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## Carta al Editor

### Active breaks during virtual classrooms in schoolchildren in times of COVID-19 pandemic: A strategy to increase physical activity levels

Pausas activas durante las aulas virtuales en escolares en tiempos de la pandemia de COVID-19: Una estrategia para aumentar los niveles de actividad física

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## Key Points

- As a result of the closure of schools to control COVID-19 transmission, the lifestyle of schoolchildren changed, with an increase in excess malnutrition, sedentary behavior, decreased outdoor time and increased screen time.
- The modification in the execution of classes in their new modalities (on-site or virtual) does not modify the deleterious effects of the sedentary behavior of schoolchildren.
- Short cumulative active breaks can be an efficient strategy to meet the minimum physical activity recommendations suggested by the WHO for children and adolescents aged 5-17 years.

Health policies adopted to mitigate transmission and the number of people affected by the COVID-19 pandemic include school closures, causing the world's preschoolers and schoolchildren to be confined<sup>1</sup>. This confinement modified lifestyle behaviors, increasing excess malnutrition, sedentary behavior, and screen time, and in addition decreased outdoor time, resulting in increased indicators of overweight and obesity<sup>2</sup> and incidence of mental health deterioration<sup>3</sup>. In fact, this condition may increase the probability of depression, leading to increased body weight or "depreobesity"<sup>3</sup>. This, in turn, results in a decrease in physical activity levels among young people.

This scenario is alarming considering the pandemic's physical and psychological side effects on the health of the population and, in particular, on schoolchildren<sup>3,4</sup>. In addition, obesity is a chronic, complex, multifactorial metabolic disease associated with a chronic inflammatory state that plays a crucial role in developing type 2 diabetes mellitus, dyslipidemia, blood pressure, cardiovascular disease, cancer, and reduced immune response<sup>5</sup>. Likewise, until COVID-19, "diabesity", (i.e., diabetes associated with obesity), was considered the major pandemic of the third millennium<sup>6</sup>. Moreover, authors such as Roncon et al.<sup>7</sup> report that diabetic patients with COVID-19 infection have a higher risk of being admitted to the intensive care unit and mortality.

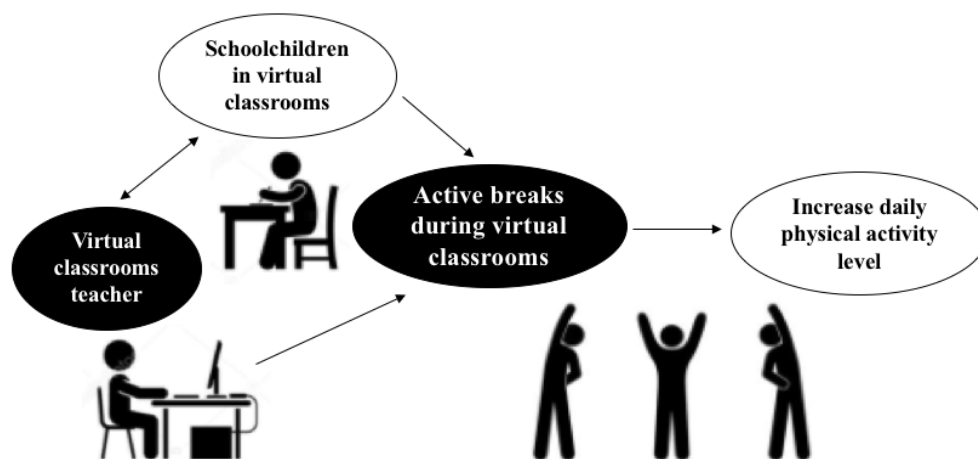
Despite this uncertain scenario, the educational function cannot be postponed. For this reason, governmental entities have been forced to modify educational strategies according to the technical and political conditions for conducting classes, including virtual classes and later hybrid classes (presential and virtual classes).

However, the aforementioned modifications do not change the sedentary behavior of schoolchildren. In this respect, physical education classes play an essential role in the health of schoolchildren<sup>8</sup>. In fact, not all schools have included this content to help mitigate the problems described

above due to the pandemic. Therefore, it is imperative to implement strategies to increase physical activity levels in schoolchildren including the use of short active breaks in the classroom<sup>9</sup>.

In particular, the development of short cumulative active breaks (i.e. one active break per class) can help to increase physical activity levels not only in the classroom but also during virtual classes at home (**figure 1**). In this sense, schoolchildren can meet the minimum physical activity recommendations suggested by the World Health Organization (WHO) for children and adolescents (5-17 years) of at least an average of 60 minutes/day of moderate to vigorous intensity physical activity<sup>10</sup>. In Chile, a government initiative called "Activa-Mente" (Active-Mind) promotes healthy breaks during the school day. The project contemplates an active break of four minutes per school hour (45'). Thus, considering a six-hour school day, a total of 24 minutes of physical activity is achieved, meeting 40% of the 60 minutes per day recommended by the WHO for children and adolescents.

For this reason, readers are invited to go to the following link: <https://www.mineduc.cl/activa-mente-pausas-saludables-durante-las-jornadas-escolares/> where they can find different models of short and simple active breaks recommended by the "Active-Mind" program, in which teachers can develop together with their students during virtual classes.



**Figure 1.** Active breaks during virtual classrooms in schoolchildren as a strategy to increase physical activity levels.

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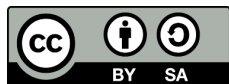
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### Authorship Contributions

JAG conceived the idea. JAG and AOA drafted the manuscript. All authors approved the final version of the manuscript.

### Declaration of conflict of interest

The authors declare no conflict of interest.



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