

Timing of eating and exercise: creating a robust public science

Abstract

This article introduces timing of intake and exercise as an innovative public science to improve life quality in the postmodern era. Food intake and exercise at certain times of the circadian phase when the body is internally prepared to optimally bioprocess nutrients can improve metabolism and overall health. Evening and night are usually not the optimal times to consume much energy since human endocrinology has not evolved to optimally assimilate energy overnight. Evening physical activity could improve glucose tolerance and insulin sensitivity and reduce obesity and diabetes risks. More research is required to deepen the current insights and perspectives.

Keywords: timing, food intake, exercise, metabolism, health

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Innovation and philosophy

Human brain efficiency depends highly on lifestyle properties.¹ Timing of food intake has been an innovative subject for recent research and practice.²⁻⁶ Large evening meals are not recommended for those seeking optimal metabolism and health in the new times.⁷ From an evolutionary perspective, human endocrinology has evolved to assimilate and metabolize glucose and other energy precursors preferably in morning and day-time when the body is prepared to work actively and metabolize intensely. However, evening is the time when the body prepares to rest and relax towards overnight sleep, thus being a rather inactive metabolic phase.^{8,9} As such, glucose tolerance and insulin efficiency decrease as evening and night begin.¹⁰ This evolutionary principle leads to formulating a public nutritional program that is based on frequent small energizing meals during morning and day and very few even smaller fruity low-energy meals during evening and night.^{11,12}

Scheduling exercise for evening times has the capacity to improve cellular energetic and human endocrinology. This helps the body to at least in part maintain its high efficiency in insulin function. But, such an evening exercise must not be followed by large high-starch high-fat food meals that could harm the body even more than when no evening exercise is scheduled.¹³⁻¹⁵

The evening exercise is required to have an adequately intense nature to cause prolonged sweating and increased heart rate. This resembles to when human used to live in nature.¹⁵ In addition, evening exercise should preferably be conducted at least 3-4hours before the time going to sleep in order to not interfere with normal resting behaviour. Thus, evening exercise should be exercised truly in evening and not later overnight. Such a timely and early evening physical activity would help the body better prepare for a deep sleep and has the potential to reduce sleep disorders and abnormalities. The gut health and body weight management could also be optimized better under such eating-exercise programs.^{16,17}

Implication

This perspective public health article innovatively introduced the timing of circadian eating and exercise as a healthy science to

be practiced by all for optimal metabolism and health. This program is amongst today's necessities for the modern man towards healthier postmodern lifestyles. While high-energy and appetizing foods intake must be reduced in evening and overnight, adequate evening exercise could improve human endocrinology and metabolic health. These can certainly contribute to reducing obesity and diabetes risks.

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Conflict of interest

Author declares that there is no conflict of interest.

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