

The Emergence of Hajj Stampedes: Lessons for Hajj Trauma Centers

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Abstract

Context: The Hajj pilgrimage is one of the most important obligations of Muslims. Hajj is the 2nd largest annual gatherings in the world after the Arbaeen pilgrimage to Karbala. Many of the health risk factors during the Hajj can be prevented or controlled.

Evidence Acquisition: 17 available papers pertaining to the Hajj pilgrimage from 2000 to 2016 were aggregated, coded and used in the current study. The data were collected from the ISI web of knowledge, Scopus, Google Scholar, Lancet, PubMed, MEDLINE, Wiley, Highwire and EMBASE. The search strategy included the Hajj pilgrimage and trauma centers or Islamic ethics, Islamic rights, and accreditation.

Results: On average 1,379,500 pilgrims from 188 different countries as well as 800,000 from Saudi Arabia visited Mecca every year. The health risk factors classified categories included communicable and noncommunicable diseases. A total 2,431 people died and 427 were missing from 42 countries according to latest reports of the Hajj stampede in 2015.

Conclusions: Recent studies pertaining to Hajj had emphasized standard reforms to prevent future incidents during the Hajj rituals.

Keywords: Hajj Pilgrimage, Hajj Trauma Centers Accreditation, Islamic Ethics, Islamic Rights, Islamic Verdicts

1. Context

1.1. The Hajj Pilgrimage

The Hajj pilgrimage is one of the largest gatherings worldwide and because of the population more than 2 million pilgrims are expected annually in Mecca (1). Millions of Muslims retrace the footsteps of Prophet Mohammed, undertaking identical rituals. On arrival at Mecca, each pilgrim, makes seven circumambulations (Tawaf) around the Ka'aba (the building Muslims consider the house of God). Then he/she leaves for the Mount of Arafat, a few miles east of Mecca, where the Hajj culminates in the "Day of Standing". The pilgrim makes overnight stops in Mina and goes to Arafat, and Muzdalifah when returning. On returning to Mina, the pilgrim stops at Jamarat to stone the pillars that are effigies of Satan. The new Hajjee (a pilgrim who has completed the Hajj) then makes an animal sacrifice as thanks for an accepted Hajj (2). The Hajj pilgrimage is one of the most important. According to God's command, Muslims should perform the Hajj pilgrimage at least once in their life. Hajj is the 2nd largest annual gathering in the world after the Arbaeen Pilgrimage in Karbala (3).

1.2. Hajj Disasters

Disasters in Hajj are not uncommon (4). 1426 pilgrims were killed by stampede/asphyxiation in the tunnel leading to holy sites in 1990, 270 were killed in a stampede in 1994, 343 pilgrims died and 1,500 were injured in a fire in 1997, 119 pilgrims died in a stampede in 1998, 35 pilgrims died in a stampede in 2001, 14 pilgrims died in a stampede in 2003, 251 pilgrims died in a stampede in 2004, 76 pilgrims died after a hotel housing pilgrims collapsed and another stampede wounded 28 and killed 380 in 2006.

All of the Islamic countries were involved in this catastrophic event in Hajj. The Hajj administration needs standard protocols regarding health services. Some studies pertaining to Hajj mentioned that it should have made new reforms (5-8). Thus, the current study was done with an approach to the Islamic values for the Hajj trauma centers accreditation based on the proper standard systems (5).

2. Evidence Acquisition

Seventeen numbers of available papers investigating the Hajj pilgrimage, crowd management, Hajj trauma centers, published from January 2000 to August 2016 were

aggregated, coded and used in the current study. The libraries and online sources that were used included ISI web of knowledge, Scopus, Google Scholar, Lancet, PubMed, MEDLINE, Wiley, Highwire and EMBASE. The search terms that were used to identify these papers included Hajj pilgrimage, Hajj trauma centers accreditation, Islamic ethics and Islamic rights. The papers obtained from different databases into the bibliographic software package EndNote were imported and updated into one complete database as well as also removing any duplicated reference. Two review authors independently assessed all of the papers.

3. Results

The number of hazardous events in Hajj, based on the latest reports, was 1,379,500 international pilgrims who have arrived to Mecca and 800,000 who have travelled from Saudi Arabia. Pilgrims from abroad arrived from at 188 different countries. Health risks in Hajj spread in many different ranges. Some of the most important of these factors that are classified in two categories included, communicable and noncommunicable diseases.

3.1. Communicable Diseases

According to this narrative review this class of disease included respiratory tract infections, meningococcal disease, traveler's diarrhea, skin infections, blood-borne diseases and emerging infectious diseases.

3.2. Noncommunicable Diseases

Noncommunicable diseases included cardiovascular diseases, trauma risks, fire-related injury, environmental heat injury and occupational hazards of abattoir workers.

The broadcasted reports pertaining to the Hajj stampede in 2015 have been presented below (Table 1).

4. Discussion

Accreditation means systematic evaluation of health representing service with demonstrated health standards. These standards emphasize on continuous quality development, focusing on patients, staffs and patients' security improvement.

4.1. Hajj Therapeutic Service Quality

Accreditation is utilized for determining the sanitary therapeutic service quality. In beliefs of the Muslims, Islam has revealed a complete guideline for its living followers. Hajj as a once in a lifetime obligation for Muslims attracts more than two million people every year. Individuals

from different cultures and languages, crowdedness and massive movements (44) lead to the extreme congestion of people and vehicles during this pilgrimage. Thus numerous health hazards and injuries such as pressing in overcrowding, sliding, burning, falling down, traffic accidents etc. happen frequently. In a previous study it was indicated that tissue contusions and ruptures (about 76/10000) and tendon lesions (about 62/10000) were the most common injuries during the Hajj ceremony. In addition, spraining an ankle (69/10000) was reported as the main injury during the five consecutive years (45). Due to the mentioned subject, being prepared for significant responses in confronting possible disasters is one of the promising demands of Muslims. On the other hand, Muslimism in their destinations, particularly Mecca, requested that their Islamic values be considered in the medical centers. Hijab, halal foods and medicines are perfect examples of Muslim requests. The Islamic republic of Iran's hospitals can be mentioned as medical tourism samples that implement Islamic standards throughout the country 88.25 (46, 47).

4.2. Religions and Policy-Procedures

As the advancement of subjective well being or wellness is an important aim of both policy and procedures, better strategies derived from Islamic instructions are more likely expected from Muslims, so that clinical staffs responsible for their treatments can be trusted. Performing procedures based on ones religion is widely approached worldwide (especially Christian and Jewish) (48), very little research or literature discusses Muslim pilgrims or their experiences. Muslims from different cultural values, gender role expectations and behavioral habits have one mutual aspect in common, which is Islamic ethics, rights and manners (49). It has been demonstrated that awareness amongst emergency practitioners regarding various spiritual and religious considerations affects the patients and families under their care during critical and sometimes life-changing events in their life (50). Proposed Islamic behavior in the clinical centers maximize the potential to achieve salutary outcomes such as faster recovery, better treatment compliance lower rates of relapse and reduced treatment disparities (51). This could be referred to spirituality, which can play a critical role in promoting wellness amongst Muslims, both directly and indirectly especially by reducing the level of depressive symptoms (52).

5. Conclusions

Travelers to Mecca face specific environmental hazards both through the physical environment and through the unique setting created there during the Hajj. According

Table 1. Hajj 2015 Stampede Deaths and Missing; According to Nationalities of Victims

Hajj 2015 Nationality (Ref)	Dead	Missing
Afghanistan (9)	2	6
Algeria (10)	46	3
Bangladesh (11)	137	53
Benin (12)	52	41
Burkina Faso (13)	22	7
Burundi (14)	1	6
Cameroon (15, 16)	106	28
Chad (17)	52	50
China (16)	4	0
Djibouti (10)	2	3
Egypt (10, 18)	190	45
Ethiopia (14)	53	0
Gambia (19)	2	0
Ghana (14)	17	17
India (20)	114	10
Indonesia (21)	129	0
Iran (22)	464	0
Iraq (21)	1	0
Ivory Coast (17)	52	7
Jordan (23)	2	1
Kenya (24)	12	0
Lebanon (25)	1	0
Libya (26)	10	7
Malaysia (27)	1	0
Mali (28, 29)	312	34
Mauritius (30)	5	0
Morocco (29)	42	1
Myanmar (31)	6	5
Netherlands (32)	1	0
Niger (33)	78	41
Nigeria (34, 35)	274	43
Oman (36)	1	0
Pakistan (37, 38)	83	7
Philippines (39)	1	0
Senegal (40)	62	0
Somalia (32)	8	0
Sri Lanka (41)	1	1
Sudan (12)	30	2
Tanzania (42)	32	7
Tunisia (33)	15	0
Turkey (18)	7	0
Uganda (43)	1	2
Total	2,431	427

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to the results, close attention to the Islamic values in Hajj trauma centers can promote the patients' satisfaction and the quality. Hajj management is an overwhelming task and because of this an international collaboration needs to be done for multilateral planning.

The Islamic values could be classified into a three layer cognitive model (53). Since the most important assets in a Hajj pilgrimage the implementation of Islamic values in Hajj management, the governments should pay more attention to the Islamic values for the community of Muslims with a large variation in both nationality and faith (Figure 1).

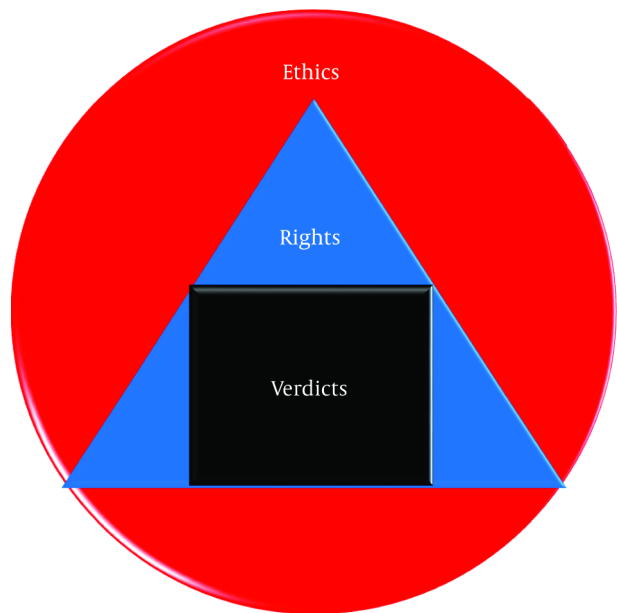


Figure 1. Suggested Conceptual model for Quality Improvement for Islamic values, priorities in Hajj pilgrimage (53)

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