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2024 Paris Olympics and Remaining Concerns Regarding COVID-19: Are the Current Protocols Necessary, Effective, and Sufficient?

Farzin Halabchi [1,*], Zahra Ahmadinejad [2], Masud Yunesian [3]

[1] Department of Sports and Exercise Medicine, Imam Khomeini Hospital Complex (IKHC), Tehran University of Medical Sciences, Tehran, Iran
[2] Department of Infectious Disease, Imam Khomeini Complex Hospital, Tehran University of Medical Sciences, Tehran, Iran
[3] Center for Water Quality Research (CWQR), Institute for Environmental Research (IER), Tehran University of Medical Sciences, Tehran, Iran

[*] ***Corresponding Author:*** Department of Sports and Exercise Medicine, Imam Khomeini Hospital Complex (IKHC), Tehran University of Medical Sciences, Tehran, Iran. Email: fhalabchi@tums.ac.ir

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August 5, 2024 - these days, we are witnessing the 2024 Summer Olympics in Paris. Following major annual pilgrimage events in countries such as Saudi Arabia, India, and Iraq, the Summer Olympics appear to be among the largest human gatherings worldwide. It is expected that about 15 million tourists will visit Paris during this 19-day event. The Olympics will include more than 11,000 athletes from over 200 countries. The opening ceremony alone drew around 300,000 spectators. What distinguishes this event from other large gatherings is the presence of sports elites in addition to a large number of ordinary people, and their infection with an infectious disease could adversely affect their sports performance. Therefore, in this article, we focus specifically on athletes.

These Games are considered the first post-pandemic Olympics. Unlike the postponed 2020 Summer Olympics in Tokyo and the 2022 Winter Olympics in Beijing, which were held amid rigorous precautions (with no spectators at the Tokyo Games), there are no strict protocols or restrictions around COVID-19 in Paris. Of course, it is encouraging that the Paris Olympics will be held with the presence of many spectators and without restrictions for the athletes. However, news from Paris indicates some concerns that require special attention and perhaps revision of protocols in future events.

At least 15 athletes have tested positive for COVID-19 after developing symptoms. It should be noted that there is no mandatory COVID screening program for athletes, and only symptomatic athletes were tested voluntarily by the medical teams of some countries. Furthermore, some countries do not publicly share athlete health information. Therefore, it can be estimated that the actual number of infected athletes, whether symptomatic, asymptomatic, or with mild symptoms, might be notably higher.

According to news agencies, the following athletes tested positive during the first week in Paris (Table 1).

Among these athletes, some withdrew from the competitions altogether, some missed at least one of their scheduled events, and others participated despite having symptoms but mentioned that they could not perform at their best due to illness.

In this context, three important questions should be addressed.

Has COVID outbreak occurred in Paris?

It is now generally accepted that we are currently in an endemic phase of COVID-19, and like any other mass gathering events, there exists an increased risk of viral infectious diseases, including COVID-19, in Paris. Such events typically bring together a significant number of individuals in a confined geographic area for a specific duration, often within a densely populated environment (1, 2).

Some expert comments indicate that the number of positive test cases has not yet reached the threshold for a disease outbreak. Another expert view suggests that it

Table 1. Demographic Details of Reported COVID Test-Positive Athletes

No.	Name	Sex	Sport	Nationality
1	Lani Pallister	Female	Swimming	Australia
2	Zac Stubblety-Cook	Male	Swimming	Australia
3	Ella Ramsay	Female	Swimming	Australia
4	Adam Peaty	Male	Swimming	Great Britain
5	Blake Pieroni	Male	Swimming	USA
6	David Johnston	Male	Swimming	USA
7	Luke Whitlock	Male	Swimming	USA
8	Sasha Gatt	Female	Swimming	Malta
9	Vlad Stancu	Male	Swimming	Romania
10	Manuel Eitel	Male	Decathlone	Germany
11 - 15	Five players	Female	Water polo	Australia

is more appropriate to use the term "cluster" instead of "outbreak" in this case (3).

The World Health Organization (WHO) defines a disease outbreak as the occurrence of cases of disease surpassing what would normally be expected in a defined community, geographical area, or season. The frequency of these cases is influenced by the pathogen responsible for the disease, as well as the extent and nature of prior and current exposure to that pathogen (4).

According to this definition, determining the existence of a COVID outbreak requires data that we do not currently have, such as: What is the normally expected level of disease in athletes? Since we do not have any data from previous games for comparison or other epidemiological information regarding the level of exposure and disease occurrence in the various nations participating in the games, no judgment can be made.

Another approach is based on the United States Centers for Disease Control and Prevention (CDC) recommendations. The CDC recommends evaluating the extent of community transmission by utilizing at least two indicators: The number of new COVID-19 cases per 100,000 individuals over the past week and the percentage of positive SARS-CoV-2 diagnostic tests during the same period. The CDC categorizes the transmission levels for each of these indicators as low, moderate, substantial, or high. According to this guideline, if the total new cases per 100,000 people in the past 7 days is lower than 10 cases, or if the percentage of positive tests during the past 7 days is lower than 5%, the transmission value is considered low (5). However, both criteria require a surveillance system that actively tests people and reports the results for comparison.

Based on the first criterion in this definition, with approximately 11,000 participating athletes, 15 new cases in the last 7 days indicate that COVID transmission cannot be assumed to be low during the games. This is especially true considering the potential for significant underestimation due to the lack of a comprehensive surveillance system. Regarding the second criterion, we do not know how many athletes have been tested before or during the games, or whether the previous tests of these 15 athletes were negative. Additionally, since the decision to test symptomatic athletes depends on each country's protocol rather than a unified general protocol, it is unclear whether the level of vigilance among medical staff from different countries is consistent in testing symptomatic athletes. Therefore, we cannot accurately determine the transmission value based on the available data.

Given the limited information about the number of tests performed and the strategies for testing athletes, it seems impossible to confirm or deny the occurrence of an outbreak. However, the presence of 15 positive cases in the Olympic Village should raise concern. The current implication of these data is that more testing should likely be conducted, and this may not be the right time to further relax restrictions (6).

Is the Covid-19 Virus Lurking in the Water Sports of the Paris Olympics?

Another important point is that, out of the 15 reported positive test cases, 14 were found in athletes participating in water sports such as swimming and

water polo. According to the official Olympic website, 852 swimmers and 286 water polo athletes (about 10% of all athletes) will compete in 35 swimming pool events at the Games. Therefore, it is noteworthy that more than 90% of the positive cases are reported in this relatively small fraction of athletes. In other words, if we use the official reports of positive test cases from news agencies as a criterion, 1.23% of athletes in water sports have tested positive compared to 0.01% of athletes in the other 31 Olympic sport disciplines. This represents a statistically significant difference (Fisher's exact test P-value < 0.001).

The cases involving water sports raise the question of whether being in the water with infected athletes increases the risk of transmission or if this is related to other environmental factors such as residence locations, transportation vehicles, or other shared spaces. Early in the COVID-19 pandemic, the CDC advised that pools do not pose a heightened risk of spreading the virus. However, the enclosed spaces that athletes use for swimming, such as locker rooms, showers, and the pool area itself, might enhance transmission due to poor ventilation in those areas (7). More studies are required to answer this question.

Are Current Protocols Sufficient/ Necessary?

In Paris, the fans are back, with virtually none of them wearing masks, and there is no regular testing of athletes. Athletes are generally tested only if they have symptoms such as a persistent cough, fever, sore throat, or if they simply feel unwell. In the event of a positive test, protocols recommend wearing a mask, limiting contacts, and washing hands regularly. Sometimes, symptomatic athletes are moved to a single room to reduce the chance of infecting others and are treated like they would be for any other respiratory illness, such as a cold or the flu. This means there is no rule preventing athletes from training or competing.

Of course, the fact that the Olympics are being held once again with a large number of spectators and without severe restrictions on the competition of athletes, or the need for troublesome and costly measures for participating countries, is a source of joy and encouragement. However, it must be taken into account that the Olympic Games cannot be compared to other large social gatherings, such as carnivals or pilgrimages. Athletes participating in the Olympics spend years preparing for the event, and the countries they represent invest significant time and resources in supporting them. As such, achieving results that reflect the effort put in by the athletes and nations should be as important as ensuring health.

In other words, although athletes who tested positive for COVID have not experienced severe or life-threatening symptoms during the competitions (8), losing a competition or being unable to perform at their best can be very disappointing, and in some cases, career-ending. Therefore, it is recommended to adopt protocols with slightly stricter criteria, including attention to up-to-date vaccination, regular screening and testing for COVID, and establishing minimum standards for residence spaces (e.g., adequate space per person, proper ventilation, etc.) and public transportation for athletes. These measures could help limit the spread of the disease and reduce the number of athletes who experience a decline in performance due to illness.

Finally, a question arises as to whether the consequences of COVID-19 infection for athletes are more frequent or severe than those caused by other infectious diseases (such as other viral respiratory infections or gastrointestinal infections) or non-infectious diseases (such as depression or mood disorders that may arise due to homesickness or changes in environment).

Footnotes

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