

PATTERN OF CARDIOVASCULAR DISEASES IN PILGRIMS ADMITTED IN AL-NOOR HOSPITAL MAKKAH DURING HAJJ 1429H

Abdulhalim Salim Serafi

Department of Physiology, Faculty of Medicine, Umm al-Qura University, Makkah, Saudi Arabia

Background: The number of Hajj pilgrims is increasing every year, and has crossed the huge figure of 2 million. During Hajj period of 1428H (2007G), cardiac problems have been reported as one of the commonest causes of admissions in hospitals. However, the data regarding their Nationalities, age and gender is not available in the literature. This study was carried out to identify the cardiovascular diseases in Hajj pilgrims for the year 1429H (2008G) classified on geographical, age and gender basis, and to suggest pre-Hajj measures for their home countries and their handling by concerned Ministry during Hajj. **Methods:** On retrospective basis, data of all patients belonging to different Nationalities of various regions of the world, their age and gender, was analysed, who were admitted in the Coronary Care Unit (CCU) and cardiology wards at Al-Noor Specialist Hospital Makkah, over a period of 15 days in Hajj season 1429H (2008G). **Results:** Out of 203 patients hospitalised, the majority (94%) were older, i.e., >45 years. The patients suffering from various cardiac diseases were in the following order: heart failure cases 67%; ischemic heart disease 21.7%; and valvular heart disease 11.3%. As an outcome of total admissions (hospitalisation), 84% patients were discharged in stable condition, 9% were discharged against medical advice, 4.5% were unable to perform Hajj and 2.5% patients died. **Conclusion:** Most common cardiac diseases were found in hospitalized patients for Hajj 1429H, which belongs to different countries over the globe. It indicate loop holes in the health services of their home countries not verifying the physical fitness of their pilgrims before allowing them to proceed for Hajj. This study will also serve as a helping tool for the Ministry of Hajj in Saudi Arabia to take appropriate measures for demanding strictness for the physical fitness of Hajj pilgrims and anticipated health services for them.

Keywords: Cardiovascular Disease, Ischemic Heart Disease, Valvular Heart Disease

INTRODUCTION

The Kingdom of Saudi Arabia has been privileged to host the event of Hajj being one of the five pillars of Islam. It brings millions of pilgrims of several Nationalities from different countries of the world every year. Although, this important pilgrimage need mental, physical and financial fitness, for its performance, which is ignored, especially for the physical abilities, by visiting *Hujjaj* themselves and health authorities of their home countries. Therefore, yet a lot of pilgrims come to Makkah with major cardiovascular diseases. In addition, overcrowding and the hot climate subject the pilgrims further towards environmental and health hazards.

In a previous study, heart diseases, whether exacerbations of pre-existing disease or the occurrence of new ones has been reported to account for (20%) of all diseases seen during the 2-week periods of the Hajj.¹ A person could be ill at any time in his life and to seek medical aid, he might be admitted to a hospital for as long as it is needed. But during the Hajj days, too many Hajj pilgrims get medical problems ranging from minor flu to major illnesses and some may need surgical intervention. It is worth to mention that excellent medical services are provided in every hospital of Makkah, Muzdalifa, Arafat and Mina.² It results in only 2 to 3% casualties among huge

admissions in various hospitals. Yousaf and his colleagues³ have recorded the health problems of pilgrims seen as outpatients. Of these, the commonest diseases were pneumonia, diabetes, and ischemic heart disease. This results in a high admission rate to the medical departments, as in our study.

The pattern of surgical problems alone was studied by Al-Harathi⁴ and Elhassan *et al*.⁵ The commonest problems listed were blunt abdominal trauma due to traffic accidents, obstructed inguinal hernia, and intestinal obstruction. In recent years, there has been a change in the pattern of diseases among pilgrims (from cholera and meningitis, to diabetes and ischemic heart disease), perhaps due to improved health education and hygiene⁶ as highlighted in Hajj studies for specific diseases.⁶⁻⁸

According to above mentioned literature which is based on Hajj pilgrims regarding pattern of admissions in hospitals^{3,8,9}, heat stroke, meningitis, and meningococcal diseases are considered. Studies on cardiac diseases are not reported yet, on the basis of different nationalities, age and gender. It was therefore the purpose of this study to identify the cardiovascular diseases in Hajj pilgrims classified on geographical regions, age and gender and to suggest pre-Hajj careful diagnosis and treatment in their home countries and handling during Hajj, to avoid

problems during the performance of all Hajj rituals, necessary as per Islamic principles.

MATERIALS AND METHODS

This study was conducted for 203 (123 male and 80 female) pilgrims of Hajj, admitted in the CCU and cardiology wards at Al-Noor specialist hospital, Makkah, Saudi Arabia. It was done from the first 15 days of Hajj season (Month Zul-Hajjah) of the Islamic year 1429H, corresponding to 29th November to 13th December 2008. The patients' data collection included the name of cardiology wards where admitted, duration of stay, procedures performed and outcome of treatment.

RESULTS

The total Hajj patients admitted were classified on the basis of gender and the Units in which they had received their treatment in various cardiology wards, has been presented in Table-1. It shows that out of the total patients, about 61% were male and 39% were female. Most of the patients (n=125, 62%) were admitted to the CCU while the rest (n=78, 38%) were admitted to medical wards.

Table-1: Classification of patients admitted in different cardiology units of Al-Noor Hospital, Makkah

Admission Unit/Ward	Total Patients	Male	Female	Expired
Coronary Care Unit (CCU)	125	80	45	5
Cardiac Ward (CW)	41	23	18	0
Male Medical (MMW)	37	20	17	0
TOTAL	203	123	80	5

In order to find out largest age group of Hajj patients admitted in cardiology units of Al-Noor Hospital, the patients were divided into six age groups (<35 years, 35–44 years, 45–54 years, 55–64 years, 65–74 years and >75 years), as shown in Figure-1. Accordingly, the highest number of patients (148, 73%) was from the age groups of 55–64 years and 65–74 years.

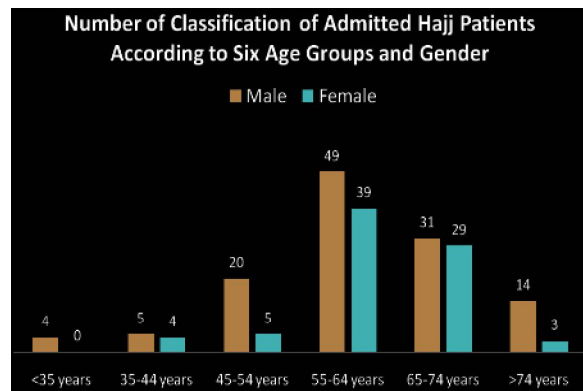


Figure-1: Number and classification of patients (6 age groups) admitted in Al-Noor Hospital, Makkah during Hajj.

The details of the duration of pilgrim's stay in various wards have been presented in Table-2. The hospital stay was categorized into three groups (1 to 3 days, 4 to 7 days and >7 days up to a maximum of 11 days). Most patients (n=105, 52%) stayed for 1 to 3 days while only 37 (18%) stayed for more than a week.

Nationalities of patients were categorised according to the specific regions of world, i.e., South Asia, South East Asia, Middle East, Western countries, South African countries and the Gulf and Peninsula. This categorisation has been presented in Figure-2. According to these results almost half of patients (48%) were from South Asia and (20%) from South East Asia.

Table-2: Duration of stay of admitted hajj patients in Al-Noor hospital at Makkah.

Length of stay in days	Number of patients	% of Total
1 – 3 days	105	52
4 – 7 days	61	30
> 7 days	37	18
Total	203	100

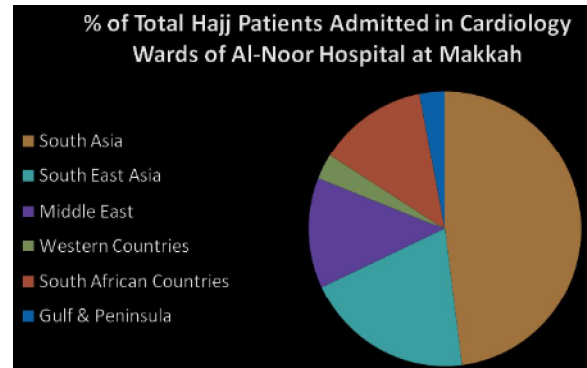


Figure-2: Percentage of Hajj patients associated with different geographical regions obtained treatment in cardiology wards of Al-Noor Hospital, Makkah.

The Hajj patients who underwent various procedures in cardiology wards during their stay have been shown in Table-3. It is noted that out of the total 63 patients, 25 patients had undergone for coronary angiograms but only 5 patients needed per-cutaneous coronary intervention (PCI) and 3 patients had surgical revascularization in the form of coronary arteries bypass grafting (CABG). In addition, 13 patients out of 17 had permanent pacemaker implantation (PPM). Some of them had only the renewal of pacemaker's battery which should have been done in their home countries before coming to Hajj.

Regarding the outcome of admissions in Al-Noor hospital, the total of 170 (84%) patients were discharged from the hospital in stable condition to continue therapy in their residential camps, 19 (9%) were discharged against medical advice (DAMA) to continue their Hajj. However, 9 (4.5%) were unable to perform Hajj as they were on ventilators during the

day of Arafat. and 5 (2.5%) patients died. It is also recorded that about 61 patients were escorted under medical care to avoid loss of main Hajj Ritual to be performed in Arafat. These patients were accompanied by doctors and nurses to care them throughout their journey and completion of Arafat Ritual.

Table-3: Statistics of the procedures performed for admitted hajj patients in Al-Noor hospital Makkah.

Procedures	No. of Patients	% of Total
Coronary Angiography	25	40
PCI	5	8
TPM	17	27
PPM	13	20
CABG	3	5
Total	63	100

DISCUSSION

This study was done in continuation of a previous study¹ to further evaluate the Hajj Pilgrims admitted in hospital with respect to their classification as cardiac patients: i) in terms of geographical regions to which they belong, ii) their age, ii) gender, and iii) the type of treatment or procedure done.

It is important that the main objectives of Hajj could not be achieved either individually or collectively, if health authorities are not care full. It is worth to note that the health ministry of Saudi Arabia is spending millions of Riyals on best care of these pilgrims in Makkah and Madinah, coming from all around the world. However, during main Hajj Ritual period, emergency admissions in hospitals offer great difficulty to pilgrims themselves and challenge to the local health authorities. This situation clearly reflects carelessness of health authorities or Hajj missions belonging to the home countries of these Pilgrims. The Pilgrims from Malaysia and Turkey with heart diseases are prohibited from coming to perform Hajj. However, only one Hajji from Malaysia was admitted to Al-Noor Hospital with acute coronary syndrome with no previous history of heart disease.

This is a pilot study with limitations. It highlights only those cases admitted in the Al-Noor Hospital for the year 1429H and refers to a previous study for the year 1427H (Serafi, 2008).¹ It is only a reflection of status of Hajj pilgrims and their heart diseases from our perspective. Pilgrims are somewhat careless about their health matters, as they want to avail every single minute to perform rituals. However, they are forced to seek medical care when they fall ill.

Approximately 203 patients were admitted during 1429H in this tertiary medical care centre (Al-Noor Hospital). The majority of patients (71%) were admitted directly in Emergency Room of this hospital. While, the rest (29%) were referred from near-by hospitals in Makkah and Mashaer (at Mina & Arafat).

Majority of admissions were males. Most patients belonged to the age group of 55–64 years. This is expected as patients in this age group are more likely to have associated co-morbidity and these are people who come for the Hajj pilgrimage after finishing their essential liabilities such as education and marriages of their children. The highest number of patients stayed at the hospital only for 1–3 days, as they wanted to leave the hospital earlier to join Hajj rituals and also to avail services of the Hajj caravan that takes them to Arafat to perform Hajj.

Maximum number of admissions was observed in CCU suggesting that these patients were in acute stage whether this was a new acute episode or a decompensation of old heart diseases. Gazzaz *et al*² have recorded 20% of admissions to Al-Noor Specialist Hospital is due to heart diseases during the Hajj 1422. Al-Ghamdi *et al*⁹ conducted a study during the Hajj 1422 session but for the hospitals of Al-Mashaer areas (4 in Mina and 3 in Arafat) and gave similar results. These are considered as primary and secondary care facilities that cater to the urgent medical needs of pilgrims.

Although this is a small study and needs further research in different aspects of Hajj and in other hospitals, it provides a brief overview of heart diseases in pilgrims.

It is concluded that hospitalized patients in Al-Noor Hospital for Hajj 1429H, were already suffering from most common cardiac diseases before coming for Hajj, and belongs to different countries over the globe. It clearly indicates loop holes in the health services of their home countries that did not verify the physical fitness of their pilgrims and allowed them to proceed for Hajj.

This study will also serve as a helping tool for the Ministry of Hajj in Saudi Arabia to take appropriate measures for demanding strictness for the physical fitness of Hajj pilgrims and anticipated health services for them.

It is recommended that Health authorities of other countries should undertake counselling & medical testing of all persons planning for Hajj before hand (at least six months earlier to the start of their journey for Hajj) and arrange an awareness program to advise and educate Hajj pilgrims regarding health care. And do not allow cardiac risk patients to proceed for Hajj unless they obtain acceptable vital values with medicine and care. Such patients should also possess a medical card with them; stating brief history regarding their main cardiac problem and medicines (generic/ chemical names) prescribed to them. This will reduce hospitalization rate and the burden on health services in Makkah and Medina during Hajj season.

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Address for Correspondence:

Dr. Abdulhalim Salim Serafi, Department of Physiology, Faculty of Medicine, Umm al-Qura University, Makkah, Saudi Arabia.

Email: asserafi@uqu.edu.sa