


Perspective

The Hajj pilgrimage during the COVID-19 pandemic in 2020: event hosting without the mass gathering

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Submitted 21 September 2020; Revised 26 September 2020; Accepted 30 September 2020

Key words: Hajj 2020, COVID-19, Saudi Arabia, mass gathering, pandemic mitigation

Introduction

Controversies abound on the role of religion on health and societies.¹ Collective religious rituals are deeply ingrained in peoples' belief systems, and sustaining them is largely beneficial to the well-being of health and economies of respective societies. By contrast, disruptions to such activities cause community and individual anxieties and geopolitical ramifications. With rising numbers of people participating in such rituals, the commensurate manageable and unpredictable global health security risks, such as the coronavirus disease (COVID-19) pandemic, require an altered course, suspension or cancellations.

Since the Kingdom of Saudi Arabia (KSA) was founded in 1932, Hajj has never been cancelled. Hajj was held during the 2009 pH1N1 and 2013 Middle East respiratory syndrome (shortly, MERS) crisis with advisories for people at high risk to voluntarily abstain, and during the successive Ebola outbreaks that excluded pilgrims from affected countries through visa restrictions.^{2,3}

Examples of religious congregations that resulted in seeding or surging of domestic and international COVID-19 outbreaks include events in Daegu, South Korea; Qom, Iran; Albany, Georgia; Arkansas, USA; and Mulhouse, France. Three major adverse outcomes of hosting international mass gatherings, such as the Hajj during a pandemic, are identified. First, the risk of transmissions to the host population through importations, leading to exacerbation of ongoing outbreaks and compromising the event. Second, that of exportation via returning pilgrims to their home countries and en route transmission to non-pilgrims

and subsequently to their home countries. Third, risk to the transportation and service industry personnel serving the mass gathering across many countries.^{2,3}

COVID-19-related modifications of Hajj 2020 from mass gathering to an event

All the above three challenges are mitigated by hosting the 2020 Hajj by assuring full compliance with known COVID-19 mitigation concepts.⁴ The two critical modifications to Hajj 2020 contributed to its success.

First was the avoidance of air transport and international pilgrims and required no flight-related interventions. This was done by the canceling of international Hajj visa issuance to pilgrims who travel to KSA exclusively for Hajj from over 180 countries based on a quota system matching the population of those countries. Instead, Hajj pilgrims were pre-selected from current KSA residents of other countries matching a quota system used to approve visas for the visitors from other countries. This strategy assured that there would not be a Hajj-attributable importation or exportation of COVID-19 cases to and from KSA.

Second was the restriction of the total number of pilgrims to <0.02% (1000 pilgrims) of the usual estimated 3.5 million (includes documented pilgrims with required approvals for both domestic and international pilgrims and whose entry to the Mecca area is controlled through check points, and permanent residents of Mecca who participate in the rituals and do not require a permit to perform the rituals) that afforded more than recommended physical distancing in the most potential crowding



Figure 1. A socially distanced circumambulation of the Kaaba during Hajj 2020 in the shadow of the coronavirus pandemic.

areas of rituals. This was achieved through a quota system routinely applied to Hajj pilgrimage based on the population of Muslims in each country. The modification this year was the consideration of only persons who were already residing in KSA.

The comprehensive set of meticulously enforced non-pharmaceutical interventions,⁴ testing and triaging strategy was aimed at achieving a near-total COVID-19 outbreak control (Supplementary Material S1).⁵ This included home visits by health care staff to the selected persons' household, comorbidity screening, severe acute respiratory syndrome coronavirus 2 testing, electronically monitored quarantine, periodic symptom monitoring and health care personnel escorted transportation from home to Mecca, and that continued during their entire duration of stay, rituals and returning home.

Disease mitigation during religious rituals

During unrestricted Hajj, the pilgrim density reaches six persons per square metre at the key ritual sites. This year, with the 1000 pilgrims and supporting health, security and volunteer staff, human density in the two major ritual venues, namely the Grand Mosque in Mecca [336 800 m² (88.2 acres)] and Mina (20 km²), created what the Ministry of Health calls 'the safety bubble' for each person in the venue as prerequisites for zero transmission of COVID-19. The main mosque, which normally holds 820 000 pilgrims at a given time, with its central open courtyard of 27 000 m² surrounding the Kaaba, offered 27 m² of space to each of the 1000 pilgrims if they congregate at the same time (Figure 1). Public health, security, site management, maintenance staff and prayer leaders serving the venues were subjected to similar measures. Special service providers, including barbers and butchers of sacrificial animals, were subjected to more frequent COVID-19 screening and symptom monitoring.

Outcome

Till the final fifth day of the Hajj, no pilgrims were withdrawn from the rituals for suspected COVID-19 symptoms.⁶ At the end of the 14th day of the incubation cycle of mandatory quarantine post-Hajj, no COVID-19 positive tests were observed among the 1000 pilgrims. None of the pilgrims departed the country within the post-Hajj mandatory quarantine time frame and, therefore,

there has not been any Hajj-attributable COVID-19 transmission outside KSA.

Conclusions

How to accommodate religious events considered essential amid physical distancing requirements of COVID-19 challenges public opinion, politics and public health?^{7,8} The science-driven steering of the 2020 Hajj with vastly reduced pilgrim numbers allowing for full compliance of the mitigation strategies avoided the cancellation of the event. Pandemic relevant modifications helped honor the deeply religious sentiments of an estimated 1.8 billion global population of Muslims and sets the precedence for future events.

The Saudi authorities were fortunate to have rapidly emerging natural history data gleaned over the past 6 months from multiple COVID-19 transmission studies to arrive at a comprehensive set of mitigation measures. Given the COVID-19 situation in KSA, which is currently placed 14th globally with over 277 278 total cases,⁹ and that two-thirds of the pilgrims would normally originate from the resource-poor countries where COVID-19 cases are not abating, allowing the numbers of pilgrims as in previous years would have likely risked exacerbating outbreaks within KSA and back in the returning pilgrims' countries.

The World Health Organization has lauded the nation's health efforts, transparency in the selection process and a powerful demonstration of the preventive measures.¹⁰ The Hajj 2020 illustrates that while total cancellation of highly sensitive religious events that appeal to huge population groups may not be feasible, it is still possible to host restricted and managed events and fulfil the wishes of relevant constituencies without compromising public health. At times of unrelenting pandemics, such symbolic gestures may help boost emotional well-being of such populations. Many more COVID-19 outbreaks and cases could be averted if religious and political leaders consider public and global good when making decisions about honouring religious events of high significance to huge population groups amid ongoing pandemics.

Supplementary data

Supplementary data are available at *JTM* online.

Acknowledgements

S.H.E. and Z.M. conceived the idea, Z.M. and S.A.A. provided data. S.H.E. and Y.A. wrote the draft and received comments from all authors and developed the final draft. All authors approved the final draft.

Conflict of interest

None declared.

Funding

None declared.

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