

Circadian Time of Eating and Physical Activity towards Optimal Lifestyle: A Postmodern Approach

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Received: March 20, 2019; **Published:** April 25, 2019

Abstract

This editorial aims to propose a new postmodern strategy to optimize health through optimizing the circadian time of eating and exercise. Recent findings suggest that evening instead of morning feed delivery improves circadian feed intake and rumen fermentation, and thereby, increases milk production in lactating dairy cows [1-7]. This in mind, it is notable to indicate that ruminants are very different than human in terms of eating behavior, gut nutrient assimilation, and intermediary metabolism. For instance, ruminants rely mostly on rumen fermentation of the feed eaten, whereas humans do not have pre-gastric fermentation and possess only some post-gastric hindgut fermentation. As a result, the majority of feed energy comes from volatile fatty acids produced during rumen fermentation of feeds in ruminants.

Keywords: Eating; Nutrient; Humans

Introduction

Humans have evolved to have higher energy requirements during morning and day time because evening is for rest preparing the body for night sleeping. However, ruminants usually exhibit two main eating/grazing activities, one in early morning and another in late afternoon and early evening. Consequently, they ruminate mostly overnight. Taken these together, humans are expected to respond differently to time of eating and exercise, when compared to ruminants. Since, glucose metabolism is higher during day than overnight, it is proposed to not overload the body with nutrients overnight. This suggests that large evening meals should be avoided to reduce risks from obesity and diabetes. Accordingly, evening exercise may enable the human body to more effectively utilize nutrients. However, this would not mean that evening meals could be larger if preceded by evening exercise. Instead, it means that evening meals should in any circumstances be limited in size and be complemented with exercise to reduce metabolic disorders and health issues.

Future research will need to further experiment and substantiate the theory that circadian time of eating and exercise matters in affecting human health and life quality. Public education must be continually revisited and refined and underline the significance of optimizing eating and exercise time in approaching optimal lifestyle and life quality for postmodern humans.

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Volume 3 Issue 5 May 2019

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