

The road to Mecca: a medical perspective

Journeying to the Sacred Mosque in Mecca is one of the defining moments of Muslim life. Many only find the means and opportunity to do so in their latter years. **Professor Aziz Sheikh** and **Dr Sangeeta Dhami** consider some of the spiritual, social and physical benefits of the pilgrimage to Mecca and review the potential risks healthcare professionals need to be aware of as many can be mitigated with appropriate preparation.

Hajj (literally ‘a great journey’) is the name given to the mass pilgrimage to Mecca that is undertaken at a specific time each year. It is the largest annual gathering of humanity, bringing together people from all four corners of the earth¹. These pilgrims come to commemorate Abraham’s spirit of sacrifice and dedication in his quest for faith and realisation. The Qur’an teaches that on arrival in Mecca, Abraham and his son Ishmael constructed the Sacred Mosque, built on the very site where once stood the first temple built for the worship of God.

Ever since, Mecca has held a central position and, to this day, wherever they are, Muslims will, at certain key moments in the day, turn in the direction of Mecca for prayer. The journey to the House of God in Mecca is a deeply moving experience and many who have been privileged enough to undertake it will repeatedly harken back to this brief — but extremely profound — encounter throughout the remainder of their lives². For the majority, it is a once-in-a-lifetime experience.

The Islamic calendar is lunar and approximately 10 days shorter than the Gregorian calendar, so the timing of Hajj will fall slightly earlier each year. The Hajj lasts for a five-day period and will this year fall in mid-December. Many millions of Muslims will also travel to Mecca outside of this short time window to perform the *Umrah* or ‘lesser pilgrimage’ which, although not essential, is still a

highly meritorious act. As one of the pillars of Islam, the Hajj is mandatory for all adult Muslims who have the physical, mental and financial means to undertake it. The poor, the sick and infirm are thus exempt, but despite this some will, out of an intense love for God and a somewhat misplaced sense of piety, still try to undertake the journey³. Those who have successfully completed the Hajj are given the honorific title of *Hajji*, and many will prefix their names with this badge of respect.

The estimated 2.5 million people that descend on Mecca during the Hajj period, while certainly welcomed by the Saudi authorities, do pose a considerable logistical challenge. Ranking high among these is facilitating the safe and efficient movement of pilgrims — including provision of food, water, sanitation and healthcare facilities — through the various Hajj rites that take place in Mecca and its neighbouring deserts.

The Hajj rites

The rites of the Hajj are steeped in historical significance and date directly back to the Patriarch Abraham and his family. While aware of the spiritual significance of these rites, many first time pilgrims fail to appreciate how physically demanding it actually is. The desert climate can cause extreme discomfort, particularly for those from more temperate lands, and the overcrowding can be intense. Pilgrims will spend much of their

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time travelling on foot in this demanding environment to undertake the various rites⁴. Males dress in the simplest of garb, namely two unsown pieces of white cloth with their heads bare. This clothing has profound symbolic importance, emphasising the innate equality of all human beings and a reminder that ultimately God will judge us on the basis of our intentions and deeds, and not by external appearances.

It is not uncommon to find that people have retained these same sheets or *Ihram* to shroud their bodies after death. Females will, in view of the need to maintain modesty, retain their normal attire, including headscarf, for the duration of the Hajj.

Travelling through desert plains, pilgrims reside in large communal tents for most of the Hajj period; they spend one night completely exposed to the elements. Stripped of all material possessions, there are in the state in which they entered the world: dependent. The centrepiece of the Hajj involves a period of standing in solitude on the plain of Arafat. It is here Muslims believe that all of humanity will assemble and this standing thus represents a full dress rehearsal for the final day of reckoning.

This then is a period of intense reflection, involving looking both backwards and, more importantly, forwards. For God is, in the oft-repeated words of the Qur'an 'oft-forgiving, most merciful' and He will, Muslims believe, unfailingly support those who resolve to lead a life of integrity and purpose.

Social and spiritual lessons

This is the pinnacle of all other religious activities in that it combines the physical acts of worship with a need to maintain and contribute to a unique social and spiritual environment. By virtue of the extremely unusual surroundings, the Hajj tests many aspects of character, resolve and commitment. As millions of people from disparate countries, languages, cultures and backgrounds come together, all must learn to cooperate in order to fulfil the basic necessities of eating, drinking and personal hygiene.

The overcrowding and lack of privacy pilgrims experience are for many akin to nothing they have ever previously experienced. And the message from this social experiment is that we as human beings

have an innate ability to co-exist, even with complete strangers; in contrast, we also have an ability to display extreme selfishness, even with our own kith and kin. Which path we choose is ultimately our own choice.

The spiritual benefits of Hajj are manifold, primary among them being the fulfilment of one's covenant with God. God's mercy, the noble Prophet Mohammed has taught, while everywhere is particularly concentrated in certain times, places and people. The Hajj, in the holy city of Mecca, where people from different lands are gathered together to worship God, represents the coming together of all of these causes of God's special mercy and having the opportunity to partake in this privileged assembly is thus a blessing of the highest order. Those who successfully complete the Hajj emerge purified or, in the words of the noble Prophet: '...just like the one whose mother just gave him birth'⁵.

Medical implications

As has already been suggested, the Hajj is physically demanding. Adequate preparation through a graded exercise programme, is therefore to be encouraged and should, in the elderly, ideally begin a couple of months before their intended date of travel. Arriving in Mecca a few days before the actual start of the Hajj, as many in fact do, should allow this preparation to continue and, importantly, also facilitate acclimatisation.

There are a number of potentially important health risks associated that have now been well described in the biomedical literature⁶. It is important that prospective pilgrims and their healthcare providers are aware of them, so as to allow informed decisions to be made as to whether travel to Mecca is appropriate on medical grounds and also to ensure that appropriate precautions can be taken. The main risks are summarised below.

Heat stroke and dehydration

Physiological decline may impair the ability to adjust to fluctuations in temperature and the risks of experiencing dehydration and/or heat stroke may also be heightened in those with pre-existing medical problems. The desert temperature can be extreme, reaching great heights during the day, particularly when the Hajj falls during the summer months, and then plummeting at night. Dehydration is very common and heat stroke, although less

Table 1. Checklist of essential pilgrimage supplies

- Comfortable footwear
- Adequate supplies of prescription medicine
- Printout of medical history and generic medication
- Emergency numbers: ambulance 997, police 999
- Salt tablets
- Sun protection cream
- Water bottle.

frequent, is a medical emergency implicated in a number of deaths each year^{7,8}. Most cases of dehydration and heat stroke should be preventable by taking the relatively simple precautionary measures outlined below.

Some of the Hajj rites need to be performed at set times, others have a wider time frame for their completion. Where there is flexibility in timing, pilgrims need to be sensible about choosing a time that avoids the hottest part of the day. Pilgrims should be encouraged to take frequent breaks in the shade or in a cool environment during the hottest times of the day. The use of a large, light-coloured (ideally white), reflective umbrella is particularly important for males as they are forbidden from directly covering their heads in *Ihram*. Women should also be encouraged to use an umbrella.

Adequate hydration is extremely important both due to the heat and the increased physical exertion. Rehydration salts should be taken in those experiencing symptoms suggestive of salt depletion, these including cramps, fatigue and dizziness. With thousands of almost identical tents erected, it is easy to lose one's bearings and get lost in the desert: it is therefore extremely important that, whenever away from base, pilgrims carry a water flask with them⁴.

Injuries

Another of the rites of the Hajj is the 'stoning rite'. Pilgrims must on three consecutive days cast pebbles at stone pillars, this being a symbolic act that signifies the necessity to cast out the potential for evil that resides within us all. Stampedes associated with the stoning rite unfortunately continue to make international news almost every year^{4,9}. Although continual improvements are being

made to the facilities, there is still very considerable overcrowding and the risks for the old and infirm are therefore potentially great. Pilgrims need to be aware that if they deem it unsafe to perform this rite themselves, they can and should appoint a proxy to throw on their behalf.

Appropriate footwear is important, but is often overlooked. Ill-fitting or uncomfortable footwear can lead to considerable discomfort and in elderly patients with pre-existing illness such as diabetes can lead to serious problems. Pilgrims should also be aware of the need to ensure that their footwear does not get lost at prayer times as it is not at all uncommon to hear of people mistaking someone else's sandals for their own. The desert sand can reach very high temperatures and walking barefoot for even small distances is a most uncomfortable experience.

Infectious diseases

Pilgrims will perform their rites in very close proximity to each other, eating and spending the nights together in large communal tents. Conditions are therefore ripe for the spread of droplet-borne diseases and respiratory tract infections are, judging by the extent of the coughing and sneezing audible at prayer times, extremely common. Respiratory tract infections are the main reason why British pilgrims consult the British Hajj Delegation clinic in and around Mecca.

The threat of contracting meningococcal disease is important and there have been several outbreaks in recent years, most notably in 2000 and 2001. These claimed a number of lives, including some British pilgrims^{4,10}. These outbreaks have led to the mandatory introduction of the quadrivalent polysaccharide meningococcal vaccine (ACWY) and since its introduction fatalities have markedly diminished. Those travelling to Mecca will need evidence of vaccination, without which they will not be issued with a visa. But given that recent work has shown that coverage is still incomplete — particularly among Saudi pilgrims — the risk of infection still remains¹¹.

The Saudi Ministry of Health recommends influenza vaccine for the elderly and others at increased risk of influenza-related complications; for example, those with chronic cardiorespiratory conditions¹². Vaccination is, however, not mandatory and evidence suggests the majority of

Table 2. Consultation checklist

- Assess fitness to perform the Hajj
- Discussion of long-term conditions and self-management plans if necessary, eg, asthma
- Importance of foot care should be emphasised in people with diabetes
- Discuss measures on reducing heat exposure
- Administer vaccinations.

British pilgrims are still not covered. Pneumococcal vaccination should also be considered, particularly in the elderly as they constitute a high risk group.

One of the rites of pilgrimage involves males shaving their head; although trimming of the hair is acceptable, the majority will opt for the former. The shaving will often be performed by makeshift barbers, many of who will often use the same razor blade on many scalps. There is thus risk of transmission of blood-borne infections, particularly hepatitis B and C and HIV. Pilgrims should be advised to insist and ensure that a new blade is on their scalp¹³.

Clinicians need to be aware that many elderly people will travel directly from Saudi Arabia on to their original homelands and a full prospective travel history should therefore be taken to ensure that appropriate advice and vaccinations can be given.

Conclusion: the pre-Hajj consultation

In view of the visa requirements, all first time (and most repeat) pilgrims will need to consult with a healthcare professional to obtain their ACWY vaccine. The opportunity therefore exists to provide specific advice in order to mitigate the risk of known potential problems, these centring on ensuring vaccinations are up-to-date and coverage is comprehensive, warning of the risks of dehydration and, more seriously, heat stroke.

Those with pre-existing long-term disorders should ensure that they carry adequate supplies of their treatment and a written summary of their problem and medications can prove very helpful.

Conflict of interest: none declared.

Key points

- All physically and financially able adult Muslims are duty-bound to perform the Hajj at least once in their lifetime.
- Although the vast majority of Muslims respect the significance and importance of this religious rite, many need or choose to delay it, either due to financial constraints, social commitments or conflicting priorities. Thus, the proportion of elderly pilgrims is very high.
- The spiritual benefits associated with this rite are many and profound. Its successful completion represents one of the key achievements in Muslim life.
- While the necessity for sustained physical exertion is beneficial for most pilgrims, there is an appreciable risk of health problems. These risks are largely predictable and can with appropriate preparation be greatly reduced.
- Healthcare professionals can play an important role in providing appropriate pre-travel advice.

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