



Commentary

Comentário

## Physical Exercise for People Living with HIV during the COVID-19 Pandemic

### *Recomendações para a prática de exercício físico para pessoas vivendo com HIV durante a pandemia de COVID-19*

Fabrizio Di Masi<sup>1</sup> PhD; Rodrigo Rodrigues da Conceição<sup>2</sup> PhD; Luiz Claudio Pereira Ribeiro<sup>3</sup> PhD; Gabriel Costa e Silva<sup>1,4</sup> PhD

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#### Abstract

**Introduction:** Introduction: The 2020's year will be perpetuated in world history due to the pandemic disease caused by a new coronavirus (COVID-19) and its various repercussions. Maintaining regular physical exercise during the pandemic may improve immune defense, assisting body and mind health. The immunity level is a protective factor against COVID-19, it is extremely important to be aware of groups that are potentially at higher risk, such as people living with HIV (PLWH) who already live with stigma and prejudice. However, due to great social restrictions imposed by different governments around the world, the practice of physical exercise without leaving home has become a major challenge, both to prescribe and to perform. The social isolation can drastically increase feelings of exclusion and loneliness during the COVID-19 pandemic period, aggravating the health status of PLWH.

**Objective:** The present text offer information and practical recommendations about physical exercises for PLWH during the pandemic of COVID-19.

**Conclusion:** We would like to highlight the importance of PLWH, to remain physically active during the COVID-19 pandemic, maintaining a good level of physical fitness capable of improving the responses of the immune system, while taking special care to not promote exaggerated overload, and influence the health and quality of life.

**Keywords:** Aids, virus, SARS-CoV-2, physical activity.

#### Key points

- People living with HIV (PLHIV) must remain physically active during the COVID-19 pandemic.
- Avoid high intensity exercises.
- Exercise in private places.

#### Resumo

**Introdução:** O ano de 2020 ficará para sempre marcado na história mundial em função da pandemia da doença causada pelo novo coronavírus (COVID-19) e suas diversas repercussões. Neste contexto, manter níveis regulares de exercício físico durante o período da pandemia pode melhorar a defesa imunológica, auxiliando corpo e mente. A imunidade é um fator de proteção importante contra o COVID-19, especialmente, em grupos que potencialmente possuem maior risco, como por exemplo, as pessoas vivendo com HIV (PVHIV). Entretanto, em função das grandes restrições sociais impostas por diferentes governos, a prescrição e realização de exercícios físicos sem sair de casa tornou-se um grande desafio. O isolamento social pode aumentar drasticamente os sentimentos de exclusão e

<sup>5</sup> Corresponding author: Fabrizio Di Masi – e-mail: [fabdimasi@gmail.com](mailto:fabdimasi@gmail.com)

Affiliations: <sup>1</sup>Laboratório de Fisiologia e Desempenho Humano (LFDH), Universidade Federal Rural do Rio de Janeiro (UFRRJ); <sup>2</sup>Laboratório de Endocrinologia Molecular e Translacional, Universidade Federal de São Paulo (UNIFESP); <sup>3</sup>Laboratório de Pesquisa em Imunologia e AIDS (LAPIA), Universidade Federal do Estado do Rio de Janeiro (UNIRIO); <sup>4</sup>Laboratório de Ciência do Movimento Humano, Colégio Pedro II (CP2).

solidão durante o período da pandemia, podendo agravar o estado de saúde das PVHIV que já vivem com estigma e preconceito.

**Objetivo:** Este comentário se propõe a oferecer informações e recomendações práticas acerca dos exercícios físicos para PVHIV, durante a pandemia do COVID-19.

**Conclusão:** Destaca-se a importância das PVHIV permanecerem fisicamente ativas durante a pandemia do COVID-19, mantendo um bom nível de condicionamento físico capaz de fortalecer o sistema imunológico, sem deixar de tomar cuidados especiais para que tais exercícios não sejam realizados com sobrecarga exagerada, a fim de promover a saúde e de se evitarem efeitos negativos sobre sua saúde e qualidade de vida., sendo assim prejudiciais em alguma medida.

**Palavras-chave:** Aids, vírus, SARS-CoV-2, atividade física.

#### **Pontos-Chave**

- *Pessoas vivendo com HIV (PVHIV) devem permanecer fisicamente ativas durante a pandemia de COVID-19.*
- *Evitar exercícios de alta intensidade.*
- *Exercitar-se em locais privados.*

## **Physical Exercise for People Living with HIV during the COVID-19 Pandemic**

The year of 2020 will be perpetuated in world history due to the new coronavirus pandemic and all related consequences(1). The virus infection was first reported at the end of 2019 in Wuhan, China. The new coronavirus (cov-2) can lead to severe acute respiratory syndrome (SARS-CoV-2)(2) also known as coronavirus disease of 2019: COVID-19. The COVID-19 infection can develop from a disease without symptoms or presenting mild symptoms but can also lead to major complications of the respiratory tract and outcomes as severe pneumonia, multiple organ failure, and consequently death. How the virus will affect the individual relates to immunological system status. The literature shows that elderly patients and those with reduced immune levels have a higher risk of disease evolution aggravation(2).

Adequate nutrition(3), prevention and therapy(4) and as well the level of physical fitness can be important to favor the immunological system to be ready to fight against the COVID-19 virus. The present text is not a recommendation of physical activity as treatment for infected people. We aimed to highlight the potential benefits of maintaining regular physical exercise during the pandemic, possibly improving immune

defense to promote physical and mental health.

There are gaps in the knowledge on the relationship between COVID-19 and people living with HIV (PLWH)(6,7). The study by Zhao et al.(7), reported a case of infection by SARS-CoV-2 in an HIV-positive patient without detectable changes in RNA. Nevertheless, the authors demonstrated that immune deficiency caused by HIV promotes a delay in the antibody responses. In addition, according to Marziali et al.(8), social isolation can drastically increase feelings of exclusion and loneliness during the COVID-19 pandemic period. Furthermore, social isolation seems to aggravate the health status of PLWH, which in general live with a certain degree of social isolation due to the special care needed to treat the disease, in addition to stigma and prejudice(9).

Considering immunity level as a protective factor against COVID-19, it is extremely important to be aware of groups that are potentially at higher risk, such as patients infected with the immuno-deficiency virus (HIV). In addition to antiretroviral therapies (ART), the literature is consistent about the benefits of physical exercises for maintaining or increasing the number of TCD4 lymphocytes in PLWH,

improving quality of life, which relates to physical fitness components(10-12). However, due to great social restrictions imposed by different governments around the world, the practice of physical exercise without leaving home has become a major challenge for both to prescribe and to perform it.

Recently, Chen et al.(13) pointed out the importance of maintaining a regular exercise routine during the COVID-19 pandemic, while taking precautions and care. Furthermore, Ainsworth(14) emphasizes the importance of physical activity for promoting health in general population. Nevertheless, specific recommendations for PLWH in social isolation are not found in literature, characterizing a scientific gap. In that context, the present commentary proposes to offer practical recommendations about physical exercises for PLWH during the pandemic of COVID-19.

### *Practical Recommendations*

1. Initial indicators to start or perform physical exercise: In use of ART, viral load undetectable, asymptomatic and clinically stable.

2. Initially, to reduce social isolation, whenever possible, establish virtual video calls with other individuals to perform group activities. This can reduce the feeling of isolation and loneliness(15).

3. Despite the opposite chronic effect, immediately after exercise there is a decrease in immunological indicators, especially after intense exercise(16). Therefore, it is important that PLWH perform exercises in light and moderate intensities. The use of subjective perception of effort to control intensity can be an interesting strategy(17). According to ACSM(18) the intensity for moderate domain should be between 5 to 6 on the CR-10 Borg scale(19).

4. For PLWH previously trained, aerobic exercise from 41 to 50 minutes per session should be performed(20). For the untrained, we recommend a volume between 10-20 minutes daily, progressing gradually (5-10 minutes per 2 weeks) until reach 41-50 minutes per session.

5. Look for creative options, such as the use of elastic bands(21) and functional exercises using the body weight in the case of choosing resistance exercises. In this case, every 2 weeks, progressively increase the training load by 5-10%(11).

6. The resistance and aerobic exercises combination can be an interesting strategy(22).

7. Avoid very elaborate exercises that were normally out of the exercise routine, maintaining adequate nutrition and hydration before, during and after physical exercise sessions.

8. Perform physical exercises at least 3 times a week on non-consecutive days(23), possibly achieving 5 times a week in physically active individuals.

9. Attention to sanitary issues of hand hygiene, equipment, environment and other parts of the body, before and after the exercise session is required.

10. Perform physical exercises in environments with good ventilation and own equipment for individual use, seeking exposure to the sun whenever possible(13,25-27).

11. The PLWH can exercise avoiding crowds, at locations where the sanitary authorities permit, respecting the social distancing and following hygiene protocols. Outdoor physical activities, avoiding crowding, can be good alternatives for PLWH.

### **Conclusion**

In summary, we would like to highlight the importance of PLWH, to

remain physically active during the COVID-19 pandemic, maintaining a good level of physical fitness capable of improving the responses of the immune system, while taking special care so the exercises do not promote exaggerated overload and not influence negatively health and quality of life. Thereby, this text provides recommendations to promote safe physical exercise for PLWH.

#### *Conflict of Interest Statement*

There is no conflict of interest regarding this study.

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