

Original Research Article

Challenges in Karbala Mass Gathering (Al Arbeen Event) Retrospective Study, Iraq (2008-2012)

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Abstract: **Background:** HVA in mass gathering is usually named Hazard Vulnerability Assessment which is an important procedure in the effort to control health risks in mass gatherings. Mass gatherings, such as big sports championships or religious pilgrimages, present their own major issues to public health because they create high density of the population, requiring local health services capacity to rise and therefore risks of communicable diseases, injuries and other causes of emergency. Therefore, the research undertaken here is Assessment of the Hazard Vulnerability during Karbala religious mass gathering in Iraq\ on 20th Safar (Al Arbeen). **Methodology:** Descriptive study (retrospective) study between (2008-2012) covers: data collection of hazards assessment at health departments of ministry of health in Iraq. **Results:** Hazard Vulnerability assessment will be done as there had been occurrence of risks in the history of this events which occurred within the period between (2008-2012), which include: terrorist acts 1281 injured and 360 died, road traffic accident that mainly affected the male population and the poisoning accidents and other fires, the worst region with regard to injuries is Karbala (51.6%), whereas the high rate in death was 33.3%, and the road traffic accident in Karbala indicated a rise in those who As well the findings indicate that conversely, the poisoning accidents have the highest figures in 2010 and the fire accidents that have been occurring mainly in the shrine area being mainly as a result of electrocution. **Discussion:** The Challenges and risks for Al Arbaeen event indicates that displays of terrorist acts in Karbala 2008-2012 was greater and this impact on the medical services in Karbala specially in this event which has a big crowd. **Conclusion and Recommendations:** The medical plans used in this event should be modified and the incident command system all levels activated so as to reduce the hazards, this should be done in co-operation of the ministries and organizations (national and international) and Attabas (the shrines medical departments).

Keywords: Mass Gathering, Arbaeen Event, Terrorist Acts and, Road Traffic Accident.

INTRODUCTION

HVA as applied to the events of mass gathering normally infers Hazard Vulnerability Assessment, a very cardinal procedure in the control of health hazards in the occasion of mass gathering. Mass events, such as mass sports or religious pilgrimages, raise important public health issues, meaning that many people in a small area at once may overload the local health systems, exposing them to risks of contagious diseases, traffic accidents, and other disasters.

Important issues about HVA in mass gatherings are:

- **Risk Assessment:** Determining possible risks like outbreak of infectious diseases, crowd crushing, heat exhaustion, food and water safety concerns as well as terrorism.
- **Preparedness Planning:** Formulating plans of response to mass casualty, proper medical and diagnostic facilities, and coordinated emergency services.

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- **Surveillance and Monitoring:** upgrading the capabilities to identify and act early in ideas of health threats such as infection control, prevention, and immunization measures.
- **Health Promotion:** Conducting measures to promote the healthy behaviors of the attendees, including vaccination, hygiene, and safe practices.
- **Population Management:** Deploying the use of crowd control and management of the density in the population so as to avoid injuries and group deaths due to overcrowding and stampede.

HVA assists the organizers and the agencies linked with health to foresee and prevent risks to build safety and health security of the participants and the host community. Large-scale sports events and religious pilgrimages represent mass gatherings that may cause difficulties in terms of public health and burden the host country in terms of its public health capabilities. Our programme on mass gatherings aims at addressing the means to manage and improve health security at these large and significant gatherings. Some of them are Olympic Games, FIFA tournaments, Hajj, Umrah and Arba'een. The host country should be well prepared and able to respond to all such events. We partner with countries and partners to enhance mass gathering readiness.

The main aspects of this WHO assistance involve efforts to: implement proper standards to risk assessment, surveillance and response (including management of potential outbreaks, infection control and vaccination practices); support the plan of management of any mass casualties and emergencies within local communities and event venues; and ensure that relevant diagnostic capabilities are put in place (including people, and means of transport); establish the system of providing visitors with up-to-date health advice on areas such as vaccinations, food and water safety, and emergency contact details; and develop and implement pre-event and during events activities to encourage the healthy behaviours, such As informed by the International Health Regulations (2005), WHO assists countries and partners to enhance planning processes in mass gatherings. The objective is to ascertain whether there exist satisfactory planning, capacities and standards. WHO is also able to provide technical support to the nation in development and implementation of effective measures to handle the risks of mass gatherings to the public health. Countries can manage to reduce the risks of mass gatherings to the health of the people by enhancing planning and preparation towards mass gatherings. It also provides that the required resources and capacities exist to address any case of health emergency that can take place. Finally, mass gatherings should be efficiently planned and prepared to ensure the health security of places. It safeguards the safety of the event participants and the general society.

METHODOLOGY

The medical staffs in nongovernmental organization have no data registered.

Table 1: The terrorism occurred in visits by visitors during Muharram (Arbeen) visit (2008-2012)

Province	NJURED	%	DEATH	%
KERBALA	(661)	(51.6)	(120)	(33.3)
BAGHDAD	(201)	(15.6)	(59)	(16.3)
BABYLON	(207)	(16.1)	(82)	(22.7)
DEYALA	(28)	(2.1)	(2)	(6.55)
SALAH ALDIN	(11)	(0.8)	(1)	0.2)
THI QAR	(28)	(10.6)	(53)	(14.7)
BASRA	(137)	(2.1)	(42)	(11.6)
KIRKUK	(8)	(0.6)	(1)	(0.2)
TOTAL	(1281)	100	(360)	100

Injuries Caused in Road Traffic Accidents (RTA):

The outcome of RTA in Karbala in figure (1) indicates that it had increased last year. The figure (2) depicts that most of the victims consisting of men. In Babylon in figure (3) they show that the male: female is 3 to 1 mortality. In the findings indicate that most of the casualties were aged 0-10 year old and 11-20 year old.

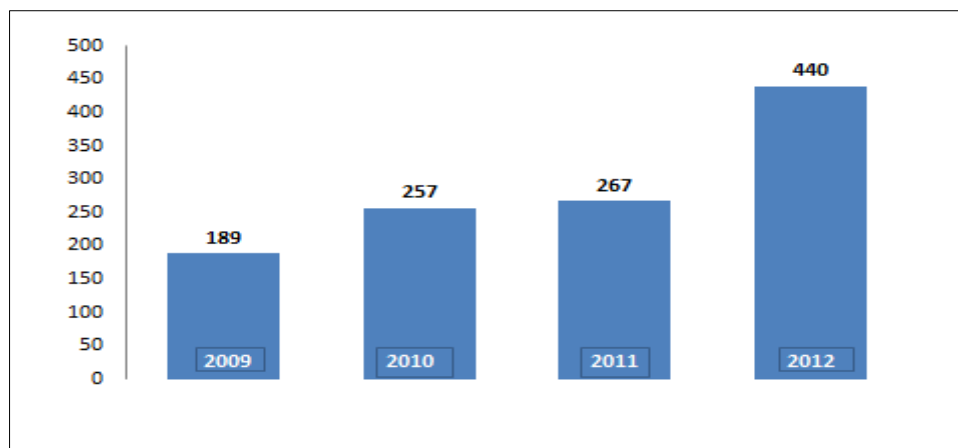


Figure 1: Road traffic accident during Al Arbeen event in karbala province (2009-2012)

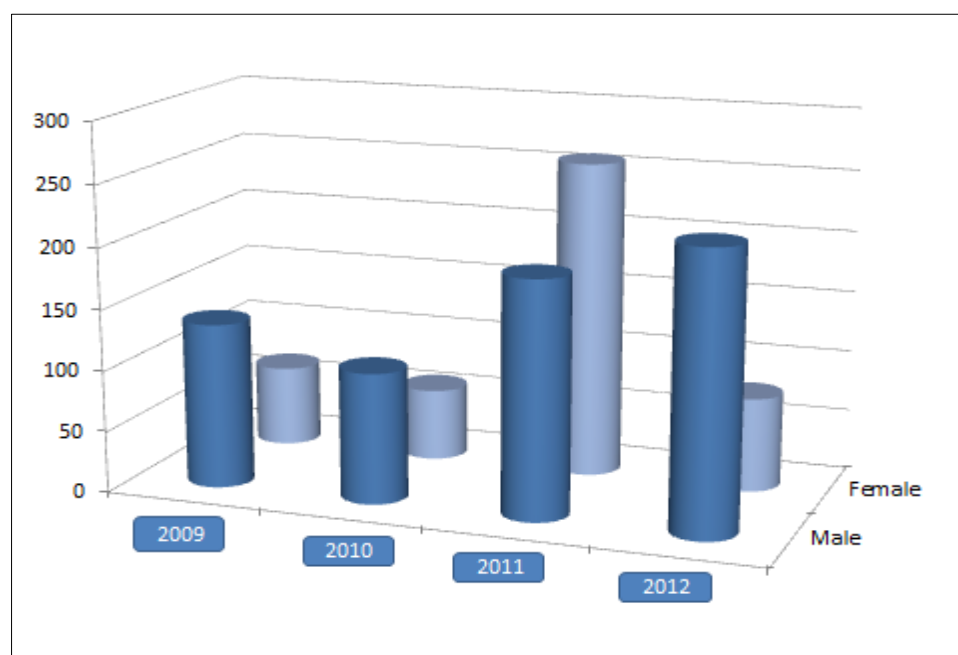


Figure 2: The chart below shows the number of Karbala RTA victims during Muharram (Arbaeen) visit by gender in (2009-2012).

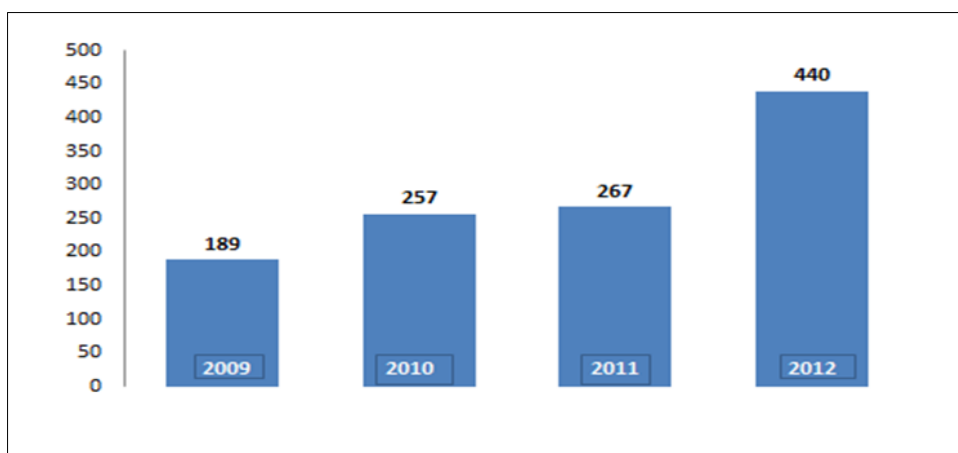


Figure 3: Road traffic accident during Moharam (Arbeen) visit in karbala (2009-2012)

Food Poisonings: The results in figure (4) depict the greatest number of poisoning which was in the year 2010.

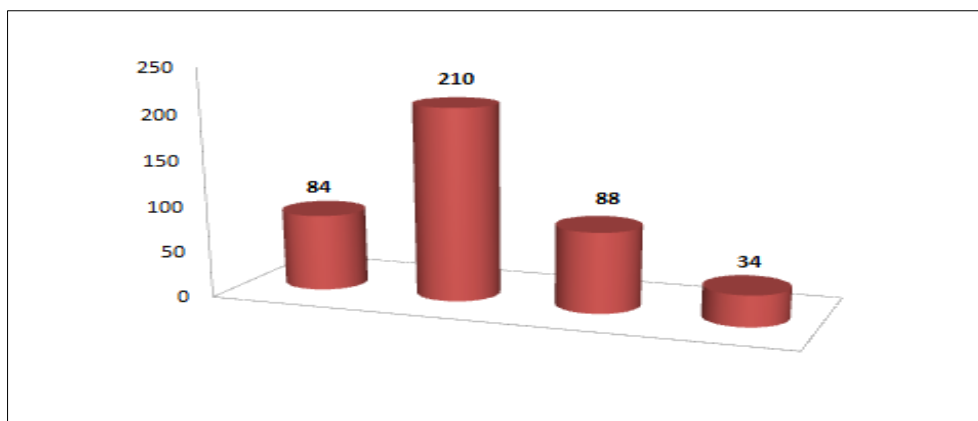


Figure 4: Poisoning accident in Karbala province in Al Arbeen event (2009-2012)

Fire Accidents:

Results in two previous years indicate that majority of fire accidents occurred in the shrine surrounding (hotels, markets, houses) as observed in figure (5). Figure (6) illustrates other reasons as to why fire occurred and this shows clearly that electricity was the major reason.

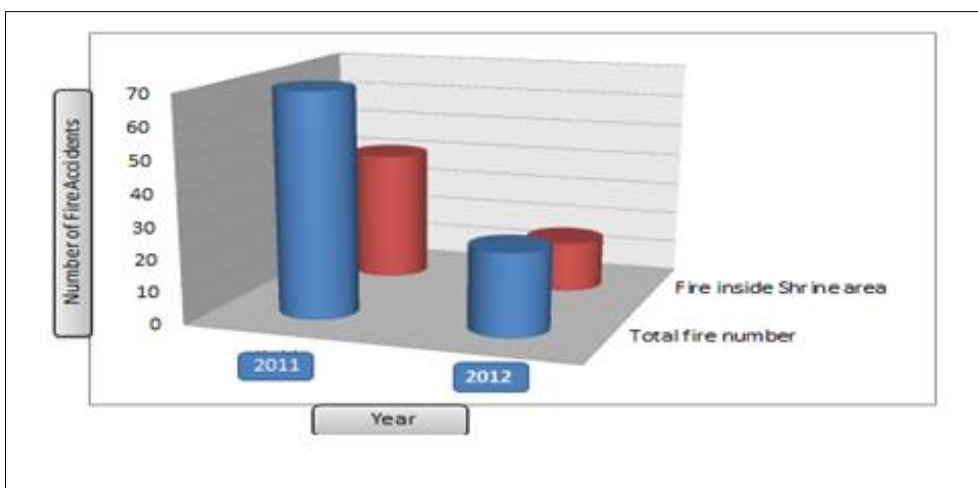


Figure 5: Fire accidents in karbala province during Al Arbeen event (2011-2012)

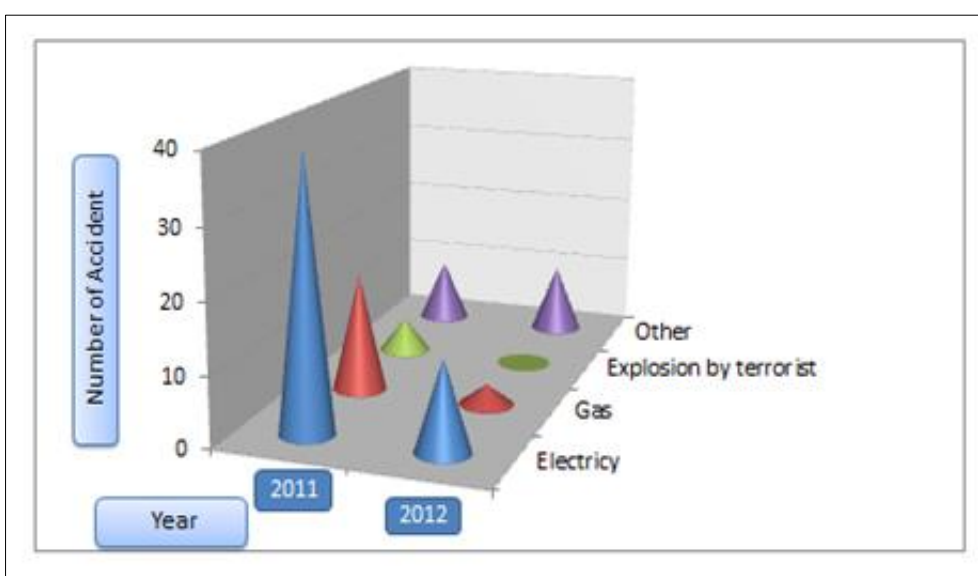


Figure 6: Fire accidents in karbala province during Al Arbeen event (2011-2012) according to the cause

DISCUSSION

Though the definition of mass gathering employs 1000 person, one millions and more people (Mega Mass Gathering) put an immense pressure on healthcare or any other emergency response service such as civil defence, police etc. Iraqi authorities estimate the hazard basing on the experience and history of some other events. They do not use scientific methods of locating a possible hazard and their risk. The systematic approach to medical planning begins with convening of a multidisciplinary team or task force that has adequate authority to take decisions that triggers the initial process by carrying out of HVA and thereafter, scenario building involving description of the affected population and the anticipated death, diseases, disability, and damages. The formal medical Plan must contain base plan, functional annex and hazard specific annexes accumulated in the base plan: Project team, Approvals with dates, Table of contents, Executive summary, Background, and HVA, Management phases, training and education, revision and update dates. As apparent in the results, these elements are all absent except the approvals and management phase of the process. The common management stage must comprise: Notification, Incident Command System, Activation, Staff recall, Treatment areas, Non clinical areas (Incident command post, Information centre, storage area etc.), Triage treatment/transport, Disaster stock piles, Patient tracking, and Media. This paper demonstrates that this is some form of Command and control through the old methods, in terms of communications, transport and treatment. The stockpiling is based on the same procedures of the Iraqi Ministry of Health that does not match with the actual requirements. The Iraqi authorities are habituated to handle the explosive events depending on the history of the event, and according to the conventional policies. It is not practised in a manner that is well organized in dealing with explosive incidents too with other risk observed. The standard planning must include the testing of the plan and it involves: Brain Storming, Table Top Exercises, Room Exercises and Full Scale Exercise. Education and training of staff is also a key element in the preparedness plan and this must incorporate elements of modular training on triage, communication, decontamination etc. modular drills or full scale exercises. The finding reveals that the Iraqi government agencies and NGO have preparedness and response as the prime focus of their agenda. The number of non-government organizations is immense yet the functions they play are not quite clear and the activities of the organizations cannot be coordinated and integrated yet. There is also the lack of training of their staff on what volunteer work entails and how to make the most of the job. There is a great need to educate the community and create awareness in the society about the risks and dangers of the event and the course of action they are required to take but not much is being done.

CONCLUSION

Al Arbaeen event is the greatest mass congregation in the planet and needs to be called Mega Mass gathering. It is an event held once in a year, there are numerous chances of accidents and it is a high risk event because it is a massive event in a region where there are high levels of geopolitical conflicts and religions. These are the most typical dangers that include bomb explosion, Road Traffic, Stampede, transmission of infectious diseases and exacerbation of existing medical diseases such as DM, Hypertension, etc. Iraqi government and NGOs focus on preparedness and response and their actions are not guided by any organizational preparation frameworks. The principal issues include shortage of resources, no proper planning, no education and training. The international organizations have little roles to play in the preparation and in management of this Mega Mass gathering (MMG). There is little or no mitigation and preventive activity.

Recommendations

- Establishing a permanent authority or ministry that could have enough power and an annual budget to review all the activities required to make the event successful, recruit experts in mass gatherings, support the development of local, regional and national plan, encourage the training and educating of the employees and monitor the execution of the plan.
- The application of the proper planning of medical and HVA in the structured approach.
- Existing resources analysis and estimate resource needs to evaluate resources gap analysis and draw an action plan to gap closures.
- To raise the level of awareness, of the people, regarding the dangers and the risks, of the happenings and how to manage it with the help of media, community leaders, religious leaders, NGOs etc.
- Stimulating Mass Gathering Medicine in terms of research that will aid in planning.
- Enhancement of communication devices and establishment of communication plans, policies and procedures.
- Developing Mass Gathering course on both basic and advanced levels to address the improvement of knowledge and skills of medical and auxiliary personnel engaged in the preparedness and response.
- Incident Command system with the check-in of command posts and job action sheets introduced.

REFERENCES

- Attabas Husynia and Abbasia shrines in Karbala, (Arbaeen press report),
- County Board of Commissioners, Union County, North Carolina Ordinance Pertaining to Mass Gatherings. 1974:224–7 Docket 12.

- Journal of Infection and Public Health is the official journal of the Saudi Arabian National [4] Guard Health Affairs Volume 4, Issue 3, August 2011.
- Koenig and Schultz's Disaster Medicine, management of mass gathering, (page 229-235).
- Mass Gatherings Health Emergence of medicine, Disaster Med 2002; (3): 151-162 for mass gatherings: lessons from the Hajj Ziad A Memish, Gwen M Stephens, Robert Steffen, Qanta A Ahmed www.thelancet.com/infection Vol 12 January 2012.
- Ministry of health of Iraq and the health departments in provinces by their reports for the accidents.
- Ministry of interior of Iraq, Karbala fire department (report of accidents)
- NAEMSP guidelines for large event EMS plans. Jaslow Mass gathering Medical Care.