think. Studies show that the timing of food intake has a relation to weight gain [1]. Experimental studies in animals show that unusual feeding times lead to obesity, even in the absence of changes in total energy intake [1]. These results are in line with studies performed in humans that found that consuming many calories in the evening is associated with higher risks of being overweight or obese [1,2].

Some proposed mechanisms for this association are lower diet-induced thermogenesis, which is related to nocturnal insulin resistance and reduced-fat oxidation [1]. Nevertheless, disruption of the circadian rhythm due to abnormal feeding times is hypothesised as the main mechanism. The internal clocks that regulate this rhythm are sensitive to feeding times, even more when the eating occurs during times usually reserved for sleeping or resting [3]. As a result, daily lipolytic activity and the lipolytic response to fasting is decreased [3].

A special case is when people make a habit out of eating late. For this instance, a new clinical syndrome was defined. If a person eats twice or more per week at night or eats at least twenty-five per cent of their caloric intake after the evening meal, this person suffers from the night eating syndrome (NES) [4]. These people often also cope with morning anorexia and sleep disturbances. People with NES consume more calories per day than people without it, with the difference caused by night-time eating [5]. Patients with NES also gain more weight than people without the syndrome [5]. The circadian rhythm, whose disruption can lead to weight gain, is also thought to play a role in the weight gain of these people [4,5].

More research is necessary to assess the details of the relation between late-night eating and weight gain and obesity. However, based on the current knowledge, the timing of eating seems to be an alternative strategy in the reduction of obesity and the prevention of being overweight [1,2,5]. Therefore, getting rid of that midnight snack might not be a bad idea.

References

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EXAM QUESTION

Question 8

Do you want to test your knowledge regarding our metabolism? Have a look at the exam question below.

The body starts to produce its own glucose in case of a glucose shortage (gluconeogenesis). Which molecules are the sources of this gluconeogenesis?

A. Amino acids
B. Proteins
C. Fatty acids

The answer to this question can be found on page 33 in this journal.