

Editorial



Reflections on the concept of sedentary behavior during the COVID-19 pandemic

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The topic of sedentary behavior has permeated the scientific community for some time now; however, the COVID-19 pandemic resulted in increased sedentary time irrespective of lockdown conditions or population.⁽¹⁾ Therefore, it is opportune to bring some reflections on the concept of sedentary behavior, taking into account its literal, historical and teleological aspects. The acts of conceptualizing, which consists of defining something, and that of classifying, which is nothing more than separating and organizing by classes using some methodology or system, are human actions carried out to select significant data on a given theme. In addition to having a relevant didactic character, concepts and classifications deserve special attention in their elaboration, as they will compose a whole systematized set.

According to Young et al.,⁽²⁾ the daily estimate of time spent by adults in different contexts of energy expenditure is: 8.3 hours in sleeping; 7.7 hours in sedentary behavior; 7.8 hours in light activities and 0.2 hours in moderate or vigorous physical activities. The importance of understanding the meanings of the concepts of sedentary behavior and light physical activity is evident, since 98% of an adult's daily waking time is spent on these activities.

Sedentary behaviors are typically defined by physical activity with low energy expenditure, with a metabolic rate generally less than 1.5 metabolic equivalents of tasks (METs), and in a sitting or reclining posture.⁽³⁾ The Sedentary Behavior Research Network (SBRN)⁽⁴⁾

suggested that journal editors formally define sedentary behavior as any waking behavior characterized by an energy expenditure of less than 1.5 MET's in a sitting, reclining or lying position.

Complementing the classification, there is physical activity of light intensity defined as any activity with energy expenditure between 1.5 and 3.0 METs; moderate intensity physical activity, any activity with a MET value between 3.0 and 5.9; and that of vigorous intensity with values ≥ 6 MET's.⁽⁵⁾ These consensus definitions, as presented here, were derived to assist with the standardization, or at least harmonization, of measurement procedures, data processing, and data analytics. This editorial aims to reflect the need to understand sedentary time and behavior, and their relationship(s) with health outcomes, and may be more important than ever with the emergence of the novel Coronavirus 2019 disease (COVID-19). Coronavirus disease (COVID-19) has severely impacted lifestyles worldwide. Responses to COVID-19 have intentionally been restricted to the factors that encourage regular and frequent physical activity (PA), namely opportunity, capability and motivation. There is a universal need to address the low levels of physical activities post-COVID-19. The consequences of decreased physical activity across all intensities has powerful, potentially recoverable impacts.

It is evident that sedentary behavior is present day after day in the contemporary lifestyle, characterized by the high availability

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of technologies that leads the individual to develop a monotonous life, with little movement and minimum physical effort;⁽⁴⁾ in view of this, the fact that the concept of sedentary behavior is restricted to an activity with reduced energy expenditure only, and only in the lying, sitting or reclining position, not only seems inappropriate, but completely disregards the etymological and historical interpretation of the concept.

In April 2020, over 50% of the global population were subject to some form of government restrictions, many of which may have had unintended deleterious health consequences.⁽⁶⁾ More specifically, homestay strategies may have increased sitting and screen time, due to children participating in online learning and adults working from home, whilst decreasing opportunities to break-up prolonged periods of sedentary time or behavior.⁽⁷⁾

The “Compendium of Physical Activities: Classification of Energy Costs of Human Physical Activities” provides a comprehensive list of physical activity MET values for use in scoring physical activity questionnaires.⁽⁸⁾ Once a MET value is obtained for a physical activity performed, an activity score can be computed. A physical activity score can be a simple ordinal number, with higher numbers reflecting greater levels of activity, or a volume score computed by multiplying the frequency in sessions per week (or month), minutes per session, and intensity of the activity recalled. The intensity often is expressed as METs. Several activities are being classified as sedentary, simply because they are performed in the sitting position, not observing the energy expenditure, and at the same time there are activities that according to the criterion of energy expenditure are considered sedentary, but because they are performed in the orthostatic position, do not fit the concept due to the postural requirement.

Concepts and classifications must not give rise to any kind of uncertainty, inaccuracy and imprecision; in addition, the criteria and methods used to classify must not be applied to just one

subject under any justification, as they distort the system; and the interpretation, to be well performed, must take into account the literal context of the word, as well as the historical (its representation in the past) and teleological context. For all the above the most plausible thing is to understand the concept of sedentary behavior as “any waking behavior characterized by an energy expenditure of 1.5 MET’s or less”.

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