



Pace Of Walking With Relation Of Energy Of Outflow: A Review

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Abstract

Walking is a fundamental human movement that plays a vital role in daily life. To understanding the energy expenditure associated with various pace walk is essential for designing effective exercise programs and promoting health and well-being. This research article provides a broad review of the current scientific literature on energy expenditure through the pace of walking. It examines the factors influencing energy expenditure during walking and explores the implications for physical fitness, weight management, and cardiovascular health. It also confers the potential implication of this knowledge in various fields, such as exercise prescription, public health interventions, and wearable technology development. This aims to investigate the energy expenditure associated with different walking paces and provide a comprehensive analysis of the relationship between pace and energy expenditure.

Keywords: MET, Walk, paces, energy expenditure, metabolic rate.

The energy expenditure of walking can be measured in units of metabolic equivalents (METs). One MET is the amount of energy expended at rest, which is equivalent to 3.5 ml of oxygen consumed per kilogram of body weight per minute. (Kwan M et.al 2004) Walking at a moderate pace of 5-7 km per hour typically requires 3-6 METs, depending on the individual's body weight and other factors. However, walking at a faster pace can significantly increase the energy expenditure and provide extra health benefits.

Several studies have conducted to find out the relationship between energy expenditure and various pace of walking. A study published in the Journal of Applied Physiology compared the energy expenditure of walking at different speeds in 16 men and women. (Hall, Cameron et.al 2004) The participants walked on a treadmill at speeds ranging from 3 to 7 Km per hour. The results showed that the energy expenditure

increased linearly with walking speed, with a significant increase in energy expenditure between 4 and 5 Km per hour.

Another study published in the American Journal of Clinical Nutrition investigated the effects of walking pace and body weight on energy expenditure. The study included 12 men and women who walked on a treadmill at speeds ranging from 3.0 to 8.0 Km per hour. (Campana CT, Costa PB 2017) The results showed that energy expenditure increased with walking speed and body weight, with the highest energy expenditure observed in heavier individuals walking at faster speeds.

In addition to increasing energy expenditure, walking at a faster pace can provide additional health benefits. A study published in the British Journal of Sports Medicine found that walking at a brisk pace of 5.5 Km per hour or faster was associated with a lower risk of cardiovascular disease and all-cause mortality. The study followed 50,225 walkers over a period of 11 years and found that those who walked at a brisk pace had a lower risk of heart disease, stroke, and other health problems. (Stamatakis E, et.al 2017)

Introduction

Regular physical activity, including walking, is strongly associated with numerous health benefits. Energy expenditure, defined as the amount of energy expended during a particular activity, is a key consideration when assessing the effectiveness of different exercise modalities. Walking is a low-impact and accessible form of exercise, making it a popular choice for individuals of all ages and fitness levels. Understanding the relationship between walking pace and energy expenditure is vital for optimizing physical activity recommendations and tailoring exercise programs to individual needs.

Walking is a simple and effective way to exercise and improve overall health. It is a low-impact activity that can be performed by people of all ages and fitness levels. Walking can help improve cardiovascular health, increase muscle strength, and burn calories, among other benefits. However, the amount of energy expended during walking can vary depending on several factors, including pace, terrain, and body weight. In this research article, we will focus on the relationship between energy expenditure and pace of walking. (Voloshina AS 2013)

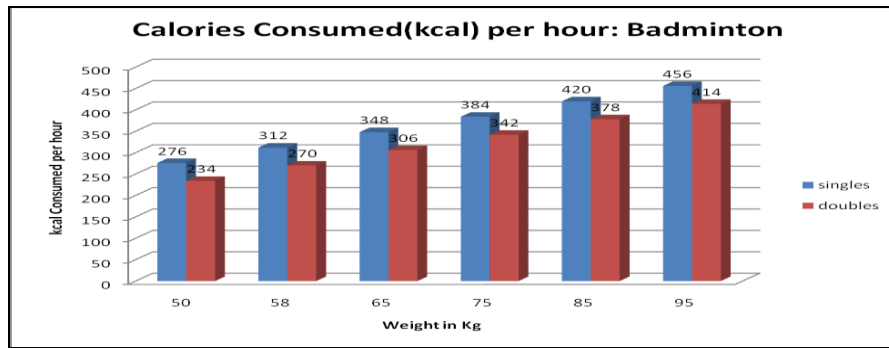
Methods:

To examine the energy expenditure across various walking paces, a comprehensive review of existing literature and research studies was conducted. Articles published in reputable scientific journals and databases, such as PubMed, Science Direct, and Google Scholar, were reviewed. Studies that specifically investigated energy expenditure during different walking paces with reference to weight.

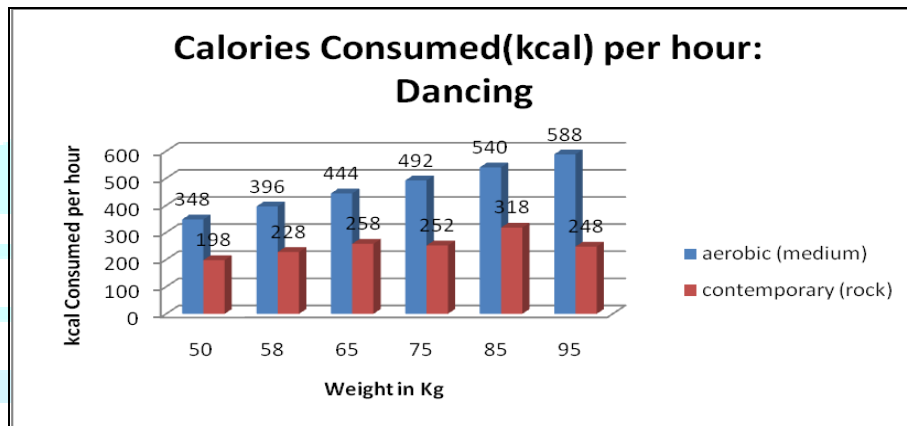
Results:

The examination of the selected articles and studies revealed a consistent pattern of energy expenditure associated with different walking paces. Generally, as walking pace increases, energy expenditure also increases. A chart depicting the relationship between pace and energy expenditure was developed, showcasing the various metabolic equivalents (METs) corresponding to different walking speeds.

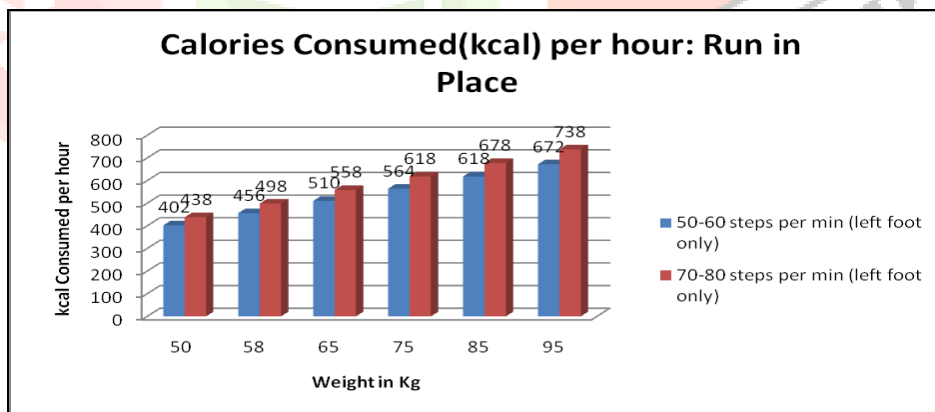
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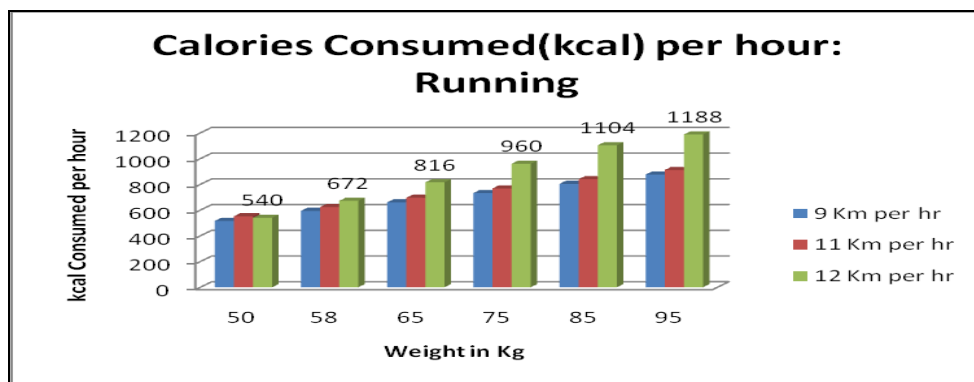
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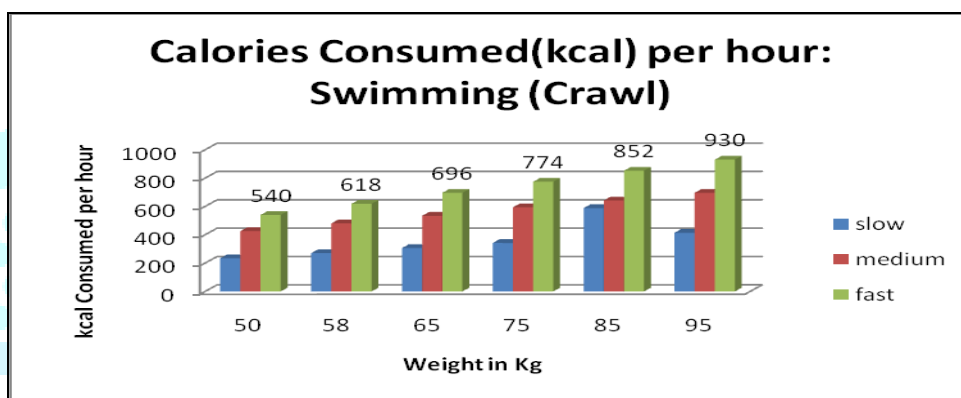
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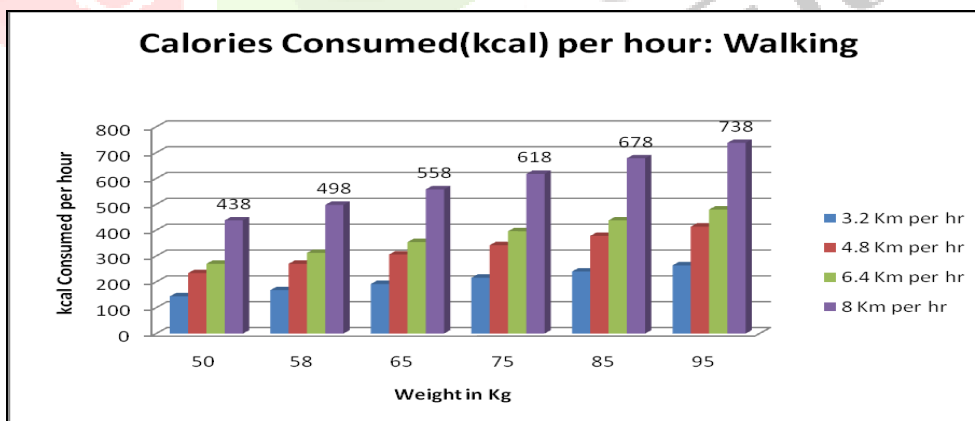
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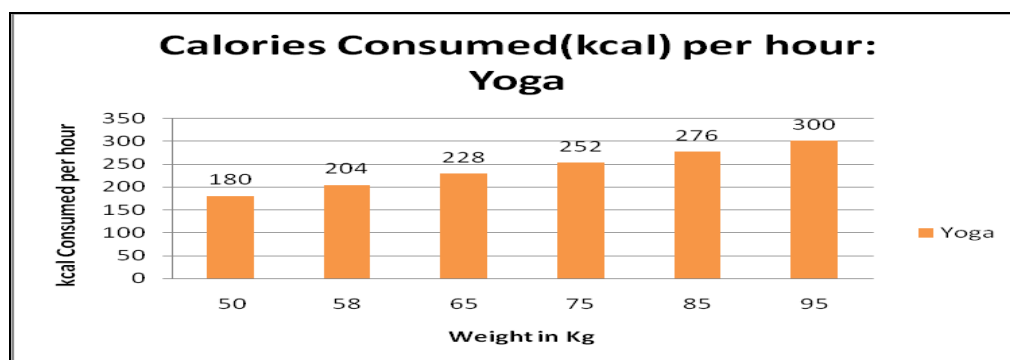
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Conclusion:

Walking is a versatile and effective physical activity that can be easily incorporated into daily routines. The relationship between walking pace and energy expenditure highlights the importance of maintaining an appropriate pace to maximize the health benefits associated with walking.

Further research is warranted to explore the impact of walking pace on other factors such as cardiovascular health, weight management, and overall well-being. Moreover, investigations into the relationship between walking pace, duration, and frequency could provide valuable insights into the design of personalized exercise prescriptions. (Bai X,2022)

Walking is an effective way to improve overall health and burn calories. The amount of energy expended during walking can vary depending on several factors, including pace, terrain, and body weight. Walking at a faster pace can significantly increase energy expenditure and provide additional health benefits. Therefore, it is recommended to walk at a brisk pace of 3.5 miles per hour or faster to achieve maximum health benefits. (Wendy Bumgardner, 2022) Further research is needed to investigate the long-term effects of walking at different paces on health outcomes.

Discussion:

The relationship between walking pace and energy expenditure can be explained by the physiological demands placed on the body during faster walking. As pace increases, muscle activity, heart rate, and oxygen consumption all rise, leading to higher energy expenditure. The findings of this analysis have important implications for designing walking-based exercise programs, as they can help individuals optimize their energy expenditure based on their fitness goals.

Limitations of the study:

While this research provides valuable insights into the relationship between walking pace and energy expenditure, it is important to acknowledge certain limitations. Variations in individual fitness levels, body composition, and walking technique can influence the energy expenditure at a given pace. Additionally, the use of different measurement techniques and equipment across studies may introduce some degree of variability.

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