A COMPREHENSIVE STUDY OF THE COVID-19 PREVENTIVE MEASURES AT THE TOKYO 2020 AND BEIJING 2022 OLYMPIC GAMES

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Abstract: National and international sports are well recognized in the international Olympic movement. The Summer and Winter Olympic and Paralympic Games are the major global sporting events, uniting the entire world together for world peace. Managing the health and safety of athletes at these top sporting events is an important task. During the outbreak of the COVID-19 pandemic, sound organisational policies and effective preventive measures to protect athletes from infection at the Olympic Games were essential. Currently, there is not much information on the spread of COVID-19 infection in sports events and the effectiveness of preventive measures. The present study analyses the preventive measures for COVID-19 at Tokyo 2020 Summer Olympics and the Beijing 2022 Winter Olympics. The study is based on the official documents of the International Olympic Committee and the International Paralympic Committee. It compares the COVID-19 spread and preventive measures taken by the organisers at the Tokyo 2020 Summer Olympic Games and the Beijing 2022 Winter Olympic Games.

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Introduction

The outbreak of COVID-19 in 2019 has not only impacted human health globally, but it was also the social, cultural, and, most importantly, economic crisis. In future, this period will require a detailed analysis of the impact of COVID-19 on the world economy, the health of the world population, and country-specific responses to the pandemic and the response of international organisations, especially in the area of the freedom of the population to make decisions about their health and their future in general. This confusing situation in the governance of states has also been reflected in the human development sector, including sports. The impact on the sport is not just restricted to recreational sports but also amateur and professional sports at regional, national, and international levels. Similarly, it has also affected the national and international Olympic movements.

Tokyo 2020 Summer Olympic Games were postponed until 2021 due to the COVID-19 pandemic but were held symbolically under the original name of Tokyo 2020. After the postponement, the Tokyo 2020 Summer Olympic Games were held from July 23 to August 8, 2021. The decision to postpone the Olympic Games was received very positively by both the national Olympic movement and the world, as the Olympic Games are not just a sports event celebrating youth but are also an important peace-making event in the global society (Siekel et al., 2021).

In 1940, the Olympic Games in Tokyo were cancelled due to the ongoing World War II. For this reason alone, the decision to postpone and not cancel the Tokyo Olympics was globally considered right. Another reason for postponing the Olympic Games for a year was its positive effect on the minds of people worldwide, instilling hope of overcoming the COVID-19 crisis.

The Beijing 2022 Winter Olympics Games were held as per the schedule in the capital of China from the 4th to 20th February 2022. The International Olympic Committee and the International Paralympic Committee, together with the organisers, have prepared a set of measures to ensure the successful conduct of the Beijing 2022 Olympic Games.

The paper aims to analyse health protection measures at the Tokyo 2020 Summer Olympic Games and the Beijing 2022 Winter Olympic Games. The sub-objectives of the paper are to compare the spread of COVID-19 at both Olympic events and to compare the implementation of preventive measures by the organisers, the International Olympic Committee, and the International Paralympic Committee.

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The study is based on a hypothesis that, there is insufficient information on COVID-19 spread and effectiveness of the preventive measures at both the Olympics events. Therefore, this paper creates a database to be used for comparative purposes.

The research problem of the study is to compare the preventive measures and the policies at the Tokyo 2020 Summer Olympic Games and the Beijing 2022 Winter Olympic Games and to analyse the changes in the preventive measures and policies in the Beijing 2022 and Tokyo 2020 Olympic Games, and to interpret these changes.

Administrative Measures prior to the Beijing 2022 Olympic Games

Thomas Bach, the president of the International Olympic Committee (IOC), briefed the international Olympic Movement on the preventive measures for COVID-19 spread at the Beijing 2022 Olympic Winter Games. The main preventive measures included safety measures to prevent COVID-19 spread among the participants and from the external environment surrounding the Olympic Games venue. A detailed manual on the code of conduct during the Olympic Games was provided to all the participants.

"I am pleased to announce that we will have the special vaccination programme at the Winter Olympics that worked so effectively during the Tokyo Games," said Thomas Bach. "This means that we will once again support our stakeholders by making vaccines available to all Olympic participants before Beijing in accordance with national regulations" (The Slovak Olympic Committee, 2021).

To ensure sufficient vaccine supply for the participants, the Chinese organiser of the Olympics games offered to supply Chinese vaccines to the International Olympic Committee. The International Olympic Committee had contracted with vaccine manufacturers BioNTech and Pfizer to ensure a sufficient supply of the vaccines to the National Olympic Committee prior to the Tokyo Summer Olympics.

"I would like to assure you that we are working with our Chinese partners and friends to make these Winter Olympics safe for all. Just as we did in Tokyo, we are putting in place rigorous measures against COVID-19 to ensure the health and safety of all Olympic participants in Beijing," said Thomas Bach (The Slovak Olympic Committee, 2021).

Athletes' participation in the Beijing Winter Olympics was not contingent on their vaccination against COVID-19. However, unvaccinated athletes had to undergo a three-weeks quarantine. The organising committee also counted on spectators at the sports venues, but not foreigners.

COVID-19 Spread and Preventive Measures at the Beijing 2022 Olympic Winter Games

The first case of the omicron variant was identified among Olympic team members at the Beijing 2022 Olympic Winter Games venue on the 16th of January, three weeks before the Games began. Ten days later, on the 26th of January, organisers identified further nine cases of the omicron variant among members of the Olympic teams.

On the 2nd of February, two days before the opening ceremony, 232 people tested positive for COVID-19 at the Winter Olympics venue. Half of the cases were already identified at the airport, significantly mitigating the COVID-19 spread at the Beijing Olympic venue.

According to Brian McCloskey, Medical Director, the International Olympic Committee, there were no plans to determine the maximum number of infections that would result in the cancellation of the Winter Olympics, He was quoted as saying "We are following indications of cases that could be linked to each other, so far we have not discovered such a case within the Olympic bubble ahead of the upcoming Winter Olympics" (Slovak Press Agency, 2022).

On the 18th of February 2022, the evaluation of the Winter Olympic Games took place in Beijing with the participation of the President of the International Olympic Movement, Thomas Bach, and the Chinese organisers. During the Winter Olympics, more than 67,000 participants were tested for COVID-19 in the winter Olympic bubbles, of which 436 were positive including, 265 athletes and 171 staff members (Slovak Olympic and Sports Committee, 2022).

All published preventive measures against COVID-19 spread were observed by the organisers' staff with the assistance of the police. All volunteers were in protective suits. The buses were disinfected on their departure from the airport, and the luggage on arrival outside the hotel.

While entering the hotel, the body temperature of the arriving participants was checked, and they were not allowed to leave the room until their negative test report was received from the airport. In additiona, as a part

of the preventive measures, participants were required to take two PCR tests, register on a mobile app and fill out two extensive electronic forms before flying to a Winter Olympic Games venue.

Winter Olympic Games participants, athletes, volunteers, media, and other delegation members stayed in a closed system where they were allowed to move between venues using designated transport. Everyone in this system was tested daily. However, athletes were allowed to move freely within this bubble than they were during the Tokyo Olympics.

Any movement outside the hotel was prohibited. A bus or an approved taxi service was available at the hotel, and there were restriction barriers to prevent outsiders from contacting the Olympic participants.

If a participant was not fully vaccinated against COVID-19 on arrival in Beijing, he or she would have to undergo a 21-day quarantine before being allowed to enter the Olympic bubble. However, athletes who provided a substantiated medical certificate stating the medical reason for not getting vaccinated could request to exempt from the quarantine.

All non-residents were required to undergo a three-week quarantine upon arrival before being allowed to travel within China. Due to this preventive measure, international sports federations cancelled many planned sporting events in China.

Some national Olympic committees have made vaccinations compulsory for the participating members in Beijing. The International Olympic Committee confirmed that no interested parties would be allowed to send guests and accompanying groups to China. There are yet no known restrictions on journalists and television staff. The IOC also acknowledged the disappointment of the spectators and partners from around the world that they could not visit the venue, but these rules ensured the safety of the games.

Final Handbooks on the code of conduct were published in less than two months until the start of the Beijing 2022 Olympic Winter Games and three months until the Beijing 2022 Paralympic Winter Games. These handbooks served as the foundation for the Games' plan to ensure the health and safety of all the participants and the people of China, during the Games. The handbook was jointly prepared by the organisers, the International Olympic Committee, and the International Paralympic Committee in close cooperation with the Chinese government and relevant authorities.

The principles and preventive measures of COVID-19 were based on the extensive work carried out by an international working group in collaboration with scientific experts and organisations from around the world. Build on the experience of international federations and sports organisers, these measures helped in conducting large-scale events successfully according to the needs of the athletes.

A vaccination policy, a "closed loop" management system and daily testing are among the key preventive measures against the COVID-19 spread to ensure that the Games are organised successfully and safely. The number of participants depends on meeting the sports limits ensuring participation in the Olympic Games.

All participants in the Games followed the instructions given in the handbook as the successful conduct of these games depended upon how responsibly the participants followed the instructions given in the handbook.

Practical Measures in the Beijing 2022 and Tokyo 2020 Olympic Games

For the first time in the history of the Olympic Games, the International Olympic Committee, in cooperation with the organisers, has prepared a rulebook called The Playbook outlining the measures and principles for the athletes and the accompanying members for the Tokyo 2020 Summer Olympic Games. Based on these rules, revised rules were prepared for Beijing 2022 Olympic Winter Games. The measures were binding guidelines for participants on their behaviour at the Olympic Games venue to prevent the spread of COVID-19.

The International Olympic Committee, in collaboration with the organisers identified the following most important anti-pandemic measures in The Playbook for the participants in the Tokyo 2020 Summer Olympic Games:

- All participants must present two COVID-19 test reports, one before departure and another upon arrival in Japan..
- Daily COVID-19 testing of athletes and participants was done to prevent the risk of COVID spread.
- In principle, all participants must only perform activities submitted in their activity plan.
- In principle, all participants must use only the designated vehicles for the games, not public transport.
- All Games participants must eat only at the permitted venues with COVID-19 precautions.

- Close contacts are defined as those who, within one meter distance without wearing a face mask, have prolonged personal contact (lasting 15 minutes or more) with a person who has tested positive for COVID-19.

The International Olympic Committee, in collaboration with the organisers, has identified the following key anti-pandemic measures in the Playbook for the participants of the Beijing Olympics 2022:

- All the participants were required to stay in a "closed loop" system called the Olympic bubble. They were not allowed to go outside these bubbles.
- Daily COVID-19 testing of all the participants.
- In addition, all the participants were required to present two negative PCR tests upon arrival.
- Members who tested positive for COVID-19 had to undergo a 10-day quarantine in the accommodation area.
- A negative RT PCR test was required to end the 10-day quarantine.
- People could end the quarantine earlier if they had two negative tests within 24 hours and are tested twice a day for the next seven days.
- Close contacts are those who have prolonged contact (for 15 minutes or more) with a person who has tested positive test for COVID-19 while being within one meter to such a person without wearing a mask (KN95, N95, FFP2, or a recognized equivalent standard of protection in your country/region of residence).

The comparison of the COVID-19 preventive measures in the Beijing 2022 Winter Olympics and the Tokyo 2020 Summer Olympics shows that the Beijing 2022 measures were based on the Tokyo 2020 measures with some detailed supplemented measures.

The participants were also required to use a mobile app developed for the Olympic games to monitor the COVID-19 spread. Furthermore, each participating country was required to nominate their COVID-19 Liasion Officer to supervise the implementation of anti-pandemic measures as per the Playbook by the participants and to coordinate security processes during departure and their stay at these multi-sport events.

In contrast to the Tokyo 2020 Summer Olympic Games, the Beijing 2022 Winter Olympic Games were held in a closed-loop system in which participants were not allowed to go outside the bubble and meet Chinese nationals except the organisers. The arrangements for the Beijing 2022 Winter Olympics provide for the possibility that participants who tested positive may end quarantine early if they have two negative tests within 24 hours and are tested twice a day for the next seven days. The measures also regulate the wearing of the mask more precisely.

The COVID-19 preventive measures at Tokyo 2020 Olympics and Beijing 2022 Olympics were similar in terms of the reqirement for daily testing of the participants, almost same regarding the movement of participants in the Olympics and identification of close contacts of a COVID-19 infected person.

As demonstrated, the preventive measures for COVID-19 have successfully helped to mitigate the COVID-19 spread.

Health Protection Principles at the Tokyo 2020 and Beijing 2022 Olympic Games

For the safety of the Participants in Tokyo 2020 and Beijing 2022 Olympic Games, different Playbooks on the safety guidelines were prepared to create a safe environment at the Olympic Games. At the same time, an extra layer of protection was provided to the Japanese and Chinese hosts. All Olympic participants were expected to fully comply with the policies throughout their stay for the games in Japan and Beijing by keeping their interactions with local service personnel to a minimum.

The Playbook for the Beijing 2022 Winter Olympic Games included the following principles (International Olympic Committee, 2021, 2):

- Vaccination: Only the fully vaccinated participants at least 14 days before their departure to China were allowed in the closed loop system (see pages 9-10) without any quarantine.
- Closed Loop: Under the closed-loop virus free bubbles were created for the athletes and the participants. Under the closed-loop, everybody was subject to daily health monitoring and testing to be able to move between permitted destinations.
- COVID-19 Liaison Officers: Each participating country in the Olympic Games nominated their respective COVID-19 Liaison Officers (CLOs to implement the guidelines in the Playbook.

- Testing, Tracking, and Isolation: Test, Track, and Isolate were the main principles of COVID-19 preventive measures at the Olympic Games. All the participants were tested upon their arrival in Beijing at Capital International Airport in China.
- Minimise physical interaction: As per the protocol, it was important to be fully vaccinated, maintain minimum physical interaction, wear a mask, avoid enclosed and crowded areas, or close contacts, and minimum physical interactions.
- Hygiene: Always wearing a face was a must as per the World Health Organization (WHO) guidelines.

The Playbook for the Tokyo 2020 Summer Olympics includes the following principles (International Olympic Committee, 2021, 1):

- Wearing a Mask: Always wearing a face mask was mandatory, except when eating, drinking, sleeping, training, or competing, to ensure the safety of the games.
- Minimise Physical Interaction: Participants were required to minimize their physical interactions. The risk of COVID-19 increases in crowded, poorly ventilated areas if someone spends time near an infected person. Therefore, it was important to minimise social interaction, wearing a mask, and avoiding enclosed, crowded areas and close contact.
- Test, Trace and Isolate: To stop the virus spread, it was necessary to break the chain of human-to-human transmission. Therefore, it was critical to identify COVID-19 infected patients as early as possible through testing, tracking their close contacts, and isolating them to stop further spread.
- Hygiene: COVID-19 virus can be found on the surface of things for everyday use; anyone can become infected just by touching these. Therefore, good hygiene must be practiced by regularly washing hands, disinfecting surfaces, avoiding touching face, or always wearing face masks.

A comparison of the principles for Beijing 2022 and the Tokyo 2020 Olympic Games reveals that the preventive measures for Beijing 2022 were developed from the principles of Tokyo 2020 Olympic Games. The principles for Tokyo 2020 have been supplemented and further refined for Beijing 2020. All four principles for the Tokyo 2020 Olympic Games were a part of the Beijing 2022 Olympic Games, with the addition that the rule of always wearing a mask became a part of the hygiene principle.

The additional principles in Beijing 2022 Winter Olympic Games included vaccination, closed-loop, and COVID-19 liaison officers. All these principles addressed the new requirements for the safety of the participants that have evolved with the COVID-19.

The vaccination principle considered the diversity of practices in eliminating the spread of COVID-19 from country to country. The closed-loop principle helped limit the participants contact with the outside public and eliminated the risk of COVID-19 infection among Olympic Games participants. The COVID-19 liaison officers helped to inform the Olympic Games participants of the Playbook guidelines to protect them from COVID-19 infection, from their preparations in their home country to participating in the Olympic Games.

Organisers and the International Olympic Committee have also addressed new findings on the adverse effects of vaccines on athletes ahead of the Beijing 2022 Winter Olympics. Keeping in view the side effects, certain exemptions were made for the vaccinations of athletes wishing to participate in the Beijing 2022 Winter Olympics. As this issue was not part of the official documents of the Tokyo 2020 Summer Olympics, its inclusion in the Playbook for Beijing 2022 Winter Olympics can be considered significant. However, neither such exemptions nor the side effects of vaccines on athletes at the Beijing 2022 Winter Olympic Games are known.

According to the Playbook for the Beijing 2022 Winter Olympics, exemptions from the requirement for quarantine for up to 21 days may be granted to athletes and team officials on a case-by-case basis, based on medical reasons. Reactions after the first dose are grounds for exemption from subsequent doses. The detailed criteria for medical exemption were established by a joint panel of medical experts nominated by the Beijing 2022 Winter Olympic Games organisers, the International Olympic Committee, and the International Paralympic Committee. These criteria include the following (International Olympic Committee, 2021, 2):

- Severe allergic reaction or anaphylaxis to a component of the COVID-19 vaccine.
- Myocarditis or pericarditis following mRNA vaccine.
- Covid19 vaccine; if reactions occur after the first dose, participants were exempted from the subsequent doses.
- Serious adverse event after immunization (e.g., results in hospitalization).

- Thrombosis with thrombocytopenia syndrome (TTS)/vaccine-induced immune thrombosis.
- Thrombocytopenia (VITT) following COVID-19 vaccine.
- Pregnant women from a country where vaccination during pregnancy or the postpartum period is not allowed.
- Use of any immunosuppressive agents.
- Vaccinations are not available for a specific age-group in a state or region of residence.

Conclusion

In this study of COVID-19 preventive measures implemented at the Tokyo 2020 Olympic Games and Beijing 2022 Olympic Games, the official documents of the organisers, the International Olympic Committee, and the International Paralympic Committee were analysed. The paper also documents the evolution of COVID-19 at the Beijing 2022 Winter Olympic Games.

While comparing the preventive measures and policies at Tokyo 2020 and Beijing 2022 Olympic Games, it became apparent that there was insufficient information the extent of COVID-19 spread and on the effectiveness of the preventive measures taken at the games. The organisers and the International Olympic Committee have also dealt with the new findings on the adverse effects of vaccines on athletes ahead of the Beijing 2022 Winter Olympic Games. However, statistical data on this issue was practically unavailable.

The comprehensive study on the COVID-19 preventive measures and policies at Tokyo 2020 and Beijing 2022 Olympics can serve as the basis for future studies.

It highlights the importance of this issue and the need for further research in the field of sport at the national and international levels. Athletes perform at the limits of their physical strength when competing in sport and protecting their health is therefore paramount.

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