

# **Detailing Health and Safety measures during the organization of a major international sporting event in Eastern India: an observational review**

## Abstract

Sports have been long neglected in our country both in terms of excelling in any sport and hosting events. Even if the country hosts, usually the opportunity goes to the capital city or other metros. Covid 19 pandemic had further compounded the stalemate over the last two years due to evidence against crowd events. But, Odisha state has taken everyone by surprise by hosting the World cup men's hockey and the study is a basic observational showcase of health-related safety measures that were ascertained during the matches. The event not only let 3 cities in the state namely Bhubaneswar, Rourkela, and Cuttack get a makeover in terms of tourist destinations but also a fast track check was done on the safety preparations within the stadium. Tool used was a self-devised pre-tested checklist as per Event management standards and the results were that almost international standards were adhered to in terms of crowd management for parking, entry points, sitting arrangements, water, and toilets. Covid appropriate behavior was disregarded due to zero case reporting for over a year. Public was also satisfied with the preparedness and there was a renewed enthusiasm for sports for all age groups, which was a welcome sight after the restricted activity during Covid. The state has taken baby steps towards establishing itself on the Global map as a city that could take up Global sporting events effortlessly. It has added advantage of propagating the rich heritage and culture of the state as well as promoting sports among the public.

## Introduction:

A mass gathering is defined by WHO as a planned or spontaneous event that gathers substantial numbers of attendees who might strain the health planning and response capacities of the host community, city, or country.[1] Mass gatherings can pose significant public health challenges related to the health of attendees, of the host country population and a burden on their health services. In most countries, such

gatherings are confronted during the hosting of popular games/ sports, which far exceed any other conglomeration. Covid-19 turmoil has made it mandatory for sports to set the foundation of a new era responsible for upkeeping the safety of the natural disease disabling environment.

The COVID-19 pandemic in 2020 caused unprecedented disruption to the global economy and world trade, with production and consumption falling dramatically in many economies. Organizations around the world responded in many ways, from implementing working from home and restricting non-essential employee travel to cancelling events.[1] In light of the threat on the health and safety of all people in South Africa, the City of Cape Town took the decision to revoke all permits for previously approved events (African News Agency, 2020. [2] Similar restrictions were imposed for almost all the major sporting events of the world. Participants in mass gathering events were perceived to be at risk of acquiring imported and locally endemic infectious diseases, and with the fear still lurking, it has now become a mandate for the organizers to strategize for preparedness for health safety.[3]

In India, with the steep decline in the number of COVID-19 cases and stepwise reopening post-lockdown, with the added benefit of robust mass vaccination; events warranting gatherings and large transits are getting conditional permission. It is also a brisk response to revive the economical and social (reclusive) damage conferred by the pandemic. The local bodies as well as the central and regional governments are proactively preparing standard operative modules as per the local needs for the events but at par with international standards[4]. Depending on the present National guidelines, a safe and evidence-based gradual resumption of training and sports was deemed essential, something which was neglected before[5]. Importance of hand hygiene, cough and sneeze etiquette, social distancing, use of mask while not exercising hard, other good public hygiene practices, staying home if sick, frequent cleaning and disinfection of frequently touched surfaces, early detection, isolation and adequate treatment for the positive cases and strictly following government guidelines are now compulsory (6).

Odisha, once considered one of the most backward states of the country, has in recent days made great progress in all fields including sports[7]. Development of world class stadiums with a special focus on hockey and football has been a key areas of focus of the Government of Odisha. Odisha in the recent past hosted the 2018 Hockey Men's World Cup followed by Khelo India-University Games in 2019. In 2021-22 Odisha hosted the FIFA Women's Under-17Football World Cup in the state capital of Bhubaneswar. Thus, post pandemic too Odisha, continued to be the forerunner to host the Hockey Men's World Cup 2022-23 for the second time on a much grander scale than the previous edition, in its cities of Bhubaneswar and Rourkela. Apart from the main sporting event, the inaugural of the event has been held in yet another prominent destination, Cuttack. Seizing an opportunity to arrange for one of the largest sporting events hosted in India, post-pandemic restrictions, all eyes were on the state once known for its dismal developmental parameters.

The current article essays an observational summary of the preparedness in the stadiums of Bhubaneswar, Rourkela, and Cuttack in the event of the hockey matches and the administrative pre and post-preparations, even in the eye of another wave of the pandemic. The descriptives also would detail the adherence of the crowd, staffs and management authorities of the event to the various health and safety protocols.

## Materials & Method:

### Setting and Population

Observational survey was conducted between January 13 2023 to January 29<sup>th</sup> 2023. World cup hockey took place in two cities of Odisha-Bhubaneswar and Rourkela and the inaugural was held in Cuttack. Three Stadiums Kalinga stadium, Bhubaneswar and Birsa Munda stadium, Rourkela and Barabati Stadium Cuttack were the study areas. Being a complete public event, with no intervention planned, ethical clearance was waived off. Public health specialists were a part of the organizing team invited to view the matches and augment the morale of both crowd and players.

### Outcome Measures

The present study examined the level of awareness, preparedness toward prevention of COVID-19, Emergency response, rescue services, arrangements for the hockey and the cleanliness and hygiene of stadium.

A short opinion from the different stakeholders of the event from players to authorities and audience was also collected.

### Study Tool

A self-designed structured checklist was developed based on the standard operating protocols set by the State health and sports authorities [8].The checklist had sections that offered insight into the preparedness during the world cup hockey matches[9]. Sections on crowd management, security, parking areas, cleanliness and hygiene in the stadium, IEC material on the awareness and covid appropriate behavior in the stadium, Emergency response, rescue services were noted in all 3 stadiums, where the games were held. A team of researchers visited on the day of starting, mid, and close to final matches to document the survey information, which was done only on observation.

A small section of the audience was asked a self-reported questionnaire. The first part of the questionnaire was designed to obtain background information, including demographic characteristics (age, gender, level of educational, and occupation). The second part of the survey consisted of questions that address awareness concerning COVID-19 (a reliable source of information on the opinion and perception towards the arrangements of the hockey stadium population).

### Data Collection and Analysis

Data were collected using a convenient sampling method and analysed in the department of Community Medicine of the medical college.

## Results & Discussions:

### General Preparedness of Stadium:

Table 1 shows the general observations at Kalinga Stadium Bhubaneswar, Birsa Munda Stadium Rourkela and Barabati Stadium, Cuttack.

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| <b>Table 1: Observation of facilities at the hockey match venues</b> |
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| Assessment Criteria  | Kalinga Stadium | Birsa Munda Stadium | Barabati Stadium (Only for inauguration day) |
|--|-----------------|---------------------|--|
| <b>A. Crowd Management</b>                                       |                 |                     |  |
| Stadium Established  | 2010            | 2022                | 1958   |
| Stadium Capacity   | 16,000          | 21,000              | 45,000                                       |
| Expected footfall  | 18,000          | 25,000              | 30,000                                       |
| No. of Gate  | 09              | 09                  | 15   |
| Separate entry and Exit Gates                                    | Yes             | Yes                 | Yes  |
| Average No. people entering through each gate in 5 mins          | 140-150         | 160-180             | 80-100                                       |
| Queue barricades present   | No              | No                  | Yes  |
| <b>B.COVID Appropriate Behaviours</b>                            |                 |                     |  |
| Is it mandated to use mask                                       | No              | No                  | No   |
| Sanitisers present in entrance/exit                              | Yes             | Yes                 | No   |
| Awareness IEC for Covid-19 appropriate behaviours through Boards | No              | No                  | <b>Yes</b>                                   |
| Social Distance being maintained in entry and exit points        | No              | No                  | No   |
| Social Distance being maintained in seated areas                 | No              | No                  | No   |
| Pan/Tobacoo spit marks present                                   | No              | No                  | <b>Yes</b>                                   |
| Do people maintain hygienic etiquettes while coughing            | No              | No                  | No   |
| Dustbins properly placed at ample distances                      | No              | <b>Yes</b>          | No   |
| Sale of Food items inside stadium                                | Yes             | Yes                 | No   |
| Litters seen in Stadium  | No              | No                  | <b>Yes</b>                                   |
| Separate drinking and washing area                               | No              | <b>Yes</b>          | No   |

The three stadiums are some of the best facilities in Odisha with all modern amenities. As evident from the table, Hockey world cup 2023 is the first event which is being organized with no compulsory covid restrictions but still some were practiced in the newly built Birsa Munda Stadium at Rourkela, which is the world's largest sitting capacity stadium for hockey, wherein the infrastructure is modern and contemporary. There is better management of water and hygiene in Rourkela than in the other two venues. This area needs reinforcement as it could offer a chance for spread of infections. The stadiums had ample gates for separate entry and exit ensuring that no point of time there was congestion in crowd

movement, which is the main concern of any large-scale event. After a match sanitization of the crowd area was also reported and that should be made a practice for all sporting events.

Table 2 depicts the security and parking facilities at the venues. Adequate security personnel from Odisha Police were deployed inside and outside the stadium. There were adequate arrangements for disaster management. Mock drills were practiced before every match in Bhubaneswar and also before the inauguration in Cuttack. In Rourkela, though facilities were available there was not many mock drills, due to its distance from the capital. Special provisions for media vehicles and journalists were made in the stadiums with separate annexures for their sitting and movement. The parking areas of Rourkela and Cuttack were atleast 1.5km away from the main stadium gate however in Kalinga Stadium the parking area is just 500m away from the stadium gates. This also is a way of decongesting the crowd and giving space for walking and moving out of the stadium. The lack of alarm system and bomb squad speak of the relatively peaceful ambience of the state, with law and order in proper place, however should be looked into in future.

| <b>Assessment Criteria</b>   | <b>Kalinga Stadium</b>          | <b>Birsa Munda Stadium</b> | <b>Barabati Stadium</b> |
|--|---------------------------------|----------------------------|-------------------------|
| Type of Security   | Odisha Police+ Private security | Odisha Police              | Odisha Police           |
| Covid Vaccination of security personnel's                          | Yes                             | Yes                        | Yes                     |
| Fire extinguisher and exit(functional and updated)                 | Yes                             | Yes                        | Yes                     |
| No.of Fire Brigades  | 5                               | 3                          | 2                       |
| <b>Alarm system available</b>                                      | <b>No</b>                       | <b>No</b>                  | <b>Yes</b>              |
| <b>Bomb Squad</b>  | <b>No</b>                       | <b>No</b>                  | <b>No</b>               |
| Special provision for controlling of hooglism and unruly behaviour | Yes                             | Yes                        | Yes                     |
| Parking Areas  | 03                              | 03                         | 05                      |
| Parking Area distance from entry gate(in Kms)                      | 0.5                             | 02                         | 1.5                     |

Table 3 depicts the health care facilities in the stadium. For the match officials and players the official hospital partner of the event had made arrangements near the player dugouts. For others the first aid centres were available in both Kalinga Stadium and Birsa Munda Stadium. There were mobile medical unit attached to only in Kalinga Stadium. The medical personals from the nearby government hospitals were available. In Cuttack, since only the inauguration ceremony was only being held so there was not many medical facility arrangement there.

| <b>Assessment criteria</b> | <b>Kalinga Stadium</b> | <b>Birsa Munda Stadium</b> | <b>Barabati Stadium</b> |
|----------------------------|------------------------|----------------------------|-------------------------|
|                            |                        |                            |                         |

|                            |                                   |                                       |         |
|----------------------------|-----------------------------------|---------------------------------------|---------|
| First Aid centre available | Yes                               | Yes                                   | No      |
| Mobile Medical Unit        | Yes                               | No                                    | Yes     |
| Ambulance Facility         | Yes                               | Yes                                   | Yes     |
| Nearby Referral Hospital   | Capital Hospital, Apollo Hospital | IGH hospital, Hi-tech Medical College | SCB MCH |
| Wheel Chair Facility       | Yes                               | No                                    | Yes     |

### Practice of the General Public:

A small representative population of the audience who came to see the match were asked few questions related to their personal preparedness for attending the function. Figure 1 depicts the adherence to Covid appropriate behaviours of the supporters. Women and children were in near equal proportions, which highlights the generalized increase in interest in sports in our country, which decade back was considered a choice of men and few elite women. All age groups were spotted among the attendees, but 20-40 years were more common. Seats arrangements were made for people of all socio-economic strata and hence all attendees were satisfied with the availability of tickets. Outside stadium and within 10km aerial LED television sets on high stands also offered a good view of the matches, for those who would want to avail the opportunity besides live telecast of matches over various television channels. Excitement of children was palpable as after a long time they could view a live event on ground and wanted desperately to break free of the forced pandemic home bound times. Along with the euphoria, a newly imbibed discipline of mask, maintaining cleanliness, hand etiquette was also observed among all age groups. However, washroom hygiene and rampant throwing of rubbish could not be controlled adequately.

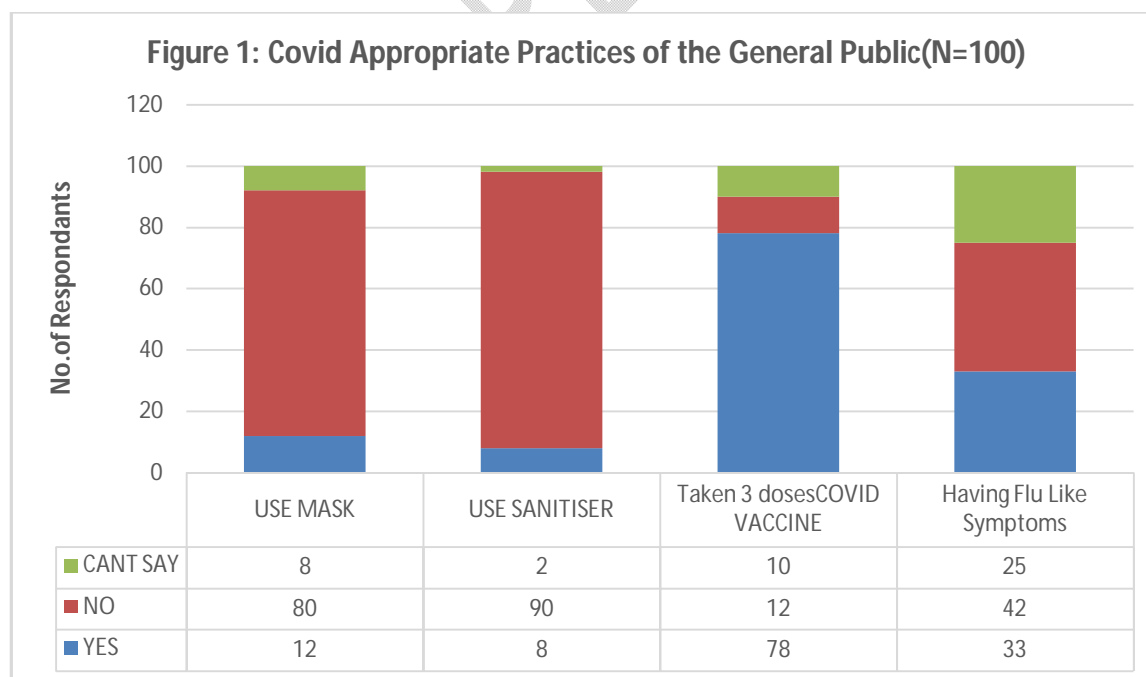
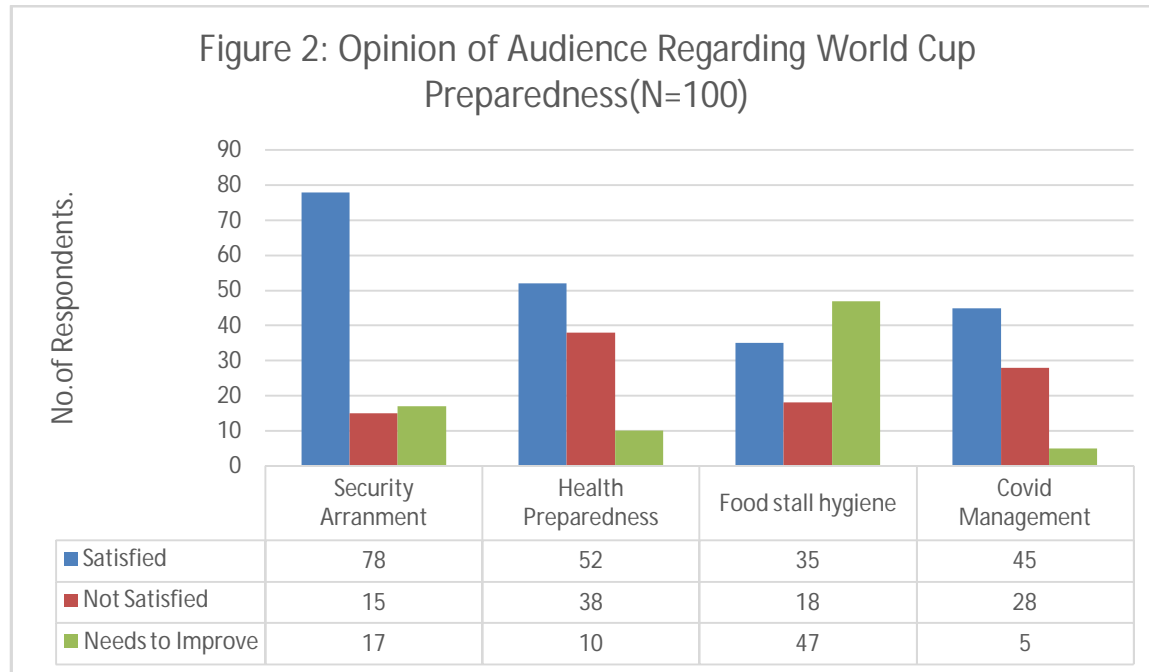


Figure 2 shows that most of the visitors who visited the stadiums were satisfied with the safety and security, crowd management and health preparedness facilities at the stadiums



Sporting events held during the COVID-19 pandemic in the professional leagues, international federations and the summer and winter Olympic Games. For example, at the Tokyo Olympic Games, impactful countermeasures included (1) physical distancing, hand hygiene, mask wearing and enhanced room ventilation; (2) rigorous testing, contact tracing and isolating of positive cases and (3) a worldwide vaccination distribution programme for National Olympic Committees showed good results in containing the spread of COVID-19 with almost less covid positive cases[10]. Odisha was almost the first state in India to have opened up for hosting of sports events as early as June 2020 and since then the state government and the sports authorities in particular have hosted many events under strict guidelines[11]. State achieved the remarkable feat of hosting this event for the second time in a row which itself speaks of the states preparedness to host such mass events.[12]. In the long run, it seeks to give a fillip to international sports tourism by attracting more international tourists to attend sporting events (there has been a rise of both domestic and international tourists during sporting events)[12].

Studies(Murray et.al 2022) suggests that outdoor sports carried a lower risk of transmission of SARS-CoV-2 due to physical distancing and ventilation than indoor games thus outdoor sporting events were re-introduced at the earliest in many parts of the globe[13]. Countries (eg, New Zealand and Australia) that had eliminated the virus or had lower community transmission of cases could sometimes introduce full or >50% spectators' capacity ahead of widespread vaccine roll-out. With global vaccine roll-out, countries were able to move towards full audience capacity, despite high community transmission, as evidenced by the English Events Research Programme.

### Conclusion and Recommendation:

Professional sport provides cultural, economic and employment benefits. Outdoor training present a low or in 'bubble environments' with robust risk assessment and risk reduction and with no, or very limited, spectators on-site. Domestic events did not increase transmission while very low case rates and transmission were seen in international sports, including the delayed 2020 Tokyo Summer Olympic and 2022 Beijing Winter Olympic Games [14]. But in all these events regular testing was a mandatory thing during the post lockdown phase.

Limitations were that the international and national players could not be interviewed for their satisfaction, it having special ethical requisites and being beyond the scope the fast track study. Geo mapping of hotels, hospitality and health centers to seek information on comforts of travel and tourism encouraged due to the event could not be explored. Foreigners were only 10% of the attendees, which expresses the need to upgrade our standards of care to global standards, holistically to attract foreign visitors. However, all cities hosting the event revamped their look in terms of roads, cleanliness and civic amenities and thus such events have a public health reach too.

Collaboration between governments, their public health authorities and sports organizations have successfully allowed sports events to recommence, using guidance based on the best available science and practical considerations[15]. The pandemic distanced people who now want to come back to regular lives, but exercising caution that has been learnt the hard way. Once in limelight for wrong reasons, now state of Odisha steals the limelight to showcase maiden efforts and is showing the way of reversing Covid damage with conviction. It has set the stage for renaissance of sports especially Hockey, which is the National sports of the country, by recreating the love for the sports in the public, preparing its stadiums to host the biggest event in this sports World cup hockey and also by pulling it off with a touch of the spirit of Nationalism and sportsmanship. This article is dedicated to showcase the big efforts of this small state, which has rekindled the love for a sport, which had been ebbd over the times by choosing other commercial sporting events. It is recommended that if such events are tagged with infectious diseases serosurveillance mapping, we would also have some knowledge about the circulating infection strains in the community and also being newly introduced by visitors.

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