Organising football matches with spectators during the COVID-19 pandemic: What can we learn from the Amir Cup Football Final of Qatar 2020? A call for action

AUTHORS: Ismail Dergaa[1], Amit Varma[1], Montassar Tabben[2], Rubena Ali Malik[1], Sanaulla Sheik[1], Sakthikumar Vedasalam[1], Ahmed Khellil Abbassi[3], Jassim Almulla[4,5], Mokhtar Chaabane[2], Karim Chamari[2]

[1] PHCC, Primary Health Care Corporation, Doha, Qatar
[2] Aspetar, Orthopaedic and Sports Medicine Hospital, FIFA Medical Centre of Excellence, Doha, Qatar
[3] QSL, Qatar Stars League, Doha, Qatar
[4] QFA, Qatar Football Association, Doha, Qatar
[5] HBKU, Hamad Bin Khalifa University, Doha, Qatar

ABSTRACT: The COVID-19 pandemic is a potential threat to professional sporting events when they eventually return to their usual calendar with spectators' capacity of football stadiums usually exceeding 40,000 seats for important events. Hence, a strategy for safe return to sporting events is needed in the COVID-19 pandemic to pave the way towards a new normalcy. We reviewed the guidelines and policies implemented in organising the Amir Cup Football Final of Qatar, which hosted about 20,000 fans. The authors evaluated the publicly available information on the official websites of the various organizations involved and highlight the importance and usefulness of the Covid-19 Rapid Antigen Assay-Kit as a tool for screening sports spectators as well as the importance of a rigorous spectator pathway, including their accurate traceability thanks to a specific mobile phone application. Despite the surging of COVID-19 all over the world, a big football event with around 20,000 spectators in the same stadium has been hosted under strongly controlled preventative measures. These preventative measures show that it is possible to organize a major football match held outdoors, with the presence of thousands of supporters. This article is a call for action for the organisers of such events where the supporters' health status is traceable to provide the scientific community with actual data of post-event infection rates. Therefore, it is suggested to consider using procedures like the ones described in the present article as a potential model in the process of organizing big sporting events with spectators in times of COVID-19.

CITATION: Dergaa I, Varma A, Tabben M et al. Organising football matches with spectators during the COVID-19 pandemic: What can we learn from the Amir Cup Football Final of Qatar 2020? A call for action. Biol Sport. 2021;38(4):677–681.

Received: 2021-01-19; Reviewed: 2021-02-04; Re-submitted: 2021-02-08; Accepted: 2021-02-08; Published: 2021-02-28.

Corresponding author:
Ismail Dergaa
PHCC Primary Health Care Corporation, Doha, Qatar
E-mail: phd.dergaa@gmail.com

ORCID:
Ismail Dergaa
0000-0001-8091-1856

Amit Varma
0000-0002-2757-5264

Montassar Tabben
0000-0002-2152-9427

Sakthikumar Vedasalam
0000-0002-2146-7270

Ahmed Khellil Abbassi
0000-0001-8119-8706

Jassim Almulla
0000-0002-5506-0671

Karim Chamari
0000-0001-9178-7678

Key words:
Public health
RT-PCR
Soccer
Sports events
Sports management

INTRODUCTION

With over 95 million people infected with COVID-19 globally and more than 2 million deaths since the beginning of the pandemic [1], the World Health Organization (WHO) has recommended the implementation of public health measures, such as isolation of all individuals suspected of infection with this disease for a 14-day quarantine period, amongst others. Many governments have also introduced "social distancing" and "lock-downs" of varying stringency of entire populations to mitigate the spread of COVID-19 [2, 3].

Accordingly, the COVID-19 pandemic has triggered the first worldwide disruption to the sporting calendar with the majority of sporting events coming to a standstill or being played behind closed doors (i.e. without spectators) [3–6]. For instance, the Tokyo Summer Olympics and Paralympics 2020 have been rescheduled for July 2021 [7] and the Union of European Football Associations (UEFA) has also postponed its 2020 Champions League matches as a preventive measure to avoid the spread of the virus amongst the players due to some professional players being tested positive [8].

Rescheduling events without clear dates foreshadows a period of financial uncertainty for sports [9]. The priority for society is to control the COVID-19 pandemic and this includes sporting clubs and organizing bodies to abide by the regulations from health authorities. Clubs generate revenue from four main sources which are league revenue, advertising, broadcasting [9, 10] and ticket sales [11]. Consequently, due to the COVID-19 pandemic rules ensuring that games are played behind closed doors many clubs have undergone a degree of financial burden through revenue losses [12]. Additionally, athletes are likely exposed to some level of detraining as a consequence of insufficient and inappropriate training stimuli which may result in impaired performance and increased injury risk [3].

Hence, a strategy for safe return to large sporting events with a structured level of phased re-opening based on a structured screening policy for spectators is needed. This would enable sporting events to be conducted as per the pre-COVID-19 times i.e. in a safe environment, hopefully without post-event COVID-19 infection.

This study aims to describe the preventative procedures used by the local federation (QFA) and Ministry of health (MoPH) (Qatar) to organize the Amir Cup Football Final 2020 with about 20,000 spectators attending the event. This is an important milestone in the world of sporting events organization during the COVID-19 pandemic and might inspire other organizational bodies. This paper is also a call for action to sports events' organizers worldwide to anonymously publish the health status of the spectators before and after the events.

MATERIALS AND METHODS

The event

In this study we present a strategy for screening spectators through the SARS-CoV-2 Rapid Antigen Test based on the experience of the 2020 Amir Cup Football Final Qatar will be hosting future major sporting events in the Middle East, having won the bids to host the FIFA World Cup 2022 and most recently the Asian Games 2030 and is continuously trying to improve organization in preparation for these important events (e.g. the organization in November and December 2020 of the Asian Football Confederation (AFC) champion's leagues qualifying tournaments of West and East Asia first, and then the final of the AFC Champions League).

On Qatar National Day (18th December 2020), Ahmed Bin Ali Stadium (one of the venues of the next FIFA World Cup 2022) opened its doors for its inaugural match to host the biggest football competition in the country (Amir Cup Football Final). Many infection prevention precautions were instituted by the organisers to prevent the spread of COVID-19 during the event. The event hosted around twenty thousand spectators within the stadium, which has a capacity of 40,000 people. This has been considered as the first such initiative to host such a large number of spectators, in a country which has still not yet been declared COVID-19-free. Being one of the countries with the highest infection rated per million population at the beginning of the pandemic (the infection rate reached a peak of 1.27% on 27 May 2020 with about 35,634 active cases for a population of 2,807,805), on 18 December 2020 the infection rate dropped to about 0.07% (2090 positive active cases amongst the whole population) [1].

Data collection

The authors evaluated the publicly available information on the official websites of the various organizations involved in the organisation of the event such as the QFA (Qatar Football Association) and the MoPH (Ministry of Public Health).

DISCUSSION

For spectators to return to large events, organisers 'must accept' that risk assessments should be undertaken while appraising (i) local transmission rates, (ii) community spread and (iii) the demography of spectators and athletes [13]. Accordingly, measures must be implemented so the benefits of the event outweigh the risks as sporting events and mass crowds can potentially increase the risk of COVID-19 transmission.

In the UK for instance, the government paused the planned reintroduction of spectators on the 22nd of September 2020 while resumption was due to commence from the 1st of October 2020 on. This decision was made in response to the broader COVID-19 restrictions in the UK after numerous clubs had already staged pilot events with about 2,000 spectators [10]. However, because of the changes in the situation with COVID-19, sporting bodies were instructed by the UK Department of Culture, Media and Sport (DCMS) that spectators would not be allowed into stadiums until March 2021 at the earliest [10]. Hence, the financial burden through revenue losses was going to last around 3 months extra or even longer, depending on the way COVID-19 progressed.

In this context, a tried and tested policy during the COVID-19 pandemic becomes of paramount importance before deciding to open doors to spectators. Therefore, we below describe Qatar's experience of hosting the Amir Cup Football Final 2020 and the implementation of preventive measures to limit the spread of the virus amongst spectators. The event was successfully held, hosting 20,000 spectators in the same outdoor stadium, based on the implementation of two main procedures described below. Other sporting organisations might be inspired by these procedures to get back to normalcy allowing fans to enjoy games safely. Nevertheless, as stated below, the scientific community requires data of the pre- and post-match health status to guide the organization of future events.

The screening test (Rapid Antigen Assay Kit)

Despite its high specificity and sensitivity the RT-PCR test [14–16], which has been considered the gold standard testing method during 2020 during the COVID-19 pandemic, comes at a substantial burden of time (8 hours on average from swabbing to results) and laboratory effort for the testing process itself, in addition to the relatively high cost.

Therefore, alternative assays such as point of care rapid antigen detection tests which can also detect the presence of the virus directly in respiratory samples [17–20] have been developed [16] and tested by various companies with a sensitivity ranging between 88.2 and 89.6% [21]. The test used in Qatar before the event was a Rapid Antigen Assay Kit [22] with a sensitivity of 96.52% and specificity of 99.68%, which pretty much matches that of the gold standard RT-PCR tests, but with a huge added advantage of the results being available within 15–30 minutes after swabbing depending on the number of spectators being swabbed at a certain time point, or the delay in entering the result in the system to notify the person by SMS (being the procedure to inform the tested people). It also comes at a lower cost (5 US dollars compared to an average price of 100 US dollars per RT-PCR kit excluding the laboratory

analysis charges) and allows for mass screening with less health care workers' involvement.

In a short time, the MoPH teams in liaison with the QFA and Supreme Committee for Delivery and Legacy planned the organisation of testing for the spectators who wished to attend the 2020 Amir Cup Football Final.

The spectators' pathway

All fans who intended to attend the final had to present either a negative COVID-19 test or a positive COVID-19 antibody test [23] prior to being allowed into the stadium. There were temporary testing hubs set up within the football clubs as well as in an adjoining conference centre in Doha, which were all opened 72 hours prior to the event for SARS-CoV-2 Rapid Antigen Test testing. A team of doctors, nurses, and lab technicians who were re-allocated from their health centre workplaces to the testing hubs conducted the tests for the spectators while wearing full personal protective equipment and strictly followed infection prevention and control guidelines as recommended by the WHO [24].

The website set up for spectators to buy tickets had very clear written information regarding the process of getting the tickets [25]. Spectators bought a voucher online, which they were instructed to bring along to the testing sites, where they had their rapid antigen tests done and waited for 15–30 minutes for the results to be released, which was relayed to them via SMS in their mobile phones. People with a negative result were then instructed to present the message and voucher in the adjoining ticketing hall, where they were given their tickets for the match. The tickets had the spectator Qatar ID (QID) number and name printed on, making them non-transferable. Spectators who had been previously infected by COVID-19 were requested to have an antibody test (blood test) done in the same location and followed a similar process. The spectators' pathway is represented in details in Figure 1.

If a spectator tested positive, they were immediately isolated and transferred to the nearest COVID-19 health centre to repeat the COVID-19 test by the RT-PCR method to confirm their result, following which they would follow the isolation protocols and guidelines implemented by the MoPH in Qatar [24].

Additionally, standard precautionary methods were followed at the stadium: (i) having a green status (COVID negative) in the geo-localisation tracking app (Ehteraz) [24], (ii) temperature checks with social distancing measures at every checkpoint at the stadium before entering the stages, (iii) mandatory wearing of a mask at all times, (iv) fans seated on alternate seats.

The match was played, and the event was held without any major issue observed, setting a milestone for the sporting organizing bodies to look up to. This is considered as a first experience of its kind which creates a new hope for large scale sporting events to be held across the globe during the current COVID-19 pandemic, provided implementation of the recommended preventative measures to be put in place. It thus creates new hope for sports organisations, fans and stakeholders for a faster return to normality for such events. This comes in addition to the positive findings concerning the safety of playing football in times of the pandemic when appropriate preventative measures are taken, despite the high infection rates at the level of the country [26]. Indeed, Schumacher et al. [26] reported that the Qatar major football leagues (League 1 and 2) were resumed during the COVID-19 pandemic with no evidence of transmission of COVID-19 from player to player within training or match playing. Obviously, this was obtained within a strict protocol of prevention implemented by the QFA, QSL (Qatar Stars League), MoPH and Aspetar (Orthopaedic and Sports Medicine Hospital, Doha, Qatar). Nevertheless, the conclusions of the present article should only be interpreted with regard to outdoor venues such as in football matches. More data are needed for other outdoor events and obviously indoor events should be experimented.

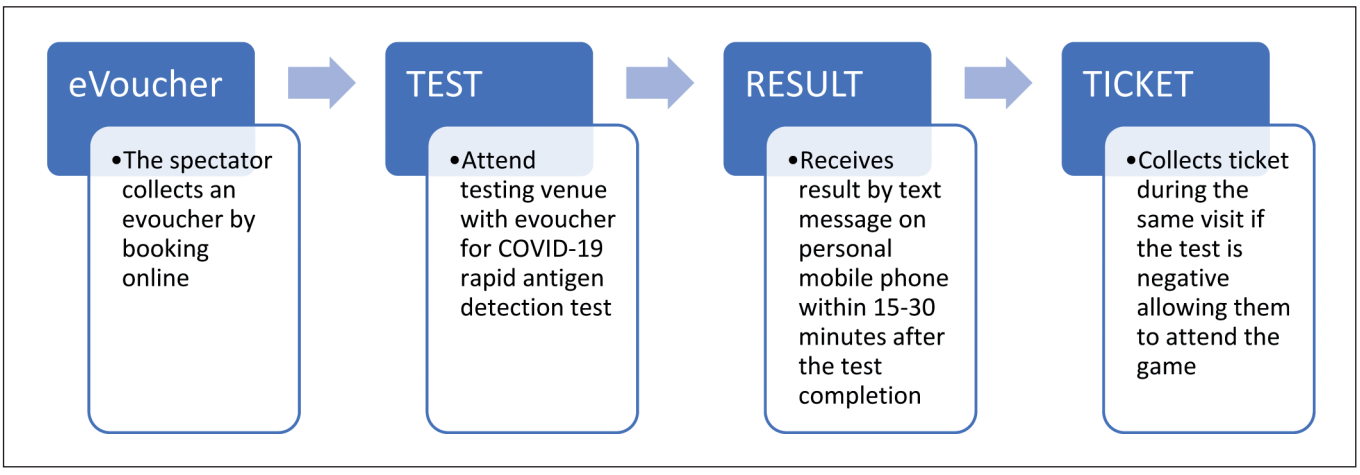

FIG. 1. The spectators' pathway.

Post-event infection

We considered analysing the publicly available data of the daily positive patients before and after the event, but two major social events prevented us from doing so and potentially drawing conclusions on accurate results (Christmas and the New Year celebrations that occurred one and two weeks after the match). Based on the publicly available data, we cannot conclude whether there have been spectators missed by the screening protocol, if there were no post-game infections, or if some infections did actually occur.

The health status of the spectator who assisted the match was tracked by a specific application, but the authors of the present manuscript did not have access to the data.

Therefore, this is a call for action for the organisers of such events where the supporter's health state is traceable, to provide scientific evidence with actual data of post-event infection rate status. In this context, at the date of completing the present manuscript, over 114 different COVID-19 specific applications have been implemented by different countries around the world, of which over 64 applications have been developed by government agencies [27]. The authors of the present paper are hoping to see soon such data being released to the scientific community and the world's sports organising bodies. A replying action could benefit the sport organisations to understand how safe it is in organising such big sport events during the COVID-19 pandemic especially as two major events are to be organized in the coming 2 years: the Tokyo Olympic Games hosting 11,090 Olympic athletes and 4400 Paralympic athletes as well as the FIFA World Cup 2022, which are considered as the two biggest sport events. The COVID-19 pandemic is far from an end, which makes an effective and successful screening protocol as well as a rigorous spectator pathway mandatory in hosting big sports events during this pandemic, even within a hopefully relatively safe environment with the upcoming vaccination campaigns that are taking place in early 2021 [28]. As an example of a call for action and replying action, Eirale et al. [29] recently launched a call for action in sport injury and illness epidemiology of professional football, with a recent publication that followed 4 years later by Tabben et al. [30]. As such, if the weakness of the present manuscript is that it does not present any individual data about the post-match health status of the spectators, it has the advantage of calling for action, with, we hope, other researchers replying by publishing data to enlighten the scientific community.

CONCLUSIONS

At present times, as long as the global vaccine policies are set and become effective in reaching a global pandemic-free situation, and considering the advantages in terms of time as well as cost saving in human resources, the authors suggest that comparative studies of SARS-CoV-2 Rapid Antigen Test efficacies are tested within sporting organisations and implemented in similar ways as an alternative to the current nasal and oropharyngeal RT-PCR testing kits.

It is suggested to consider doing rapid antigen tests, approximately 48 hours prior to the sporting events. A potentially positive spectator, who might have acquired the infection post-testing would perhaps be infective to other spectators after day 2 or 3 days of acquiring the infection and therefore even if he or she has slipped the net, the other spectators might still be relatively safe as the positive spectator might not be infective yet [31, 32].

Even for players, the authors suggest the implementation of rapid antigen testing 24 hours prior to the start of the match in addition to keeping the players in their own secure bubble to prevent them from getting infected; this might be more efficient than the RT-PCR tests, which are usually conducted 48–72 hours prior to the game with the results arriving 24 hours before the game so again with a potential risk of 24 hours prior to the game to get infected. We suggest that the rapid antigen test should be done before the last training prior to the game and in the case of a suspected positive case it should be confirmed by PCR. The advantage of the antigen rapid test is less logistics needed, lower cost and better accuracy regarding the contamination risk prior to the game, i.e. 24 hours only compared to 48–72 hours where there is a risk for players to still acquire an infection after the test.

It is also paramount to continue community awareness regarding infection control and prevention measures as well as strengthening surveillance systems and mobilising all available sectors early during a pandemic.

Ethical committee approval

We consulted an institutional review board (IRB) to get ethical committee approval to write this manuscript, which indicated that approval was not needed since it is a retrospective study using information publicly available in the governmental official websites of QFA and the MoPH.

Acknowledgements

The authors appreciate and acknowledge the efficient and safe organisation of the event by QFA, QSL, MoPH, Supreme Committee for Delivery and Legacy and the Primary Health Care Corporation (PHCC).

Declaration of interest statement

The authors declare no direct conflict of interest. Nevertheless, the following authors declare their current work status with the organizations that have been mentioned in the body of the article:
Jassim Al Mulla – employee of the QFA which organized the event. Dr. Ismail Dergaa, Dr. Amit Varma, Dr. Rubena Ali Malik, Dr. Sanaulla Sheik and Dr. Sakthikumar Vadasalam – employees of PHCC which is under the MoPH which participated in the organisation of the event.

REFERENCES

1. Worldometer COVID-19 coronavirus pandemic. Available at: https://www.worldometers.info/coronavirus/. Accessed January 18, 2021.
2. Trabelsi K, Ammar A, Masmoudi L et al. Globally altered sleep patterns and physical activity levels by confinement in 5056 individuals: ECLB COVID-19 international online survey. Biol Sport. 2021;38(4):495–506.
3. Yousfi N, Bragazzi NL, Briki W et al. The COVID-19 pandemic: how to maintain a healthy immune system during the lockdown – a multidisciplinary approach with special focus on athletes. Biol Sport. 2020;37(3):211–216.
4. Bisciotti GN, Cristiano Eirale, Alessandro Corsini et al. Return to football training and competition after lockdown caused by the COVID-19 pandemic: medical recommendations. Biol Sport. 2020;37(3):313–319.
5. Eirale C, Bisciotti G, Corsini A et al. Medical recommendations for home-confined footballers' training during the COVID-19 pandemic: from evidence to practical application. Biol Sport. 2020;37(2):203–207.
6. Dergaa I, Varma A, Mohammed AR. COVID-19: Return to Sporting Activities. Int. J. Sport Exerc. Health Res. 2020;4(2):43-43. Doi: doi.org/10.31254/sportmed.4201
7. International Olympic Committee. Joint statement from the international olympic committee and the Tokyo 2020 organising committee. Available at: https://olympics.com/ioc/news/statements. Accessed January 18, 2021.
8. Wong AY, Ling SK, Louie LH et al. Impact of the COVID-19 pandemic on sports and exercise. Asia Pac J Sports Med Arthrosc Rehabil Technol. 2020;22:39-44. Doi: 10.1016/j.asmart.2020.07.006
9. Bond AJ, Cockayne D, Ludvigsen JA et al. COVID-19: the return of football fans. Manag. Sport Leis. 2020;2:1-1. Doi: 10.1080/23750472.2020.1841449
10. Plumley DJ, Wilson R, Shibli S. A holistic performance assessment of English Premier League football clubs 1992-2013. J. Appl. Sport Manag. 2017;9(1). Doi: 10.18666/JASM-2017-V9-I1-7353
11. Plumley D, Wilson R, Ramchandani G. Towards a model for measuring holistic performance of professional Football clubs. Soccer Soc. 2017;18(1):16-29. Doi: 10.1080/14660970.2014.980737
12. Hjelström T. Accounting and Sports. In Managing Sports Teams. 2021;237-260. Doi: doi.org/10.1007/978-3-030-56495-7_13
13. Mulcahey MK, Gianakos AL, Mercurio A, Rodeo S, Sutton KM. Sports Medicine Considerations During the COVID-19 Pandemic. Am J Sports Med. 2021 Feb;49(2):512-521. doi: 10.1177/0363546520975186.
14. Mohammed AR. Should All Patients Having Planned Procedures or Surgeries Be Tested for COVID-19. American Journal of Surgery and Clinical Case Reports. 2020;2(2):1-3. Doi: 10.47829/AJSCCR.2020.2203
15. Van Kasteren PB, Van der Veer B, Van den Brink S et al. Comparison of seven commercial RT-PCR diagnostic kits for COVID-19. J Clin Virol. 2020;128:104412. Doi: 10.1016/j.jcv.2020.104412
16. FIND. SARS-CoV-2 Diagnostic Pipeline.
17. Porte L, et al. Evaluation of a novel antigen-based rapid detection test for the diagnosis of SARS-CoV-2 in respiratory samples. Int J Infect Dis. 2020;99:328-333. Doi: 10.1016/j.ijid.2020.05.098
18. Nagura-Ikeda M, Imai K, Tabata S et al. Clinical Evaluation of Self-Collected Saliva by Quantitative Reverse Transcription-PCR (RT-qPCR), Direct RT-qPCR, Reverse Transcription-Loop-Mediated Isothermal Amplification, and a Rapid Antigen Test to Diagnose COVID-19. J Clin Microbiol. 2020;58(9):e01438-20. Doi: 10.1128/JCM.01438-20
19. Hirotsu Y, Maejima M, Shibusawa M et al. Comparison of automated SARS-CoV-2 antigen test for COVID-19 infection with quantitative RT-PCR using 313 nasopharyngeal swabs, including from seven serially followed patients. Int J Infect Dis. 2020;99:397-402. Doi: 10.1016/j.ijid.2020.08.029
20. Lindner AK, Nikolai O, Kausch F et al. Head-to-head comparison of SARS-CoV-2 antigen-detecting rapid test with self-collected anterior nasal swab versus professional-collected nasopharyngeal swab. Eur Respir J . 2020. (In press). Doi: 10.1101/2020.10.26.20219600
21. Toptan T, Eckermann L, Pfeiffer AE et al. Evaluation of a SARS-CoV-2 rapid antigen test: potential to help reduce community spread? J Clin Virol. 2020;135:104713. Doi: 10.1016/j.jcv.2020.104713
22. https://www.gulf-times.com/story/674789/Pre-flight-testing-to-launch-in-Qatar-this-month
23. https://www.qatar2022.qa/en/news/key-information-for-fans-attending-the-amir-cup-final-2020-at-al-rayyan-venue
24. Varma A, Dergaa I, Ashkanani M, Musa S, Zidan M. Analysis of Qatar's successful public health policy in dealing with the Covid-19 pandemic. Int J Med Rev Case Rep. 2021;5(2):6-11. Doi: 10.5455/IJMRCR.covid-19-qatar
25. https://tickets.qfa.qa/qfa/showNews.tml?changeLanguageTo=en&idNews=36&tkhrq=5a8d18ff-cb63-4b30-a5a9-8e99d4e21d5d&tkhrp=6fa9f409-959a-43ef-b9f7-ee93bd96f9cd&tkhrts=16101&tkhrc=tickethour&tkhre=ticketsqfa&tkhrrt=Safetynet&tkhrh=5b1a135c9b1db48501fb48e3134fb4b1
26. Schumacher YO, Tabben M, Hassoun K et al. Resuming professional football during the Covid-19 pandemic in a country with high infection rates. Br. J. Sports Med. 2021;0:1–7. Doi: 10.1136/bjsports-2020-103724
27. Collado-Borrell R, Escudero-Vilaplana V, Villanueva-Bueno C, Herranz-Alonso A, Sanjurjo-Saez M. Features and Functionalities of Smartphone Apps Related to COVID-19: Systematic Search in App Stores and Content Analysis. J Med Internet Res. 2020;22(8):e20334. Doi: 10.2196/20334
28. Hull J, Schwellnus M, Pyne D, Shah A. COVID-19 vaccination in athletes: ready, set, go… Lancet Respir Med. 2021. (online first). Doi: doi.org/10.1016/S2213-2600(21)00082-5
29. Eirale C, Gillogly S, Singh G, Chamari K. Injury and illness epidemiology in soccer – effects of global geographical differences – a call for standardized and consistent research studies. Biol Sport. 2017;34(3):249-254.
30. Tabben M, Eirale C, Singh G, Al-Kuwari A, Ekstrand J, Chalabi H, Bahr R, Chamari K. Injury and illness epidemiology in professional Asian football: lower general incidence and burden but higher ACL and hamstring injury burden compared with Europe. Br. J. Sports Med. 2021. (online first). Doi: 10.1136/ bjsports-2020-102945
31. Lei S, Jiang F, Su W, Chen C, Chen J, Mei W, Zhan LY, Jia Y, Zhang L, Liu D, Xia ZY, Xia Z. Clinical characteristics and outcomes of patients undergoing surgeries during the incubation period of COVID-19 infection. EClinicalMedicine. 2020;21:100331. Doi: 10.1016/j.eclinm.2020.100331
32. Huang L, Zhang X, Zhang X, Wei Z, Zhang L, Xu J, Liang P, Xu Y, Zhang C, Xu A. Rapid asymptomatic transmission of COVID-19 during the incubation period demonstrating strong infectivity in a cluster of youngsters aged 16-23 years outside Wuhan and characteristics of young patients with COVID-19: A prospective contact-tracing study. J Infect. 2020;80(6):1-13. Doi: 10.1016/j.jinf.2020.03.006