

# Mass gathering In ALDiwanyah City During Arba'een Imam ALHussien, 2022 MC ,1444 HC

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## Abstract

**Background:** A mass-gathering event is defined as the presence of more than 1000 human beings together at the same place for a specific time. Objective: to study the health problems during the period of crowdedness at the peak time of walker in same area.

**Methods:** We studied for 30 health personnel participants in health dispatchment during the Arba'een of Imam Al-Hussein in Al Diwaniyah governorate for 9 days towards holy Karbala. We concentrated on the common minor health problems and the accidents on the roads.

**Results:** Analgesics like non- steroidal anti-inflammatory drugs (NSAID) 100%, skin ointment and bandages 82%, Intravenous fluid in 60%, anti-acid and antibiotics in 43% and paracetamol in 25% were commonly used along with other medications prescribed frequently by non-doctor medical team.

**Conclusion:** Most of the cases required minimal medical intervention. Proper organization of the medical infrastructure for this mass gathering event is very important because the number of populations continue to increase with future.

**Key words:** non- steroidal; anti-inflammatory drugs;

## Introduction

A mass-gathering event is defined as the presence of more than 1000 human beings together at the same place for a specific time, however some published articles define it as the presence of usually more than thousands of participants in each event. [1,2,3] When a crowded event is attended by a sufficient number of people there should be appropriate planning and response resources available at the host community, state/province, nation, or region where it is being held. [1,2] These planned events with large numbers of participants occur in response to certain festival like social functions, sporting events (Olympic Games) or religious pilgrimages (Kumbh Mela in India and Arba'een of Imam Al-Hussain in Iraq) and in such events millions of people tend to attend them. [4,5] Managing the complex and unique health security risks posed by these mass gatherings is challenging [6]. Many studies point out that mass gatherings can be associated with increased risks and amplified transmission of infectious diseases particular respiratory infections transmitted by droplets, such as influenza, measles, and meningitis [7] United States along with Europe have gained experience over an extended period of time up to thirty years in regard of organizing medical care for any crowded events. [8,9] Sufficient planning to provide appropriate health care services and making

arrangements to receive both emergency and primary care cases among a large numbers of people. Therefore, in addition to the personal experience of the planning staff, other methods of preparations should be considered. [10] The published articles about mass gatherings shows poor information regarding children health in these events. Therefore, most of the data in those articles were taken from adults. [11] The largest mass gatherings in the world occur in china, India and Iraq as shown in figure-1 and table -1. Kumbh Mela is a major crowded festival in India, it is celebrated in a cycle of approximately 12 years. [12] China International Import Expo (CIIE) is a trade fair held annually during autumn since 2018 in Shanghai, China. It is the world's first import-themed national-level expo. [13] Pope Francis crowd in Manila reached an attendance of seven million people, the largest ever for a papal event. [14] In Iraq the Arba'een pilgrimage of Imam Al-Hussein, or the Arba'een Walk or Karbala Walk, is considered as one of the world's largest annual public gatherings. It is held at Karbala, Iraq at the end of the 40-day mourning period following Ashura, the religious ritual for the commemoration of the martyrdom of the grandson of the Islamic prophet Muhammad and the third Shia Muslim Imam, Hussein ibn Ali in 61 AH (680 AD). [15]

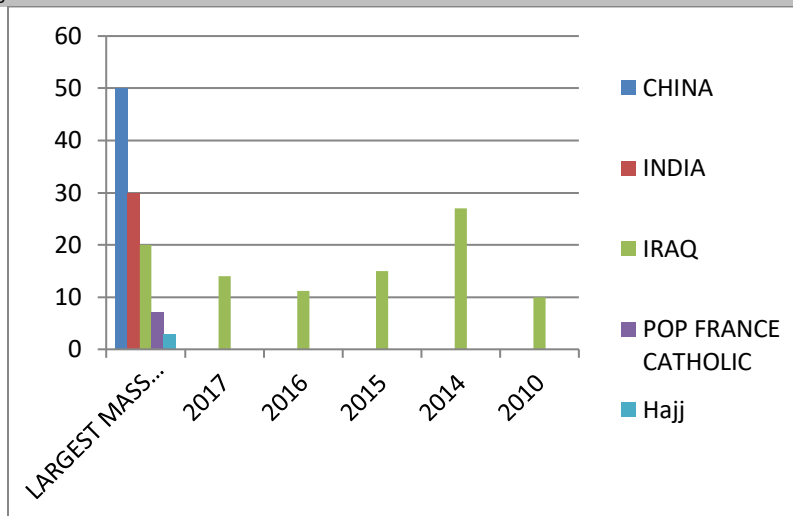


Figure-1: List of largest peaceful gatherings in the world [16]

Location	Dates	No. of Participant	Events
Karbala	2009	10 million	Arba'een Imam Al-Hussein
Karbala	2010	10 million	=
Karbala	2011	15 million	=
Karbala	2012	15 million	=
Karbala	2013	15 million	=
Karbala	2014	20 million	=
Karbala	2015	27 million	=
Karbala	2016	11.2 million	=
Karbala	2017	14 million	=
Karbala	2018	15.3 million	=
Karbala	2019	15.2 million	=
Karbala	2020	14.6 million	=
Karbala	2021	No data	=
Karbala	2022	21 million	=
Baghdad	2015	12 million	Martyrdom processions of Musa al-Kadhim
Karbala	2015	8 million	Martyrdom anniversary of Imam Hussein
Karbala	2012	6 million	Mid-Sha'ban celebration
Najaf	2011	3 million	Death of Prophet Muhammad
Samarra	2016	1 million	Al-Askari Shrine

Table- 1 Largest mass gatherings in Iraq [16]

## Method

This is a retrospective study for a 30 health personnel (including doctors, nurses ..etc.) who enrolled in this study (with their consent) and took part in the health dispatchment during the Arba'een of Imam Al- Hussein in 2022 (Karbala Walk) crossing Al Diwaniyah governorate for 9 days from 9<sup>th</sup> august to 17<sup>th</sup> august on their way towards holy Karbala, with information taken formally from Diwaniyah health directorate regarding the number of health personnel dispatched, ambulances and information about the accidents. Every health care personnel involved answered specific questionnaire forms, including data such as the number of visitors treated in each area, presence or absence of health education, time distribution of visitors, the main complaints or diseases of visitors, common drugs used and

who prescribed those drugs. All data were collected and analyzed using descriptive statistics.

## Results:

Karbala visitors crossing AL-Diwaniyah governorate from five big cities; Basra, Maysan, Thi-gar, Wasit and Muthana governorates (figure-2) with 57 ambulances, tents and health care personnel distributed all over the road with 7 ambulances at Afak, 10 at Al-Hamzah, 11 at Al-Shamia and 28 at the center of the city (figure-3). During the nine-day period, the numbers of accidents that occurred at Al-Diwaniyah governorate were 111 distributed in each district as shown by table-2.

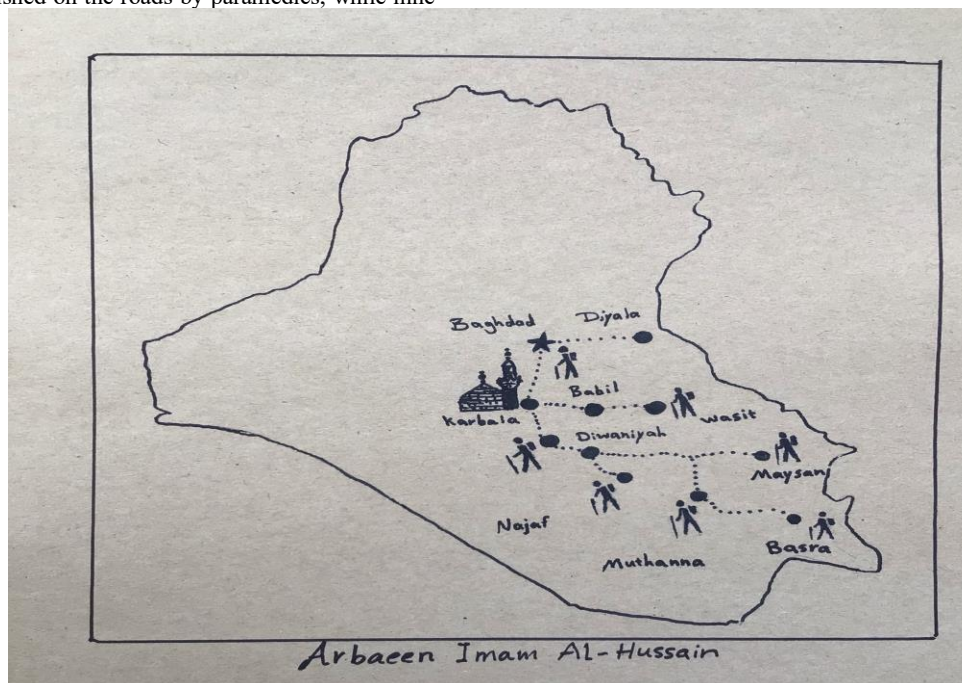
AUGUST 9	22	ALHAMZAH, SANIASPEED WAY, CITY CENTER	ALDIWANYAH TEACHIG HOSPITAL [ATH]
AUGUST 10	16	AFAK, DAGARAH, SANIACITY CENTER	ATH
AUGUST 11	15	ALHAMZAH, CITY CENTER, ALBADAIR	ATH
AUGUST 12	20	SPEED WAY, ALHAMZAH, CITY CENTER	ATH
AUGUST 13	9	SPEED WAY, CITY CENTER	ATH
AUGUST 14	3	DAGARAH, ALHAMZAH	ATH
AUGUST 15	6	CITY CENTER, SPEED WAY	ATH

AUGUST 16	9	ALHMAZAH, CITY CENTER	ATH
AUGUST 17	6	ALBADAIR, CITY CENTER	ATH

**Table 2: Accidents in Al-Diwaniyah governorate during ARBAEEN IMAM ALHUSSEIN, August 2022**

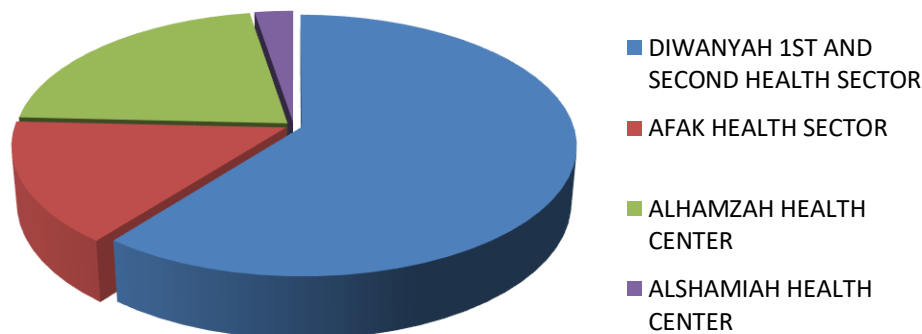
The common medical problems encountered by the dispatched health care personnel were mostly minor symptoms including: muscle spasm, muscular pain and skin lesions (99%), dizziness with hypotension (18%), gastrointestinal symptoms like abdominal pain, vomiting, nausea and diarrhea of (10%), and fatigue with headache of (4%) as shown in figure-4. Ninety-one percent of the medical aid and treatment of Karbala visitors were provided inside the health places established on the roads by paramedics, while nine

percent of them required a physician's consultation. The medications that were commonly used included; non-steroidal anti-inflammatory drugs (NSAID) 100%, skin ointment and bandages 82%, Intravenous fluid in 60%, anti-acid and antibiotics in 43% and paracetamol in 25% (Figure-5). The life-threatening conditions that occurred due to accidents were referred to the hospital by ambulance after first-aid was provided. (table-2)



**Figure 2: Geographical distribution of walker crossing Al-Diwaniyah towards Karbala**

### **DISTRIBUTION OF MEDICAL SERVICES DISPATCHED THROUGHOUT THE AL- DIWANIYAH GOVERNORATE2**



**Figure 3: Distribution of medical services throughout the road heading to Karbala at the Al-Diwaniyah governorate.**

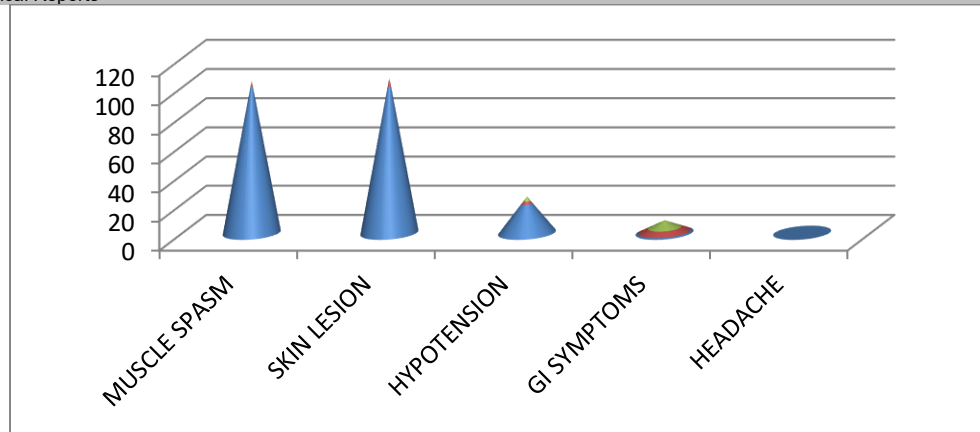


Figure 4: Common complaints among Karbala pilgrims.

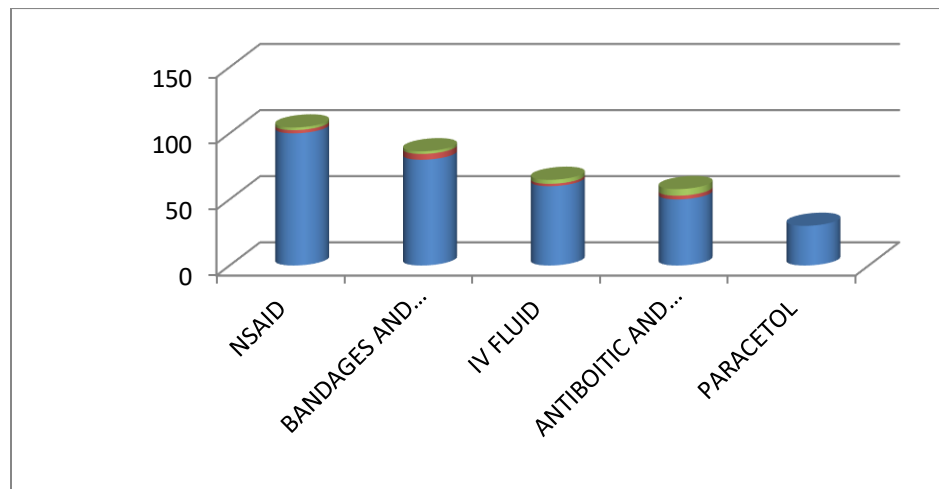


Figure 5: The five common drugs needed by pilgrims.

## Discussion:

With the increase in the Iraqi population and the expectations to reach 50 million by the year 2030 [17], along with the tendency of Iraqis to make events, especially when involving religious occasions. The Arba'een visit of Imam Al-Hussein has been observed since the year 61 according to the Islamic lunar calendar after the Battle of Karbala, the first walk carried out by Jabir ibn Abd Allah Al-Ansari, his visit coincided with that of the surviving female members of prophet Muhammad's family Imam Ali ibn Hussein Zayn Al-Abideen [18]. The Arba'een pilgrimage also called Karbala Walk is one of the greatest mass gatherings in the world occurring annually in Iraq, and represent real challenges of public health services in which millions of people from inside and outside the of Iraq head towards holy Karbala [16].

The primary goal of the dispatched medical services is to provide rapid health care, which must be equivalent to the number of population in each district and should be supplied by sufficient medical resources [19]. Large numbers of visitors with minor symptoms seek medical care like muscular spasm and skin problems such as blisters and abrasions [20]. Hypotension, dizziness and heat exhaustion, while cases like stroke occur in quiet few instances, such presentations also occur in any events or sport marathons for long distances [21] and it tend to be more severe in our country because of the hard environmental conditions and high temperature during summer. Therefore, the medical infrastructure must be developed and well established. Karbala visitors are also exposed to significant health risks, due to the presence of large crowds in a limited geographical area at the same time; similar to mass gathering during Hajj in Mecca which may reach up to seven people in each per one meter square [22]. There is potential risk specifically for infectious diseases, diarrhea and other gastro-intestinal symptoms due to visitors being exposed to food poisoning which is similar

to the studies that occur in other events like Hajj in Mecca [23]. Management and first-aid for most minor complaints during mass gatherings of Arba'een visitors are provided effectively by non-physician health personnel, such as nurses and paramedical staff volunteers for this job. However, the presence of doctors, who carry the highest medical responsibility, is essential for providing qualified care especially for high-risk groups from among elderly visitors, and several studies have proven that doctors' availability was necessary for reducing the morbidity of mass gathering [24]. NSAID like ibuprofen, Mefenamic acid and paracetamol are helpful to reduce muscle pain, leg ache and headaches and therefore are widely used during this event, but these drugs also lead to different side effects or they may exacerbate underlying chronic medical problems if prescribed to elderly visitors by non-professional

## Conclusions and Recommendations:

The most common health problems at the Arba'een pilgrimage were generally mild in severity like musculoskeletal symptoms and skin injuries. Analgesics were commonly used along with other medications prescribed frequently by non-doctor medical team. Most of the cases required minimal medical intervention and our findings were similar to the data found in the other medical studies during mass gathering in Hajj at holy Mecca. The health personnel must be well qualified to deal with serious medical emergencies and the physician should be available for each dispatched health unit, the medical coverage and preparations must be prepared as though a medical disaster could take place. Proper organization of the medical infrastructure for this mass gathering event is very important because the number of populations continue to increase with future and this necessitates clarity of medical factors affecting safety of food, water and medical resources. A trained medical team should be present to deal with common medical problems. Large scale of scientific studies and researches are

required to be conducted on the general population and on individual isolated medical cases to quantify the burden of such event on public health.

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