

Rapid Communication

Impact of COVID-19 Pandemic on the Health Status and Physical Performance of Amateur Runners: The Experience of the RomaOstia Half Marathon

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Abstract

To date, scientific evidences document the negative impact of COVID-19 on the health status and physical performance of both people in general and athletes. Furthermore, many studies highlight how the impact of SARS-CoV-2 infection does not end with the acute phase - two/three weeks - but the symptoms, first of all fatigue, can persist even for many weeks in what is called the long COVID-19 syndrome. However, we have little evidence regarding the COVID-19 pandemic per se and in particular the impact of lockdown strategies on the health of individuals and non-professional athletes. The aim of the present study was to evaluate the negative impact of COVID-19 pandemic in a group of amateur runners who signed up for the 2021 edition of RomaOstia half marathon.

Keywords: COVID-19; RomaOstia half marathon

Introduction

To date there are only few and fragmented evidences on the impact of the COVID-19 pandemic on the general health status of the world population and, in particular, on the negative impact on healthy lifestyles [1,2]. The aim of the present study was to evaluate the impact of COVID-19 pandemic in a group of amateur runners who signed up for the 2021 edition of RomaOstia half marathon.

Methods and Results

All participants were sent an online questionnaire to assess how much the 20 months of pandemic had changed their weekly training program, health status and quality of life. Of the 5.000 participants in the race, 929 (average age 47.9 ± 9.5 years old; 721 males and 196 females) correctly completed the questionnaire.

Ninety-one subjects (9.9%) reported having COVID-19 (10.7% male and 7.1% female, $p = 0.08$), most of them between October 2020 and April 2021. Only 18 participants (2%) reported not being vaccinated for COVID-19. Nearly a quarter of participants (24.8%) reported not doing regular physical activity training during the past 20 months, and 53.8% significantly reduced exercise training during the lockdown period. In particular, 61.3% prepared the RomaOstia half marathon with a reduced training program compared to the 2019 edition. However, when comparing the responses of participants who have had COVID-19 versus those who have not, there was no significant difference regarding the reduction in training duration and intensity.

Participants were also asked to make a self-assessment about their current health status compared to the pre-pandemic one and the spring 2020 lock-down. Overall, more than a third of participants ($n=334$, 36.7%) reported a worsening of their health status. In particular, the rate of participants with self-assessed worsened health status was higher among subjects who had suffered from COVID-19

than among those who were not infected with SARS-CoV-2 (47% versus 33%, respectively; $p=0.01$).

Finally, the participants were asked if during the months preceding the RomaOstia half marathon they had observed changes in body weight. Surprisingly, nearly a third of the participants ($n = 270$, 29.5%) reported increased body weight, with an average gain of 4.13 ± 2.19 kilograms. As expected, weight gain was greater among participants not suffering from COVID-19 than SARS-COV-2 infected subjects (30.7% versus 18.7%, respectively; $p = 0.01$).

Discussion

The onset of the COVID-19 pandemic challenged the healthy lifestyle of many people, changing and, sometimes, impeding the ability to exercise. For example, in Italy gyms and swimming pools were closed by governmental dispositions for several months and, in some periods, it was also forbidden to run.

It is important to highlight that the results of the present survey revealed that the reduction in training duration and intensity was similar among participants who had had COVID-19 and those who had not. The worst quality of life, the highest sedentary rate and body weight gain observed in this large group of amateur runners demonstrates how these two years of COVID-19 pandemic have had a negative impact on health status, regardless of being infected with SARS-COV-2. Furthermore, if we consider that the population of this study was made of people who usually run to join competitive amateur races - such as the RomaOstia half marathon, it can be hypothesized that the negative impact of the COVID-19 pandemic will be much greater in subjects who were already sedentary.

Finally, many evidences suggest that professional athletes who had recovered from COVID-19 usually resumed their sports at competitive level. Obviously, most COVID-19 survivors are not professional athletes, but a significant rate of them - such as amateur

runners – were doing physical activity on a regular basis before falling ill [3]. Unlike professional athletes, these people general cannot benefit from a dedicated training and medical staff during recovery. We strongly believe that, for those who “struggle” to resume their usual activities and/or are unable to return performing their favorite sport, tailored physical activity and exercise protocols should be implemented [4,5]. The successful story of many professional athletes brings a message of hope: medical counselling and adapted physical activity with exercise training may allow COVID-19 survivors to resume their pre-infection lives and sport activities.

Conclusion

What is already known?

- COVID-19 has a negative impact on the health of athletes.
- SARS-CoV-2 infection can have a long-term impact with the onset of the long COVID-19 syndrome.
- Many countries have limited the possibility of exercising by closing gyms and swimming pools.

What are the new findings?

- Nearly a quarter of participants reported not doing regular physical activity training during COVID-19 pandemic, and more than 50% reduced exercise training during the lockdown period.
- More than a third of participants reported a worsening of their health status and an increased in body weight, with an average gain of 4.13 ± 2.19 kilograms.

- The worst quality of life, the highest sedentary rate and body weight gain demonstrates how these two years of COVID-19 pandemic have had a negative impact on health status, regardless of being infected with SARS-CoV-2.

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References

1. Ding D, Del Pozo Cruz B, Green MA, Bauman AE. Is the COVID-19 lockdown nudging people to be more active: a big data analysis? *Br J Sports Med.* 2020; 54: 1183-1184.
2. Mann RH, Clift BC, Boykoff J, Bekker S. Athletes as community; athletes in community: covid-19, sporting mega-events and athlete health protection. *Br J Sports Med.* 2020; 54: 1071-1072.
3. Wilson MG, Hull JH, Rogers J, Pollock N, Dodd M, Haines J, et al. Cardiorespiratory considerations for return-to-play in elite athletes after COVID-19 infection: a practical guide for sport and exercise medicine physicians. *Br J Sports Med.* 2020; 54: 1157-1161.
4. Barker-Davies RM, O'Sullivan O, Senaratne KPP, Baker P, Cranley M, Dharm-Datta S, et al. The Stanford Hall consensus statement for post-COVID-19 rehabilitation. *Br J Sports.* 2020; 54: 949-959.
5. Hull JH, Wootten M, Moghal M, Heron N, Martin R, Walsted ES, et al. Clinical patterns, recovery time and prolonged impact of COVID-19 illness in international athletes: the UK experience. *Br J Sports Med.* 2021.