COVID-19: the importance of new technologies for physical activity as a public health strategy

COVID-19: importância das novas tecnologias para a prática de atividades físicas como estratégia de saúde pública

COVID-19: importancia de las nuevas tecnologías para la práctica de actividades físicas como estrategia de salud pública

The pandemic of the novel coronavirus SARS-CoV-2, the cause of COVID-19 1, has negatively impacted the population’s health and the global economy 2. As of April 28, 2020, the disease had been reported in 213 countries, with 2,954,222 confirmed cases and more than 202,597 deaths in the world 3, and with the elderly as the most vulnerable group. Underreporting of data is a relevant issue for all countries dealing with the pandemic, so the numbers published by the World Health Organization and countries are underrepresented. In Brazil, since the first case was reported in February 2020, the numbers of confirmed and suspected cases and deaths from COVID-19 have continued to grow 4.

Given the lack of a vaccine or specific treatment and the high transmission rate, Brazil declared a Public Health Emergency of National Concern 5,6 and followed international guidelines and experience by adopting social isolation as the main measure for prevention and control of the disease 7. Thus, most work, physical, and recreational activities were suspended 7,8,9,10,11,12, along with a ban on presence at beaches, parks, and town squares, subject to penalties for disobedience 13,14, thereby further altering social dynamics.

Important efforts by health surveillance and healthcare services have focused mainly on containing the epidemic and promoting strategies for coordinated and timely action by the health system, which is already overburdened. However, chronic noncommunicable diseases and preexisting comorbidities are still a huge problem, especially for the elderly, the group most affected by the virus. These chronic conditions require treatment, control, and continuous monitoring, associated with lifestyle 15, besides the economic impact from the population’s physical inactivity on health systems and individuals 16.

Although social isolation is a strategic measure to contain COVID-19, it can have unintended negative consequences, increasing the population’s sedentary behavior and physical inactivity, which many authors consider a pandemic in itself 17. Prolonged stay at home can lead to a decrease in interaction and longer periods of immobility (sitting or lying), directly or indirectly related to greater use of virtual equipment such as TV, computers, cellphones, and similar devices 18. The motivational level for physical exercise can also decline, since it often requires a physical infrastructure and high-cost and complex equipment and specific sites such as parks, clubs, gyms, and/or face-to-face professional support 19.
However, the benefits of physical activity are related to its actual practice and not exclusively to these factors. Physical activity has both immediate and long-term health effects. Besides decreasing the harmful effects from long periods of immobility, it favors the control of chronic diseases and associated comorbidities and improves the immune response to infections, which can impact the severity of symptoms and the clinical outcome for patients with COVID-19 and other communicable diseases, in addition to promoting overall functional gains and quality of life and helping to decrease stress and anxiety, common symptoms in situations of social crisis.

Physical inactivity is considered a key risk factor for chronic noncommunicable diseases such as cardiovascular diseases, cancer, and diabetes, the main comorbidities associated with complex cases of severe acute respiratory syndrome (SARS) from COVID-19 and the leading causes of death in the world. Thus, the development and adoption of alternative methodologies that favor people’s autonomy and promote the adoption and maintenance of physical activity are extremely important for health promotion, prevention, and disease control. In this sense, encouragement of physical activities at home is an important and feasible proposal, especially for vulnerable groups and/or during emergency periods of social isolation, as experienced in the COVID-19 pandemic.

Despite these issues, the measures for dealing with COVID-19 issued thus by the Brazilian Ministry of Health and state and local governments have failed to include proposals and recommendations for the population and establishments on the importance of physical activity during periods of social isolation. Meanwhile, the Federal Board of Physical Education (CONFEF) recommended that physical education professionals should encourage and orient beneficiaries to remain physically active, including at home, while respecting specific contraindications. However, these recommendations have not been extended to establishments.

Given the uncertainty on when it will be safe to ease restrictions and isolation, the situation of physical inactivity may become even worse. The importance of guidelines by regulatory bodies and government agencies centers on the potential to influence establishments and professionals to adopt active practices. The guidelines also play an important role in lending legitimacy and regulating innovative practices, backing professional exercise and encouraging professionals to expand their practices.

It is important for the Ministry of Health and state and municipal health departments to implement inter-sector plans to promote physical activity, strengthening the fight against physical inactivity, and the encouragement of health lifestyles as prevention and treatment of chronic diseases. It is thus urgent to issue official guidelines for the population on physical activity, particularly at home, during the period of social isolation, as well as for professionals and establishments.

Programs for physical exercise at home are considered effective, safe, and low-cost when conducted under orientation, according to each individual’s specificities, promoting gains in health-related physical fitness and skills, positively impacting overall functioning and quality of life. Such programs thus present a promising and effective alternative for increasing and maintaining levels of physical activity in the population and the immune response to SARS-CoV-2, to be adopted as a public health policy.

In addition to important general strategies such as the WHO guidelines on maintenance of healthy lifestyle, with at least 150 minutes a week of moderate physical activity for adults, some individuals may need specific programs adapted to their physical and psychosocial conditions, which can favor adherence and attenuate risks related to preexisting comorbidities.

Whenever possible, the following components should be taken into account for the prescription of physical activity: frequency, intensity, time, type, amount, and progression of the activity, besides the possible effects each component can have and receive in relation to the specificities of individuals and groups, such as age bracket, disease progression, specific treatments, symptoms, situation of social vulnerability, work status, emotional frailty, risk of falls, and religious beliefs, among others.

We thus propose a holistic approach that not only relates physical activity to its practitioners’ functional status and self-rated health status, ranging from their level of physical fitness to the performance of the proposed program, but also presents feasible exercises according to each person’s preferences and possibilities.
When possible, a variety of modalities should be presented, such as dance, resistance exercise, yoga, games, and others, encompassing factors that may influence overall functional decline and conditions that lead to disabilities, as well as physical, social, emotional, and spiritual aspects that can impact physical activity, assisting adherence and adjustment of the proposal for the group to which it is targeted.

The creation of remote communication channels between professionals and users/clients can thus allow the program’s adjustment when necessary and the evaluation of its possible impacts on health. These actions can be adopted by liberal physical education professionals, such as personal trainers, as well as public and private health and physical activity establishments. For example, the physical education professionals affiliated with primary healthcare units can develop physical activity programs based on instructional materials and online communication, with prescriptions and evaluations according to groups, favoring the continuity of care and maintenance of the bond.

These recommendations apply both to periods of social isolation imposed by epidemics and pandemics and to periods of “normalcy”, directed to vulnerable groups or those with frailties that prevent them from leaving home, or even according to individual preferences.

We emphasize that physical activities, including exercise at home, should be a public health policy widely publicized and disseminated and adjusted to the new social dynamics, seeking to encourage people’s autonomy and independence and strengthening self-care with support.

Importantly, periods of social isolation are usually not experienced in the long term. However, their impacts can be experienced throughout life. They require coordinated actions based on an expanded concept of health, attuned to the differences between groups and health inequities. We thus urgently need strategies that help people become or remain physically active at home, promoting their autonomy in managing and making decisions on their lives.

**Contributors**

Both authors participated in the study’s conception, project, writing, critical revision, and approval of the final version.

**Additional informations**

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**References**


