

Survey of Crowd Crush Disasters and Countermeasures

Soon-Joo Wang MD, PhD

Hallym University, Hwaseong, Korea, Republic of

Introduction: On the night of October 29, 2022, a crowd crush occurred during Halloween festivities in the Itaewon neighborhood of Seoul, Korea. At least 156 people were killed and at least 173 others were injured. In this study, the author tried to learn a lesson by investigating the worldwide crowd crush disaster and analyzing the differences and results.

Method: First, the crowd crush disasters were investigated and summarized through literature and internet searches. Second, based on this, the prevention and management of crowd crush disasters, emergency medical response, and necessary research/development contents were derived through a Delphi survey of experts.

Results: Crowd crush disasters have been experienced from developed countries to developing countries since the 1800s. Commonly the crowd density was high, and the crowds continued to move and then the crowd collapsed above a certain limit. The biggest casualty occurred during a pilgrimage to Mecca in Saudi Arabia in 2015, but the theme of the event, such as concerts, sporting events, and funerals, was varied. Experts survey was that the manager's efforts not to increase the crowd density, and efforts to maintain order and prevent contingencies were important. They said that it is important to comply with the principles of disaster medicine, but it is difficult to access the patient in the crowd crush state, so the management of the crowd may be more important. They said that it is necessary to establish a realistic guideline and a real-time crowd density monitoring system using CCTV or drones.

Conclusion: Crowd crush disasters can occur in any type of crowd gathering events where the crowd density increases, and prevention through crowd management and real-time crowd density monitoring should be implemented.

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Triage at Mass Gathering Events: Not an Emergency Department, and Not (Necessarily) a Disaster

Matthew Munn MD, MPH¹, Annelies Scholliers MD², Stefan Gogaert³, Angeliki Bistaraki PhD⁴

1. University of British Columbia, Vancouver, Canada
2. University Hospital, Brussels, Belgium
3. Belgian Red Cross-Flanders, Mechelen, Belgium
4. Hellenic Mediterranean University, Crete, Greece

Introduction: Triage at mass gathering events (MGEs) has no standard protocol that is widely accepted and applied uniformly across event types and locations. This investigation describes the current state of published literature as it applies specifically to the triage of patient presentations at MGEs, and identifies key roles and important limitations of triage methods in use at events.

Method: A literature review search strategy was employed (previously published, Turrís et al, 2021) to search for event case reports published for the period from 2010-2022. Included papers were reviewed and data were extracted for all references to triage; authors were contacted for any missing details. Data extraction looked specifically for the following (if available): triage mention, triage scale used, triage categories with patient counts, triage training and any information on clinical dispositions subsequent to triage assignment.

Results: A total of 60 papers were included (Data extraction in progress, numbers to be finalized for presentation). Of these papers, a minority even made mention of triage, very few specified the triage scale used, and almost none described any triage training. Only a handful of case reports contained counts of patient presentation by triage categories. A couple of papers mentioned triage scales that were event type specific (sports, etc).

Conclusion: Published literature to date contains limited details and agreement on triage methods in use at MGEs. Methods are largely from the emergency and disaster domains. Triage utility appears generally to be limited to designating location and provider, and for a snapshot of acuity post event. The use of triage scale has not been solely predictive of the need for transfer to hospital.

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Football Stampede in Kanjuruhan Stadium from the Perspective of Disaster Preparedness on Mass Casualty Incident: A Case Study of Mass Gathering Event

Gde Yogadhita Apt, MEpid¹, Widiana Agustin dr²

1. Center for Health Policy and Management, University of Gadjah Mada, Sleman, Indonesia
2. Ministry of Health, Republic of Indonesia, Jakarta, Indonesia

Introduction: The lack of planning and coordination by the mass gathering event organizers involving other stakeholders, especially from the health sector, caused mass casualty incidents which could not be managed in a timely manner and resulted in many victims. This was worsened by the fact that the nearest health facilities to the mass gathering event did not have a disaster management plan such as a hospital disaster preparedness plan which, if any, was not operational. No firm regulation forced, monitored, and evaluated the necessity of high-risk mass gathering events to have such a preparedness plan yet in Indonesia.

Method: Using a case study qualitative research method by conducting media observations and listening to webinars on experiences with health workers involved in handling the social disaster of the Kanjuruhan tragedy. Supported by analysis of policy reviews and in-depth interviews with the involved stakeholders on the field.

Results: This is ongoing research, the results have not been finalized. However, from the information that has been obtained so far, it can be concluded that there is no synergy