



Investigating Barriers to Policy-Making and Action in Managing Safety at Religious Mass Gatherings: A Qualitative Study

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Received: 28 December, 2025; Accepted: 28 December, 2025

Abstract

Background: Religious, cultural, and social mass gatherings are inherently associated with significant safety and health challenges due to high population density, dynamic crowd behavior, and spatial limitations. Inadequate planning, policy-making, and implementation of safety measures can lead to large-scale incidents, human casualties, and diminished public trust.

Objectives: This study aimed to identify and explain the challenges of safety management in the organization of mass gatherings.

Methods: This qualitative study was conducted using a conventional content analysis approach from July 2023 to December 2024. Data were collected through 18 semi-structured interviews with crisis managers, Red Crescent managers, occupational health specialists, fire department managers, and academic faculty members with relevant scientific knowledge or operational experience in mass gathering safety. Participants were selected through purposive sampling, and interviews continued until data saturation was achieved. Data analysis was performed using the Graneheim and Lundman method with the assistance of MAXQDA 16 software.

Results: A total of 719 initial codes were extracted, which were reduced to 446 codes after removing duplicates. The analysis resulted in three main categories and 11 subcategories. The main categories included: (1) Policy-related barriers (legal barriers and insurance coverage), (2) managerial barriers (planning and forecasting, safety commitment, education and awareness, crowd management, and information management), and (3) operational executive barriers (individual safety attitudes, budgeting and financial support, event safety culture and climate, and monitoring and evaluation).

Conclusions: Safety management in mass gatherings faces multidimensional challenges at the policy, managerial, and operational levels. Developing clear laws and guidelines, strengthening managerial commitment to safety, expanding specialized training programs, improving information management systems, allocating adequate financial resources, and institutionalizing a safety-oriented culture can substantially enhance the safety of mass gathering events. The findings of this study provide valuable evidence to support policymakers and event organizers in designing more effective and context-sensitive safety management frameworks.

Keywords: Mass Gatherings, Safety Management, Challenges, Qualitative Study, Content Analysis

1. Background

Mass gatherings, including sporting events, religious ceremonies, cultural festivals, and other large-scale assemblies, represent an essential and inseparable component of the social, cultural, and religious life of communities around the world (1). These events provide opportunities for social interaction, cultural expression, and collective participation; however, their large scale and complex nature inherently pose significant safety and security challenges. Due to the high density of participants, limited space, and dynamic crowd movements, mass gatherings substantially increase the risk of adverse incidents. These incidents may include man-made disasters, fires, structural failures, terrorist attacks, crowd crushes, and the rapid transmission of communicable diseases, all of which can result in serious harm to participants and surrounding communities (2). The convergence of large populations in confined areas amplifies vulnerabilities and places considerable pressure on existing safety and emergency response systems.

Safety management in mass gatherings is therefore recognized as a fundamental and critical component of event planning and execution (1). Effective safety management plays a vital role in safeguarding the lives and physical and mental health of participants, minimizing fatalities and injuries, reducing financial losses, and ensuring the continuity and sustainability of events. Moreover, it contributes to the creation of a secure, organized, and trustworthy environment that enhances public confidence in event organizers and responsible authorities (3).

Conversely, inadequate planning, insufficient risk assessment, and ineffective safety management strategies in mass gatherings can lead to catastrophic outcomes. Historical events such as the Mina stampede in 2015, as well as the widespread transmission of infectious diseases during large-scale gatherings, clearly demonstrate the severe consequences of safety management failures (4). Such disasters not only cause extensive loss of life and long-term psychological trauma among survivors and families but also damage public trust in organizing institutions and governing bodies. In addition, these incidents may attract international scrutiny and negatively affect the global reputation and credibility of the host country (3). Given

these risks, safety management in mass gatherings requires a comprehensive, systematic, and multidimensional approach. This approach should encompass thorough pre-event planning, detailed risk identification and assessment, capacity building and training of emergency response and rescue personnel, and the deployment of advanced technologies (1). The use of accurate monitoring systems, real-time surveillance, early warning mechanisms, and effective communication tools is essential for timely detection of potential hazards and rapid response to emerging threats (5). Furthermore, effective safety management relies heavily on close coordination and collaboration among multiple stakeholders and organizations. These include law enforcement agencies, emergency medical services, fire departments, public health authorities, and healthcare providers. Integrated inter-organizational coordination ensures rapid information sharing, efficient allocation of resources, and a unified response during emergency situations, thereby reducing response time and mitigating the severity of incidents (6).

In addition to institutional preparedness, public education and active engagement of event participants play a crucial preventive role in safety management. Educating attendees about safe behaviors, crowd awareness, emergency exits, and appropriate responses to hazardous situations can significantly reduce panic, unsafe actions, and the likelihood of accidents. Empowering participants with knowledge and awareness contributes to collective responsibility and resilience during emergencies (7).

With the continuous increase in the number, scale, and diversity of mass gatherings worldwide, the importance of effective safety management in such events has become increasingly evident. Consequently, systematically identifying existing challenges, developing event-specific management strategies, and implementing standardized safety guidelines and protocols are essential steps toward improving safety outcomes. These measures not only help reduce the risk and impact of incidents (8) but also enhance the overall quality of event organization, operational efficiency, and participant satisfaction. Accordingly, the present study was conducted with the aim of identifying, analyzing, and elucidating the key challenges associated

with safety management in mass gathering events, in order to inform policymakers, event organizers, and emergency management professionals and to support the development of more effective and context-sensitive safety management frameworks.

2. Methods

2.1. Design

This qualitative study was conducted from July 2023 to December 2024. Content analysis methodologies were applied in this qualitative study, which took place.

2.2. Participants

In this study, interviews were conducted with individuals who possessed scientific knowledge and/or operational experience in safety management for mass gatherings. The inclusion criteria for participation consisted of having theoretical experience or practical knowledge in the relevant field. Willingness and consent to participate in the interviews, as well as the ability to articulate personal experiences and viewpoints, were additional mandatory conditions for inclusion in the study. The sole exclusion criterion was participants' unwillingness to continue participation in the study. Participants were selected using purposive sampling. In purposive sampling, which is widely used in qualitative research, the researcher selects the most knowledgeable individuals who can best respond to the research questions, based on the study objectives and the aim of obtaining the most informative samples.

A total of 18 participants were included in this study, comprising national crisis managers, Red Crescent managers, occupational safety and health experts from universities of medical sciences, fire department managers with practical experience and/or theoretical knowledge, and two university professors specializing in mass gatherings. The number of participants was determined based on the principle of data saturation, such that all questions, concepts, and newly emerging findings reached saturation. In this research, the sample size was determined by achieving data saturation; interviews continued until no new data were obtained, at which point further participant selection was discontinued. Accordingly, 18 face-to-face interviews were conducted. According to Table 1, overall,

participants ranged in age from 26 to 55 years, and 51% had more than 11 to 20 years of work experience.

Table 1. Demographic Characteristics of Participants Challenges of Safety Management in Mass Gatherings

Participants Characteristics	No. (%)
Position	
Senior manager, Red Crescent Society	6 (33)
Executive director of a charity/NGO	4 (22)
Occupational health specialists at universities	4 (22)
Faculty member/professor	2 (13)
Policy maker	2 (13)
Sex	
Male	16 (87)
Female	2 (13)
Age (y)	
23 - 33	7 (39)
34 - 44	6 (33)
45 - 55	5 (28)
Work experience (y)	
2 - 7	5 (28)
8 - 13	6 (33)
14 - 19	7 (39)

2.3. Data Collection

To conduct this study, qualitative and in-depth interviews were used. At first, the interview started with open questions and continued to more specific questions. Before starting each interview, the research team explained the importance of this study. Also, the conditions of the research were explained and advice was sought on how to conduct interviews that would not endanger the health of the researchers or other participants. The interviews were recorded and lasted between 35 and 75 minutes. The time and place of the interview were determined by the agreement of the researcher and the participants. According to the time of the interview, the interview was conducted in person at the place agreed by the interviewee. During the interviews, field notes were prepared to describe and understand the responses in detail.

2.4. Data Analysis

The data obtained at this stage were analyzed using Graneheim and Lundman's content analysis method (9). The researcher reviews the transcribed material several times to fully understand it in this inductive approach. Then the units of meaning (words, sentences or paragraphs) that answered the questions related to the

challenges in managing safety at mass gatherings were identified, reduced, and coded. Similar codes were separated into subsets, which were then joined to produce a category (manifest level). Each category derives from a set of related ideas, making the categories internally homogeneous yet externally heterogeneous. A key theme emerged as the interaction between the underlying meanings in the categories, which express the latent meaning. The interviews were conducted individually by M.N, M.H, A.A, and A.KH. The data collection process was supervised by D.M.N. MAXQDA 16 software was used to perform the coding process.

2.5. Trustworthiness

To establish the rigor of the study, the framework proposed by Lincoln and Guba was applied (10). Their approach to evaluating qualitative research quality is structured around four fundamental principles: Credibility, dependability, confirmability, and transferability, which together serve as key indicators of trustworthiness in qualitative inquiry. This framework is extensively recognized and adopted in qualitative methodology.

In line with these principles, the research team engaged with the data and the research setting for approximately eight months, maintaining continuous observation and detailed field documentation to strengthen the study's credibility. To enhance dependability, regular peer review sessions were held on a monthly basis, allowing the research team to collectively examine emerging findings and ensure consistent interpretation.

Confirmability was supported through careful documentation of research decisions, researchers' backgrounds and interests, and systematic record-keeping. Additionally, the interview context, coding process, and category development were critically reviewed by the research team, external experts, and three specialists in qualitative research.

Finally, maximum variation sampling was employed to capture a wide spectrum of perspectives, thereby improving the transferability of the findings through inclusion of diverse experiences and viewpoints.

2.6. Ethical Considerations

This study was authorized by the Iran University of Medical Sciences Ethics Committee (IR.JUMS.REC.1404.509). All research procedures were conducted in accordance with relevant ethical guidelines and regulatory requirements. The study did not involve any animal subjects. Written informed consent was obtained from each participant prior to data collection. To protect privacy, personal identifiers were replaced with coded labels by the research team. Participants were also clearly informed of their right to discontinue participation at any point without the need to provide justification.

3. Results

This study explored the challenges of safety management in the organization of mass gatherings. A total of 719 initial codes were identified, which were reduced to 446 codes after the removal of duplicate codes. The codes were categorized into three main categories comprising 11 subcategories. The categories included policy-related factors (legal barriers and insurance coverage), managerial factors (planning and forecasting, safety commitment, education and awareness, crowd management, and information management), and operational-executive factors (budgeting and support, individual safety attitudes, event safety culture and climate, and monitoring and evaluation) (Table 2).

3.1. Policy-Related Barriers

3.1.1. Legal Barriers

One of the challenges emphasized by the participants regarding safety management in mass gatherings was legal barriers. The absence of laws and legal requirements for mass gatherings, as well as the lack of binding guidelines and safety protocols, were identified as fundamental issues that need to be addressed before the event. Furthermore, strategic planning and policy-making for mass gatherings with a safety-oriented approach should be a key concern for event organizers. "Unfortunately, in our country, there are no clear and communicated laws or guidelines regarding mass gatherings and ensuring their safety. The responsible government must first enact the law and then proceed to implement it." (P3)

3.1.2. Insurance Coverage

The extracted data indicated significant challenges in the area of insurance coverage for both event participants and operational staff. Accident insurance for scenarios during these events is often unclear and ambiguous. The lack of insurance for assets and existing resources, as well as ambiguities in governance laws, requires proper policy-making. "Every year, before these events, we are told that we are insured, but later we see cases where the insurance company says this is not their responsibility. A comprehensive and inclusive insurance coverage system for mass gatherings needs to be established for all stakeholders." (P15)

3.2. Managerial Barriers

3.2.1. Planning and Forecasting

According to the analysis of interview findings and field notes, the management of mass gatherings is not based on structured planning and forecasting. In other words, management is often conducted in an ad-hoc manner, and monitoring and oversight lack pre-designed plans. Safety programs are often ignored in strategic and macro-level event planning. Additionally, the role of safety officers in anticipating incidents and responding to them is either absent or poorly implemented. "I believe that planning is the first step in any task. For this event, which involves the lives of many people, a proactive planning and forecasting approach must be implemented, and the manager should act based on this plan." (P7)

3.2.2. Safety Commitment

Participants indicated that managers and strategic planners of mass gatherings must have a practical commitment to safety. Such commitment ensures that all personnel involved in organizing the event pay attention to safety in every activity and task. When the event manager is the first person to prioritize safety, it helps establish a culture of safety across all organizations and individuals involved. "In all systems and implementations, one of the main and primary elements is the commitment of senior managers, and here we can name safety as an example. Managers must genuinely believe in this commitment." (P6)

3.2.3. Education and Awareness

Another challenge in safety management highlighted by participants was the lack of training and awareness among staff and managers. It is essential that all personnel involved in mass gatherings, including Red Crescent staff, firefighters, and healthcare workers, receive relevant safety training. Additionally, managers of event facilities and departments involved in organizing the event should be trained and briefed on safety measures through dedicated courses. "In my opinion, we face serious problems in the area of training. Both managers and responsible authorities have not received specialized safety training for mass gatherings, and the participants themselves have not been adequately trained or informed about safety." (P1)

3.2.4. Information Management

Challenges related to information management were also highlighted as significant by the participants. They stated that the absence of incident reporting systems is a critical issue that must be addressed by managers and event planners. Moreover, the lack of documentation of unsafe processes has led to the repetition of similar incidents in previous events. Therefore, proper data and information management during mass gatherings is essential. "It is the management of data and information that assists managers in decision-making. Information management is undeniably necessary for organizing this important event, and a proper system must be established." (P14)

3.2.5. Crowd Management

Safety management in relation to crowd control was identified as another major challenge by participants. They pointed out weaknesses in the control and guidance of participants and emphasized the lack of safe processes and clearly defined pathways for directing attendees. The absence of signage and warning boards was also identified as a critical factor affecting safety management in mass gatherings. "One cannot overlook issues related to the crowd. Crowd management is very important for the safe organization of mass gatherings and is also linked to the psychological characteristics of participants." (P10)

Table 2. Categories, Subcategories, and Codes Related to the Challenges of Safety Management in Mass Gatherings

Categories/Sub-categories	Example of a Code
Policy-related barriers	
Legal barriers	<p>Lack of laws and legal requirements for safety in mass gathering events</p> <p>Absence of safety guidelines for mass gatherings</p> <p>Lack of safety protocols for event participants</p>
Insurance coverage	<p>Ambiguity in governance laws regarding participants' insurance coverage</p> <p>Lack of insurance related to incidents and safety management in events</p> <p>Absence of insurance for assets, property, and existing investments</p>
Managerial barriers	
Planning and forecasting	<p>Failure to anticipate the role of safety officers in incident response</p> <p>Ignoring safety programs in strategic and macro-level event planning</p> <p>Lack of planning for safety management in mass gatherings</p>
Safety commitment	<p>Commitment of managers and event organizers to safety</p> <p>Insufficient commitment of service staff to safety matters</p> <p>Implementation of safety and health-related systems/standards for events</p>
Education and awareness	<p>Inadequacy of safety-related training for participants</p> <p>Lack of safety training for event administrators and responsible authorities</p> <p>Insufficient general and specialized training in safety management for gatherings</p>
Information management	<p>Absence of a system for recording incidents and near-misses</p> <p>Lack of a system for documenting safety services during gatherings</p> <p>Failure to document unsafe processes in mass gatherings</p>
Crowd management	<p>Inadequate crowd control and participant guidance management</p> <p>Failure to use signage and warning boards to direct participants</p> <p>Lack of safe processes in crowd management</p>
Operational and executive barriers	
Individual safety attitudes	<p>Insufficient safety culture and awareness among participants</p> <p>Non-use of safety equipment during gatherings</p> <p>Neglect of safety warnings during events</p>
Budgeting and support	<p>High costs of implementing safety requirements for participants</p> <p>Costs of providing personal protective equipment (PPE)</p> <p>Lack of budget allocation for safety in mass gathering management</p>
Event safety culture and climate	<p>Absence of safety culture and awareness among managers and authorities</p> <p>Preference for traditional safety approaches over modern safety practices</p> <p>Lack of "safety-first" mindset in event management</p>
Monitoring and evaluation	<p>Insufficient monitoring of participants' safety</p> <p>Absence of periodic safety assessment and audits</p> <p>Lack of feedback-oriented and follow-up monitoring and evaluation systems</p>

3.3. Operational and Executive Barriers

3.3.1. Individual Safety Attitudes

Analysis of the interviews indicated a lack of proper safety attitudes and culture among participants in mass gatherings. The principle of "safety first" was largely neglected, and participants paid little attention to safety measures. In some interviews, participants emphasized the importance of attendees' own safety awareness as a necessary element for the safe management of gatherings. They believed that if participants adhered to safety practices, it would significantly contribute to the effective and high-quality organization of these events. "I believe that participants themselves must have a safety-oriented mindset. As long as they do not, many measures are ineffective, and we need to plan specifically for this aspect." (P12)

3.3.2. Budgeting and Support

Budget and support were identified as another critical challenge by the study participants. They emphasized that allocating funds for safety-related measures is essential. Proper planning is required to procure equipment and personal protective gear for healthcare personnel and other staff involved in organizing the event. "Budget is necessary for any task, and funds must be allocated by senior managers for the purchase of personal protective equipment and other safety-related tools." (P16)

3.3.3. Event Safety Culture and Climate

Another barrier highlighted by participants was the safety culture and overall climate during mass gatherings. To ensure a safe event, a culture of safety must prevail throughout the duration of the gathering, and all stakeholders should believe in safety principles and avoid actions that could lead to hazards or accidents. "In my opinion, safety culture is a very important factor to ensure that mass gatherings occur without incidents." (P10)

3.3.4. Monitoring and Evaluation

Participants noted that a culture of monitoring and auditing has not been adequately established due to insufficient safety supervision, the absence of periodic

assessment and audit systems, lack of regulatory frameworks for mass gathering safety, and insufficient incentive mechanisms to promote attention to safety issues. All participants agreed that monitoring and evaluation systems should be feedback-oriented, motivation-driven, and follow-up focused; however, such a system currently does not exist. "Monitoring and evaluation of programs must be continuous, as this supervision allows us to identify shortcomings and work toward addressing them." (P3)

4. Discussion

In this study, the challenges of safety management in mass gatherings were elucidated. Among the most significant challenges were policy-related issues, including legal barriers and weaknesses in insurance coverage. Volunteer management in aspects such as planning, coordination, organization, training and awareness, safety commitment, crowd management, information management, and documentation also faced notable challenges. Additionally, the prevailing safety culture and climate, safety attitudes and approaches, as well as monitoring and auditing practices, were identified as areas encountering difficulties. Finally, operational and executive challenges, such as monitoring and evaluation, budgeting, and financial provision for safety measures, also posed obstacles to effective volunteer management.

One of the most critical challenges identified in relation to safety management in mass gatherings was the absence of safety guidelines or laws. In other words, there are no codified regulations for managing safety in gatherings that can ensure the effective utilization of these events as opportunities and capacities. The formulation of laws for mass gatherings is a vital necessity that facilitates better management of such events (11). Given the various challenges associated with mass gatherings, these laws must be designed to be flexible, transparent, and enforceable (12). Moreover, coordination between government authorities, non-governmental organizations (13), and other stakeholders involved in mass gatherings is essential for the successful implementation of such regulations (14). It is recommended that event managers and planners take the necessary measures to effectively and efficiently utilize legal frameworks in the safety management of mass gatherings.

4.1. Insufficient Commitment of Managers and Organizers to Safety

Another challenge identified in this study was the insufficient commitment of managers and organizers of mass gatherings to safety. Managerial commitment to safety not only involves compliance with laws and standards but also includes fostering a safety culture, preventing accidents, ensuring effective responsiveness, and maintaining a genuine belief in the importance of safety (15). Managerial safety commitment is a primary element in the implementation of safety standards (16). Organizations can reduce unsafe practices and, consequently, the occurrence of accidents by increasing managers' commitment to safety, enhancing staff accountability, and providing training to employees and managers to strengthen safety (17). Given the critical importance of managerial commitment to safety in mass gatherings, it is recommended that a comprehensive safety management system for mass gatherings be developed and implemented.

4.2. Data Management and Documentation

Another finding of this study was the deficiencies in data management and documentation of safety processes, services, operational procedures, and incidents related to non-compliance with safety during mass gatherings. Data management faces serious challenges because the responsible organizations do not maintain online systems to record services, processes, or experiences. Research highlights the importance of collected and analyzed disaster-related data for managers, policymakers, academic institutions, researchers, government and non-government organizations, economic sectors, and insurance companies (18). Considering the increasing number of mass gathering programs worldwide, it is essential to establish a national system for recording and managing information on mass gatherings under the supervision of crisis management organizations, the Ministry of Health, and other key agencies responsible for event safety.

4.3. Safety Culture and Awareness

The attitudes and knowledge of managers and participants in mass gatherings regarding safety culture and climate were found to have significant deficiencies.

Analysis of the collected data indicated that both managers and participants generally lack a safety-oriented culture and mindset. This is largely due to low-risk perception, which, according to this study, stems from insufficient awareness and training regarding hazards and safety-related incidents in the organization of mass gatherings. Training and awareness of healthcare personnel regarding personal protective equipment (PPE) and its proper use, as well as its role in risk reduction, have been highlighted in other studies (19, 20). Risk awareness and understanding are also core elements of the Sendai Framework for Disaster Risk Reduction (21, 22). Given the importance of managers' and event planners' risk perception and its undeniable role in improving safety, it is essential to provide training, raise awareness, and cultivate sensitivity toward safety among both managers and participants.

4.4. Monitoring and Auditing of Safety Programs

Another challenge identified by participants was the monitoring and auditing of safety programs. Monitoring and auditing, as an integral part of safety management in mass gatherings, play a vital role in preventing incidents and ensuring the health and security of event participants (9). Despite existing challenges, the effective implementation of these processes requires clearly defined procedures, the use of modern technologies, and continuous training (10). Ultimately, monitoring and auditing not only ensure the safety of mass gatherings but also contribute to improving the overall quality of event organization.

4.5. Conclusions

Overall, the findings of this study suggest that the challenges of safety management in mass gatherings can be addressed through multiple strategies. Safety management in mass gatherings is a complex and multifaceted responsibility that requires managerial commitment, collaboration among responsible organizations, and active participation of event attendees. To overcome these challenges, solutions such as the use of intelligent systems and technologies, continuous staff training, development of clear laws and guidelines, collaboration with specialized agencies, and ongoing monitoring and evaluation of safety processes and programs are recommended. Additionally, fostering a safety culture among

organizers, staff, and participants can further enhance the effectiveness of safety management. Despite existing challenges, establishing a comprehensive safety management system for mass gatherings, as well as learning from successful international experiences, can assist managers and policymakers in reducing risks and creating a secure and reliable environment for the high-quality organization of mass gathering events.

Footnotes

AI Use Disclosure: The authors declare that no generative AI tools were used in the creation of this article.

Authors' Contribution: Study concept and design: Abdolreza Pazzouki, Marzieh Hadian, and Mohsen Nouri; Acquisition of data: Abdolreza Pazzouki, Alireza Khajeh-Amiri, Davoud Pirani, Mohammad Reza Sohrabi, and Faris Hassan Al-Lami; Analysis and interpretation of data: Abdolreza Pazzouki, Marzieh Hadian, and Mohsen Nouri; Drafting of the manuscript: Abdolreza Pazzouki and Marzieh Hadian; Critical revision of the manuscript for important intellectual content: Mohsen Nouri, Ahmad Akrami, and Faris Hassan Al-Lami; Statistical analysis: Marzieh Hadian and Abdolreza Pazzouki; Administrative, technical, and material support: Davoud Pirani, Mohammad Reza Sohrabi, and Alireza Khajeh-Amiri; Study supervision: Mohsen Nouri, who is the corresponding author. All authors reviewed and approved the final version.

Conflict of Interests Statement: The authors declare no conflict of interest.

Data Availability: The dataset presented in the study is available on request from the corresponding author during submission or after publication.

Ethical Approval: This study was approved by the Research Ethics Committee of Iran University of Medical Sciences on December 14, 2024 ([IR.IUMS.REC.1404.509](#)).

Funding/Support: This study was supported by the Research Ethics Committee of Iran University of Medical Sciences on December 14, 2024.

Informed Consent: Written informed consent was obtained from the participants.

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