

Editorial Comment: Journal of Travel Medicine

Title: The Kumbh Mela religious mass gathering in India: reducing risks for crowd-surge associated deaths and crush injuries

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Highlight (49 words)

Deaths and injuries due to crowd surges are increasingly reported from mass gathering events worldwide. The 2025 Kumbh Mela religious pilgrimage is expected to attract approximately 100 million pilgrims from across India, Asia, and other continents. Reducing risk of crowd surges at the Kumbh Mela remains a crucial public health preparedness priority.

Editorial

Mass gathering religious events attract large crowds, placing significant pressure on the public health services of the host country.^{1,2} These events require considerable preparedness and response capabilities to safeguard the health of attendees, organizers, and local populations. Prevention and protection from a range of communicable and noncommunicable hazards, including mass casualty incidents, are critical. On 2 July 2024, a crowd surge occurred in India at a Hindu religious event, the Satsang, held in the Hathras District of Uttar Pradesh, resulting in the deaths of at least 121 people and hospitalization of 150 others due to crush injuries.³

Over the past 3 decades, deaths and injuries due to crowd surges have been increasingly reported from other recurrent mass gathering religious events held across the world such as the Hajj (Saudi Arabia), Arba'een (Iraq), Grand Magal of Touba (Senegal), Christmas and Easter Mass (Italy).⁴⁻⁶ The highest number of crowd surge deaths have occurred in two countries that host recurring religious events: the Kumbh Mela in India and the Hajj in Saudi Arabia (Figure 1). Key factors contributing to these tragic incidents include the sheer number of pilgrims and the urgency with which they rush to perform religious rituals.

The recent Satsang tragedy³ comes at a critical time for the Indian government authorities since preparations are already underway for the 2025 Kumbh Mela where an increasing number of pilgrims are expected. The Satsang tragedy illustrates that insufficient progress has been made in preventing crowd surges at religious events since the last major stampede at the 2015 Kumbh Mela (Figure 1). It serves as a stark reminder that several gaps still exist in planning, risk assessments, crowd flow surveillance, surge prevention strategies, and emergency response mechanisms which need to be addressed further in preparation for the 2025 Kumbh Mela.

Crowd surges and stampedes at religious gatherings are a consequence of a complex chain of events. Since impulsive, seemingly irrational human behaviour occurs during periods of intense emotions generated by rush to perform rituals, and any minor disturbance may induce crowd panic,⁶⁻⁸ it is important that closer engagement with community and religious leaders is conducted well in advance of the event. A representative selection of community and religious leaders should be incorporated as members of the event planning committee. They should be proactively engaged and fully involved in the development and dissemination of

educational and public awareness materials related to safety measures, and crowd control and emergency protocols. These leaders should also be involved in recruitment and training of volunteers from local populations to increase more knowledgeable on-ground staff support to enhance crowd compliance with event protocols, and response to public announcements for smoother crowd flow. The volunteers and local staff must be well briefed and trained, with mock exercises, in crowd control techniques and emergency response.

With increasing numbers of pilgrims anticipated at the 2025 Kumbh Mela, crowd control measures need to be enhanced. The existing infrastructures for the Kumbh Mela need to be expanded, upgraded and streamlined for smoother pilgrim flow. Wider, obstruction-free, designated pedestrian pathways with unidirectional flow for performing religious rituals need to be built with well-lit exits, and clearly labelled signs in various dialects. Limited timed access to popular bathing spots needs to be introduced.

Prevention measures for travellers planning to participate in the upcoming Kumbh 2025

For travellers planning to participate in the upcoming Kumbh 2025, it is crucial to adopt comprehensive prevention measures to ensure safety during the event. Travelers should begin by familiarizing themselves with the venue layout, including exits, emergency routes, and gathering points, to facilitate safe navigation, particularly during peak times. It is advisable to avoid the most crowded periods by arriving early or late, minimizing the time spent in densely packed areas. Staying informed by listening to authorities and monitoring crowd behaviour is essential, as is remaining calm and moving in sync with the crowd to avoid accidents. Personal safety measures, such as traveling light, wearing appropriate clothing, and staying hydrated, are also critical. Positioning oneself on the periphery of the crowd, avoiding bottlenecks, and having a pre-identified exit strategy can further enhance safety. Effective communication, both within groups and with local authorities, should be maintained, and travellers should be prepared with basic first aid knowledge and a small first aid kit. Finally, travellers must respect local customs and religious practices, which may influence crowd dynamics, ensuring a safe and culturally sensitive experience at the Kumbh 2025.

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Figure Legend:

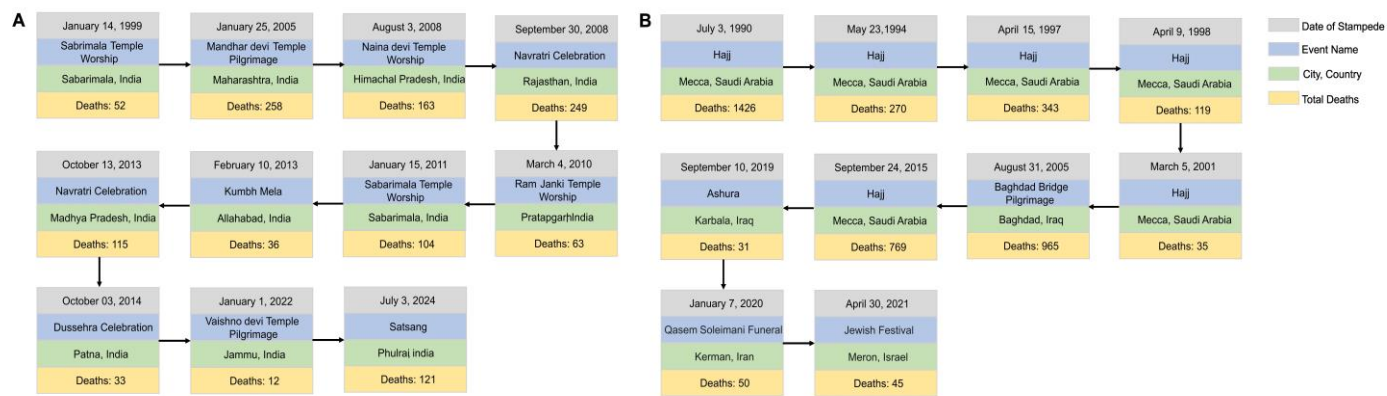


Figure 1: Stampedes and deaths reported at religious mass gatherings events held over the past 25 years in: A) India B) The Middle East (1999-2024)