

النشرة الوبائية السعودية

تصدرها وزارة الصحة

الوكالة المساعدة للطب الوقائي وبرنامج الوبائيات الحقلية

المجلد العاشر - العدد الرابع - أكتوبر - ديسمبر ٢٠٠٣

Incidence of Hajj—related Acute Respiratory Infection among Hajjis from Riyadh, 1423 H (2003 G).

Hazards during Hajj have local and international ramifications as pilgrimating Muslims return home. A large number of domestic hajjis complain of Acute Respiratory Infections (ARIs) immediately after returning from Hajj. However, in the absence of the vital information regarding the magnitude of this problem and associated risk factors it is usually not possible to plan appropriate preventive measures. Keeping this in view, a prospective cohort study was conducted to assess the incidence of post-Hajj ARI and its associated risk factors among domestic hajjis from Riyadh in Hajj 1423H. Participating hajjis were recruited as study cohort from 10th Dhul Qaida to 1st Dhul Hajja 1423, while visiting ten randomly selected Primary Health Care Centers (PHCC) in Riyadh to get mandatory meningococcal meningitis vaccination. Each participating facility was allocated a number of hajjis to be recruited based on the number of hajjis vaccinated there the previous year. On return from hajj, hajjis were contacted by telephone to collect information about occurrence of ARI related symptoms along with other associated activities in Hajj.

For the purpose of this study, ARI was defined as any person suffering from at least one of the constitutional symptoms (fever, headache, myalgia) along with one of the local symptoms (runny nose, sneezing, throat pain, cough with/without sputum, difficulty in breathing) developed after reaching Makkah for the Hajj.

Out of the 1439 persons recruited as the study cohort, 1130 were traceable after the hajj. Among these only 1027 had performed the hajj. The mean age of these 1027 hajjis was 33.5 years (SD ± 11.7), and 73% of them were male. Saudi nationals formed 79.1%, while non-Saudi nationals constituted 20.9%. Regarding level of education, 11.1% were illiterate, 5.1% had primary school education, 11.1% had intermediate school education, 32.7% had high school education, and 40% had university education. Among the total, 13.5% hajjis were current smokers. Only 10.5% were vaccinated against influenza. Regarding chronic illness, 8.1% suffered from some chronic disease; 4.6% were diabetic, 1.8% had history of chronic sinusitis, 1.6% had chronic tonsillitis and 1.6% had bronchial asthma.

During the Hajj, 46.4% hajjis reported never using the facemask while 53.6% used the facemask; 33.1% used it for most of the time and 20.4% only sometimes. Among the 750 males 63.7% used facemask at least for sometimes. While

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among the 277 females 26.0% used facemask and 71.1% used facecover (Hijab/Niqab) most of the time, 13.4% used it for sometime and 15.5% never used it. When combined with the facemask used by females it turned out that 89.5% women used either facemask or facecover for at least sometime during Hajj.

During their stay in Hajj area 27.4% of hajjis visited health care centers (HCCs) for a medical problem.

Out of the 1027 hajjis, 409 suffered from ARI, according to our case definition, during and within 2 weeks of end of Hajj. So the cumulative incidence of ARI among the hajjis was 39.8% (95% CI 36.8% - 42.9%). The date of onset of illness ranged from the 8th to 27th of Dhul Hijjah. By the 12th of Dhul Hijjah (last day of Hajj) 41.3% had already developed symptoms of ARI. Among the cases 68.7% had visited HCCs during Hajj and 72.9% had used some antibiotic before they were contacted after the hajj.

While studying the relationship between occurrence of ARI and age it was observed that the small group of hajjis 70 years or older had an ARI incidence of 83.3%, as compared to the lowest incidence of 37.7% among those below 25 years old (RR=2.2, 95% CI=1.47-3.21). However, as compared to hajjis below 25 years old, the increase in other age groups was statistically not significant. There was no statistically significant relationship between ARI occurrence and gender or educational status.

As shown in table 1, among the hajjis who used a facemask most of the time during hajj, 15.0% had ARI as compared to hajjis who used it sometimes (31.4%) or never (61.2%). The risk was 2.1 times among sometime users (95% CI 1.52-2.89) and 4 times among never users (95% CI 3.14-5.31) as compared to hajjis who used facemask most of the time. When the data was stratified for gender, it was observed that the protective effect of facemask was visible only among males, and had no association with development of ARI among females. There was an increased risk of ARI among the females who used facecover sometimes (43.2%) or never (44.2%) as compared to those who used facecover for most of time, but the difference was statistically not significant. The pattern remained the same, even when

the effect was observed for either facemask or facecover (RR 1.20, 95% CI 0.77 - 1.85).

Regarding other risk factors studied, it was observed that Hajjis who prayed in Namera mosque in Arafat (3% of our study population) had 3.17 times higher risk of ARI as compared to those who did not pray there (95% CI 1.54 - 6.52). Smoking did not show any significant increase in the risk of ARI (RR 1.07; 95% CI 0.89 - 1.35). Suffering from some chronic disease showed 1.46 times increased risk of ARI and the difference was statistically significant (95% CI 1.13 - 1.89). Among the individual diseases studied, only diabetes mellitus showed a statistically significant increased risk of ARI (RR 2.54; 95% CI 1.54 - 4.93). Chronic sinusitis, chronic tonsillitis and bronchial asthma all showed an increased risk but statistically not significant.

— Reported by: Dr. Khalid Al-Mudameigh, Dr. Alia AlNaji, Dr. Mona AlEnezi, Dr. Abdul Jamil Choudhry, Dr. Adel M. Turkistani (Field Epidemiology Training Program).

Editorial note: Acute Respiratory Infections (ARIs) are the most common infections among humans,² As ARI, especially upper respiratory tract infection, has low risk of mortality

and complications, except in physically debilitated and immunocompromised people, it is considered a low priority health problem.³ However this attitude undermines its importance due to high infectiousness, capacity to lower the general immunity and high short term disability.

ARIs are a group of diseases that occur worldwide throughout the year and are not limited to any specific age, gender, or nationality. Several factors contribute to the wide spread of ARIs including direct contact with affected persons, change in climate, and crowded places; all of which are ominously present in the Hajj environment.³ As observed in other studies, the risk of viral origin ARI increases during the winter months with a peak in January and February, especially Respiratory syncytial and influenza viruses, which currently coincide with the Hajj season, so a high ARI incidence was expected in Hajjis.⁴

Under the circumstances, it was not strange to find that almost 40% of the ARI free hajjis from Riyadh had an attack of ARI during and immediately after the Hajj. This high incidence of an illness, even if with low severity as indicated by low hospital admission rate, reveals a high burden of disease. The problem is further compounded by the fact that ARI, being communicable diseases with high secondary

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Table 1: Effect of use of face mask on incidence of ARI among Hajjis

Used Face mask	Total hajjis	Cases	Incidence (%)	Risk Ratio	95% CI
All Hajjis					
Most of the times	340	51	15	1	-
Sometimes	210	66	31.4	2.1	1.52-2.89
Never	477	292	61.2	4.0	3.14-5.31
<i>Total</i>	<i>1027</i>	<i>409</i>	<i>39.8</i>		
Male Hajjis					
Most of the times	319	43	13.5	1	
Sometimes	159	52	32.7	2.43	1.70 - 3.47
Never	272	208	76.5	5.67	4.26 - 7.55
<i>Total</i>	<i>750</i>	<i>303</i>	<i>40.4</i>		
Female Hajjis					
Most of the times	21	8	38.1	1	
Sometimes	51	14	27.5	0.72	0.36 - 1.46
Never	205	84	41.0	1.08	0.61 - 1.90
<i>Total</i>	<i>277</i>	<i>106</i>	<i>38.3</i>		

Malaria outbreak among illegal Ethiopian immigrants in Al-barzah village of Makkah province, KSA; A study of environmental and behavioral risk factors.

Makkah city is a malaria-free area, but the valleys surrounding it are endemic with malaria, where *P. vivax* is the predominant species accounting for over 50% of cases.¹ In 3/2/2003, the Field Epidemiology Training Program was informed through the malaria control department in Makkah of an unusual increase in malaria cases reported from Al-barzah area in the previous three months. Al-barzah is situated 120 Km away from Makkah, with a population of about 6000.

A cross-sectional study was conducted to determine and evaluate the environmental and behavioural risk factors for this outbreak. A self-administered questionnaire was distributed to residents of the main residential areas on the basis of simple random sampling. Illiterate individuals and those who did not speak Arabic were directly interviewed. We couldn't meet with most of the registered cases because they were not permanent residents of Al-Barzah, and most were illegal Ethiopian immigrants. Many of them had already left Al-Barzah, and no medical records were available for them at Al-Barzah primary health care center (PHCC). Only four cases were found for interviewing.

In Makkah central laboratory, we obtained information on the total malaria cases reported from different areas of Makkah province including Al-Barzah village in the same study period. Few entomological reports were available in the malaria control department in Makkah to evaluate the density of mosquitoes in the area, so our reference in that regards was the reports from the MOH in Riyadh. Reports from the malaria control department regarding the fogging of insecticides for adult mosquitoes and spraying in the breeding sites were also reviewed. Al-Barzah PHCC laboratory results showed that 47 malaria cases had been registered from November 2002 to February 2003. Most of the cases were illegal Ethiopian immigrants, 41 cases (87.2%), 2 Bangladeshis (4.2%) and 4 Saudis (8.5%). 41 cases (87.2%) had *P. falciparum* and 6 (12.8%) had *P. vivax*.

Malaria has been reported in this area in different rates in the previous years, where *P. vivax* was the predominant parasite in the last five years (61.6%). Cases were reported from different areas of Makkah province in the same study period, but the majority (47 cases or 67.1%) were from Al-barzah, where the total malaria cases at the end of 2002 constituted about 15% of the total malaria cases of Makkah province. However, the trend of malaria in Al-Barzah was similar to that of Makkah province and the whole of Saudi Arabia. The estimated annual parasite incidence rate in Al-Barzah is 1-3/1000 population.

Albarzah is situated on the edge of Mawed valley where many farms are scattered among the residential areas. These farms are surrounded by exposed wells, concrete ponds and many swamps bordered by abundant grass.

Humidity in the area is 20%-30% and the temperature ranges from 18-40°C all year. The rainy season is usually from September to November with average rain gauge of 220 milliliters.² Entomology reports showed the presence of the vectors *Anopheles* *Sergenti*, *An. Arabeinsis* and non-vectors *An. d. taili* and *culix*.²

The total number of responses to 350 distributed questionnaires were 301. Males were 299 (99.3%). Only 2 females (0.7%) participated. Age ranged between 16-85 years (mean 46, SD 17). There were 258 (85.7%) Saudis, 28 (9.3%) Ethiopians, and 5% other nationalities.

Those who reported malaria in the past among relatives, neighbors or friends were 65 (21.6%); 283 (94.4%) reported mosquito bites, only 99 (33.4%) of who did not use anti-mosquito methods, 34 (34.3%) of who

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Table 2: Associations between risk factors and prevalence of malaria cases in Al-Barzah (11/2002 - 2/2003)

Risk factor	Prevalence of malaria		OR	95% CI
	Yes freq.	No freq.		
Residence:				
Al-barzah/Mawed	47 62.7%	46 20.3%	6.57	3.58-12.1
Others	28 37.3%	180 79.9%		
Presence of mosquitoes			0.26	0.06-1.0
Yes	68 91.9%	221 97.8%		
No	6 8.1%	5 2.2%		
Mosquito bites			0.53	0.17-1.7
Yes	68 91.9%	215 95.5%		
No	6 8.1%	10 4.5%		
Close to stagnant water			2.03	1.14-3.6
Yes	43 58.9%	93 41.3%		
No	30 41.1%	132 58.6%		
Using anti-mosquitoes			0.10	0.05-0.2
Yes	21 29.6%	176 78.9%		
No	50 70.4%	47 21.1%		
Place of sleeping			4.65	2.4-9.0
Exposed places	29 38.7%	27 11.9%		
Inside houses (rooms)	46 61.3%	199 88.1%		
Occupation:			7.3	3.4-16.2
Farmers	25 32.9%	14 6.2%		
Others	51 67.1%	211 93.8%		

Malaria outbreak among illegal Ethiopian immigrants, cont

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were young people 16-26 years old. The rest used repellent smoke 91%, bed nets 6% and repellent cream 3%. Sixty five (18.6%) slept in exposed areas (50% of them were illegal Ethiopians). All the Ethiopians who were interviewed (9.3%) represented the area where the majority of cases had appeared (Mawed) and were living in simple sheds without using any anti-mosquito methods. 136 (45.6%) lived beside stagnant water; wells 75%, swamps 16.9% and concrete ponds 8.1%. 39 (13%) were working as farmers. None stated visiting malaria endemic areas inside or outside the Kingdom before November 2002. Risk factors for Malaria infection are presented in Table 1.

– Reported by: Dr. Fahad Al-Swaidy, Dr. Abdullah Al-Rabeah, Dr. Nasser Al-Hamdan (Field Epidemiology Training Program).

Editors notes: Malaria continues to claim an estimated 2 to 3 million lives annually and to account for untold morbidity in the approximately 300 to 500 million people annually infected. It is often cited as a substantial impediment to economic and social development in endemic regions.³ *P. falciparum* is responsible for the majority of deaths and most of the severe forms of disease, including cerebral malaria.³

In the south-western parts of Saudi Arabia, *P. falciparum* is the prevailing parasite and *An. arabiensis* is the main vector. The main constraints for malaria control, besides its heavy importation, particularly by uncontrolled migration from Yemen, are the existence of chloroquine-resistant *P. falciparum* and resistance of vectors to insecticides. In Saudi Arabia, local chloroquine-resistant *P. falciparum* cases have been reported without any history of foreign travel, blood transfusion or drug abuse.⁴ The areas freed from malaria are still receptive, and cases are introduced from time to time.

It is confirmed by this study that Al-barzah is a malaria endemic area. In November 2002, the beginning of the rainy season, malaria cases began

appearing in Al-barzah and within three months, 47 cases had been reported. The peak was in December when the rain gauge was at the highest level. The majority of cases were illegal Ethiopian immigrants who had arrived to Saudi Arabia to perform Omrah or Hajj and then gathered in this remote area to hide from the immigration police and work as farmers and sheep herders in adjacent farms. During Hajj season, they depart to Makkah and the Holy places looking for work. They reside on top of a mountain in primitive exposed sheds just 50 meters away from the swamps, wells and concrete ponds in the farms, without using any anti-mosquitoes methods near the breeding sites of mosquitoes.

The main vectors for transmitting malaria parasites in this endemic area, *An. Sergenti* and *Arabeinsis*, are available in reasonable density.⁵ The monthly insecticide and larvecidal spraying seem not to be enough, especially during rainy seasons. The large number of swamps, which extend up to 6 kms along the valley, is the real problem in controlling malaria in this region.

Behavioural risk factors included living near to stagnant water spots, sleeping in exposed areas, working as farmer, and not using anti-mosquito methods, which seemed to be the most important risk factor. It is well known that occupation, residence location and not using anti-mosquito nets are the most important risk factors in many endemic malaria areas worldwide.⁶ Presence of, and getting bitten by, mosquitoes did not have an association with malaria infection since the majority of biting mosquitoes were non-vector mosquitoes. The probability of importing malaria from Ethiopia cannot be excluded.

Malaria is a re-emerging problem in many countries and emerging in others. In both cases, illegal immigrants are the cornerstone of transmission of infection. In 1998, a malaria outbreak occurred in the Dhofar region of Oman, a region that is classified as malaria-free, due to the influx of hundreds of illegal Somali immigrants.⁷

This study documents the serious role of illegal immigrants as a focus for maintaining and spreading malaria

in such areas of Saudi Arabia.

It was recommended that all swamps be buried, at least those close to residential areas. Plants and grass on the edges of swamps should be removed to ease the spraying of larvicidals. Campaigns of Active Case Detection should be carried out to identify cases early and provide necessary medications to prevent future epidemics especially among illegal residents. People should be educated on the severe complications of malaria, risk factors and preventive measures. There is a need for a well-coordinated strategy to prevent cross border transmission of diseases.

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Hepatitis "A" outbreak in Bisha, 2003.

On 23/3/1424 (June 25th, 2003) the Health Directorate in Bisha reported an unusually large number of children with Hepatitis A (HAV). A team from the Field Epidemiology Training Program (FETP) investigated this outbreak. By the time the team arrived to Bisha, a mass vaccination campaign with IG had already been carried out. The epidemic curve shows a peak every 3-5 weeks (Figure 1).

The team conducted a case control study to identify associated risk factors. A case was defined as any person living in the catchment areas (Bisha Governorate) and presented with Jaundice and/or IgM antibodies against HAV in the serum during the period from 27/10/1423 to 1/4/1424. A control was defined as any person who never had jaundice symptoms before 01/04/1424. One control was selected for each case within ± 2 years of age.

We were able to identify and interview 114 cases and 114 controls. All were Saudis. The ages of cases ranged between 2-25 years (mean=9.8, SD \pm 4.67). Symptoms reported by cases were jaundice 89.5%, abdominal discomfort 87.7%, anorexia 81.6%, dark urine 74.6%, fever 73.7%, malaise 56.1%, nausea 54.4%, vomiting 54.4%, headache 42.1%, joint pain 26.3%, diarrhea 23.7% and skin itching 21.9%.

Among the cases, 92 (80.7%) were school students. Those who attended schools were three times at risk to acquire HAV (OR=3.2, 95% CI=1.7-6.0) and this was statistically significant; 98 (98.9%) recalled exposure to a case, compared to 69 (63.9%) controls. Contact with a case had five times risk (OR=5.0, 95% CI=2.3-11.4) and this was statistically significant. Hand washing with soap and water was associated with decreased risk of infection (OR=0.28, 95% CI=0.28-0.5), and was statistically significant.

Effectiveness of vaccination of the population at risk was clearly identified. Only 18 cases (15.8%) had been vaccinated, compared to the majority of controls (93%). Those who received the vaccine were 99% protected (OR=0.01, 95%CI=0.01-0.04) and this was statistically significant.

There was no community water

supply in the 28 villages where the cases had been reported. People mainly depend on "desalinated" governmental water delivered by tankers for their daily and routine use. The schools contracted with companies to supply desalinated sea water delivered by tank vehicles, and sold bottled water for drinking. There was no general sewage system, each house had its own dug well for sewage disposal. The majority (64.9%) of cases and controls used bottled water for drinking. When comparing the role of each source of drinking water in acquiring infection the crude OR was neutral (OR=1.0, 95%CI=0.6-1.7). The effect of using other sources of water for cooking was also neutral (OR=1.1, 95%CI=0.7-1.8).

– Reported by: Dr. Mona Basurrah, Dr. Adel Turkistani (Field Epidemiology Training Program).

Editorial note: Hepatitis A is an acute, self-limiting disease of the liver caused by Hepatitis A Virus.¹ It is particularly common in poor sanitary conditions.^{1,2} It is a contagious disease that spreads by the fecal-oral route.

After an incubation period of 15-50 days, patient develops fever, malaise, anorexia, diarrhea, vomiting and abdominal right upper quadrant pain, which usually precede signs of immunogenic hepatotoxicity such as jaundice and dark urine.³ The vast majority of patients fully recover, and it does not lead to chronic disease.¹

HAV infection occurs worldwide, affecting 1.5 million people annually,

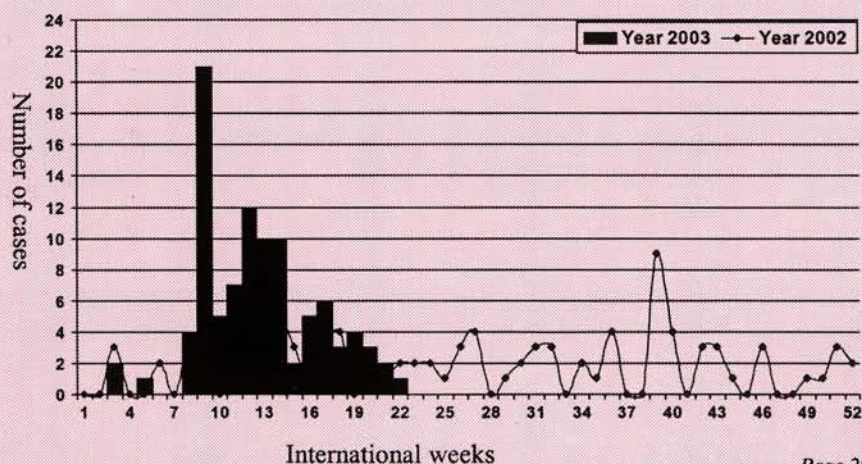
and accounting for 20 to 40% of cases of viral hepatitis in the United States.⁴ It is a major cause of morbidity in the Kingdom. In 1997, the overall seroprevalence of HAV in the Riyadh area was 30.2% among children aged 6 months to 15 years.⁵

Frequent health education campaigns to improve personal hygienic practices are recommended especially at schools focusing on the importance of hand washing. Mass Active vaccination campaign with Immune Globulin for direct and indirect contacts. Monitoring of the quality of the water provided by tankers should be done by the local municipality.

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Figure 1: Distribution of Hepatitis A cases by date of onset reported from Bisha Governorate during 2002 and 2003.



ملخص باللغة العربية

والجنس والجنسية وعن العوامل المساعدة على انتشار الملاريا وتم توزيعه بطريقة عشوائية على الساكنين في مركز البرزة. تم توزيع ٣٥٠ استبيان وحصلنا على إجابة ٣٠١ مواطن ومقيم. ٢٥% أفادوا بوجود حالات ملاريا بين الأقارب والأصدقاء في الماضي، ٩٩% أفادوا بوجود البعوض وبكثافة عالية و٦٧% منهم فقط يستخدمون وسائل مكافحة البعوض، حيث يستخدم الكثير منهم ٩١% الدخان الطارد للبعوض، ٦% ناموسيات، ٣% مرهم طارد للبعوض، و ١٨% منهم ينامون في العراء.

كل الأثيوبيين الذين شاركوا في الاستبيان (٩,٣%) والذين يمثلون المكان الذي ظهرت فيه أكثر الحالات (ماود) ينامون في العراء ويجوار أبار مكشوفة ومستنقعات مائية ولا يستخدمون أي وسيلة لمكافحة البعوض. أفاد ٤٩% من الساكنين في المنطقة بوجود مياه راكدة بالجوار وهي عبارة عن أبار مكشوفة ٧٥%، مستنقعات ١٧% و برك إسمنتية مكشوفة ٨%.

أظهرت النتائج بأن المنطقة مستوطنة بالملاريا ولكن بعدد حالات محدود وخصوصا في السنتين الماضيتين إلى أن توفرت الظروف الملائمة لانتشاره بشكل وبائي في منطقة البرزة (ماود)، ومن أهمها تجمع الأثيوبيين (إقامة غير نظامية) في مساكن بدائية مكشوفة وبجوار مستنقعات مائية وأبار وبرك إسمنتية مكشوفة في المزارع التي تبعد ٥٠ مترا تقريبا عن سكنهم على سفح جبل ماود وعدم توفر أي وسيلة لمكافحة البعوض، توجد البعوض بكثافة عالية ووفرة أماكن تكاثره من مستنقعات وأبار وبرك إسمنتية مكشوفة ودرجة الحرارة المعتدلة والرطوبة العالية نسبيا. كما يبدو أن مكافحة البعوض واليرقات من قبل الجهات المختصة غير كافية أو غير مجدية وذلك لكثرة المستنقعات المائية وكبرها ووجود معوقات للرش مثل كثرة الزرع والحشائش حولها.

تم التوصية على ردم المستنقعات والعمل على إزالة المزروعات والحشائش الموجودة على أطرافها بالتعاون مع جهات أخرى مثل البلدية والمواصلات، عمل تحري ميداني للكشف عن حالات الملاريا عن طريق عمل تحاليل دم عشوائية لأكثر شريحة ممكنة من الساكنين في المنطقة وذلك لتقييم انتشار الملاريا بشكل أفضل وإعطاء العلاج اللازم للحالات الإيجابية والعلاج الوقائي للمخالطين من الأثيوبيين على الأقل، العمل على توعية الساكنين في المنطقة بوسائل مكافحة البعوض وخطورة مرض الملاريا من خلال المركز الصحي، وإخطار الجوازات بوضع الأثيوبيين في البرزة وما يشكلونه من خطر صحي لكونهم بؤرة لانتشار الملاريا في المنطقة.

اعداد: د. فهد بن محمد السويدي، د. عبدالله بن محمد الربيع، د. ناصر بن عبدالرحمن الحمدان (برنامج الوبائيات الحقلية).

المزم ٤٣ (٥٨,٣%).

بالنسبة لاستخدام أقتعة الوجه، وجدنا أن هناك ٢٩٢ حالة لم يستخدموها نهائيا (٦١,٢%) وبمعامل خطورة ٤,٠ ومدى ثقة (٥,٣١-٣,١٤) و٦٦ كانوا يستخدمونها أحيانا (٣١,٤%) وبمعامل خطورة ٢,١ ومدى ثقة (٢,٨٩-١,٥٢) بينما ٥١ (١٥,٠%) استخدموها معظم الوقت. وقد وجدنا أن الذين لا يستخدمون الكمامات نهائيا أربع مرات أكثر خطورة للمرض من الذين يستخدمونها في معظم الوقت. أما الأشخاص الذين يستخدمونها أحيانا فكانوا معرضين للإصابة مرتين فقط.

وجدنا أن ٢٨١ حالة (٥٩,٤%) قد رجعوا المراكز الصحية والمستشفيات بينما ١٩٢ لم يرجعوا المراكز الصحية (٤٠,٦%). وقد تم تتويم ١٥ حالة (٣,٢%) من إجمالي الحالات. ٢٩٨ حالة (٦٣%) استخدموا مضادات حيوية. تم التوصية على تكثيف التنقيف الصحي بأهمية استخدام أقتعة الوجه في موسم الحج لما له من أهمية في تقليل نسبة الإصابة بأمراض الجهاز التنفسي، وتكثيف كبار السن ومرضى السكر بأنهم أكثر عرضة للإصابة بالأمراض التنفسية مما يوجب اتخاذهم للأجرات الوقائية.

إعداد: د. خالد المديميغ، د. علياء الناجي، د. منى العنزي، د. عادل تركستاني، د. عبد الجميل شودي (برنامج الوبائيات الحقلية).

التفشي الوبائي للملاريا في مركز البرزة بمنطقة مكة المكرمة، ذو الحجة ١٤٢٣هـ.

في تاريخ ١٤٢٣/١٢/٢ هـ تلقينا بلاغ من إدارة مكافحة الملاريا بمكة المكرمة عن زيادة غير طبيعية في عدد حالات الملاريا المسجلة لفترة ما بعد رمضان لعام ١٤٢٣ هـ في مركز البرزة الذي يبعد عن مكة حوالي ١٢٠ كم على طريق المدينة المنورة القديم وهي عبارة عن تجمعات سكنية صغيرة على وادي ماود و تتخللها العديد من المزارع ويبلغ عدد سكانها تقريبا ٦٠٠٠ نسمة. توجه فريق من برنامج الوبائيات الحقلية لعمل دراسة وبائية للتأكد من عدد الحالات وتقييم العوامل المساعدة على انتشار الملاريا. أهداف الدراسة تقييم حجم التفشي الوبائي للملاريا، معرفة وتحديد العوامل المساعدة على انتشار الملاريا، وضع توصيات عملية للحد من زيادة عدد الحالات.

أوضحت نتائج مختبر مركز صحي البرزة أن عدد الحالات المسجلة ٤٧، للفترة من نوفمبر ٢٠٠٢ إلى فبراير ٢٠٠٣ ومعظمهم أثيوبيون (٤١) و٢ من بنغلادش و٤ سعوديين، (٤١ حالة خبيثة و٦١ حالات حميدة). أفادت تقارير الاستقصاء الحشري عن وجود العديد من أنواع البعوض بالمنطقة ومنها بعوضة (الأنوفلين سيرجنطي) الناقل لطفيلي الملاريا. عمليات رش مبيدات البعوض واليرقات تتم بصورة شهرية كما توضحه تقارير إدارة مكافحة الملاريا. تم إعداد استبيان يشمل على أسئلة عن العمر

معدل الإصابة بأمراض الجهاز التنفسي بين حجاج مدينة الرياض بعد أدائهم فريضة الحج لعام ١٤٢٣هـ.

يؤدي أكثر من مليوني حاج فريضة الحج سنويا خلال وقت قصير وفي أماكن محدودة المساحة. ونظرا للازدحام الشديد فإنه من المتوقع ازدياد انتشار الأمراض التي تنتقل عن طريق الهواء، الرذاذ أو الاتصال المباشر ومنها أمراض الجهاز التنفسي. قام فريق من برنامج الوبائيات الحقلية بعمل دراسة لقياس معدل الإصابة بأمراض الجهاز التنفسي وبعض عوامل الخطورة بين حجاج مدينة الرياض بعد أدائهم فريضة الحج لعام ١٤٢٣هـ. كان نوع الدراسة دراسة متتابعة (Prospective cohort study). بناء على التقسيم الإداري لخدمات الرعاية الصحية في مدينة الرياض، فقد تم اختيار مركزين صحيين من كل قطاع بحيث يصبح المجموع الكلي عشرة مراكز صحية. تم إعداد نمونجين من الاستبيان: الأول عبى قبل الذهاب إلى الحج بمقابلة الشخص وجها لوجه مع شرح أهمية الدراسة. أما الاستبيان الثاني فتم تعينته بعد الحج عن طريق الاتصال بالهاتف بجميع الأشخاص الذين قاموا بأداء الحج ولديهم رقم اتصال واضح.

كان عدد الحجاج الذين شملتهم الدراسة (١٠٢٧)، من الرجال ٧٥٠ (٧٣,٠%) ومن النساء ٢٧٧ (٢٧,٠%). وكان السعوديون ٨١٢ حاجا (٧٩,١%) والغير سعوديين ٢١٥ (٢٠,٩%). كان المتوسط العمري للجنسين ٣٣,٥ سنة (١١,٧±). و عدد المخنن ٢٩٨ (٢٩%). كان مجموع الحالات المصابة بالتهاب الجهاز التنفسي العلوي بعد الحج هو ٤٧٣ حالة من ١٠٢٧ حاجا (٤٦,١%)، منهم ٣٦٠ (٧٦,١%) من الرجال و ١١٣ (٢٣,٩%) من النساء.

جميع الفئات العمرية سجلت إصابته بالتهاب الجهاز التنفسي العلوي وكانت الفئة العمرية الأكثر إصابة هي الفئة من ٧٠ سنة فأكثر (٨٣%) وبمعامل خطورة ١,٨٩، ومدى ثقة (١,٢٩-٢,٧٧)، يليها الفئة من ٦٩-٥٥ (٥٠%) وبمعامل خطورة ١,١٣، ومدى ثقة (١,٥٤-٠,٨٤)، ثم من ٤٠-٥٤ (٤٩,٥%) وبمعامل خطورة ١,١٣، ومدى ثقة (١,٣٦-٠,٩٣)، ثم أقل من ٢٤ سنة (٤٤,٧%) والفئة من ٢٥-٣٩ سنة (٤٤%).

أما بالنسبة للمستوى التعليمي فكان الحجاج ذو المستوى التعليمي الابتدائي هم الأكثر إصابة ٢٨ حالة (٥٣,٨%) وبمعامل خطورة ١,١٨، ومدى ثقة (١,٦٣-٠,٨١). كان عدد المصابين من المخنن ٦٦ (٤٧,٥%). كانت وسيلة السفر عن طريق الباص ٢٤٣ (٥١,٩%) وبمعامل خطورة ١,٢٩، ومدى ثقة (١,٤٨-١,١٢) والسيارة الخاصة ٢٣ (٥٠%) وبمعامل خطورة ١,٢٤، ومدى ثقة (١,٦٩-٠,٩١) والطائرة ٢٠٧ (٤٠,٣%).

من مجموع الحالات الكلية ٢٠ حالة (٧٦,٩%) كانوا يستخدمون أدوية لعلاج أمراض مزمنة. وكانت أكثر الأمراض المزمنة بين الحالات داء السكري ٣٣ حالة (٧٠,٢%) يليه التهاب الجيوب الأنفية المزم ١٠ (٦٢,٥%) ثم التهاب اللوزتين

Incidence of Hajj-related ARI, cont....

(Continued from page 26)

attack rates, has a great potential of spread among susceptible population of hometown on return of hajjis.

The disease is uniformly distributed among both genders and different nationalities, with a higher risk for older hajjis or diabetics, which are known to reduce the immunity and increase the risk for ARIs and other viral infections, indicating the importance of special attention to these high risk groups.

Regarding prevention of occurrence of ARI, given the circumstances of Hajj it is almost impossible to control the issue of crowding and exposure to contacts in Jamarat, Tawaf and Sa'ee; or advocate vaccination or chemoprophylaxis in the absence of clear etiology.

In this study, the facemask has turned out to be the most important practical protective factor, at least among males. Although studies have shown controversial information about the benefits of using facemask; there is a clear clinical and experiential evidence of its benefits. Use of facemasks has been advocated to protect from inhalation of aerosols containing organic and inorganic particulates. The CDC's recommendations for the prevention of influenza include wearing a facemask.^{5,6} Although wearing mask may not provide complete protection from infection; it will reduce the incidence of infection via preventing droplet inhalation, which is considered one of the main modes of transmission of most URTIs.

Use of facecover (Hijab/Niqab) by the women can also be treated as use of facemask. Since most of the female hajjis were Saudis, who use facecover more often during Hajj as compared to other nationalities, the usage of facemask alone was quite infrequent. However, there was no evidence of significant decrease in the incidence of ARI among women related to using facemask or facecover. This difference from males can be explained on the basis of either a small sample size of females in the study or other customary practices i.e. women when alone in their tents with other females do not cover their faces (as the use is meant mainly for Hijab and not for preventing ARI) thus having the same high risk of disease transmission in a closed environment with exposure to droplet infection. Use of facecover as proxy of facemask among females may therefore lead to misclassification of exposure status.

It is recommended that use of face-

mask during Hajj should be encouraged specially among males. Old people and diabetics should be informed about special high risk of ARI and adopting protective measures.

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Selected notifiable diseases by region, Oct—Dec 2003

	Riyadh	Makkah	Jeddah	Taif	Madinah	Qassim	Eastern	Hasa	Hafr AlBatin	Asir	Bisha	Tabuk	Hail	Al Shamal	Jizan	Najran	Baha	Al Jouf	Goriat	Gorfuda	Total
Measles	4	0	3	0	3	0	1	0	0	5	0	0	0	4	146	1	0	0	0	0	167
Mumps	22	18	22	5	17	18	7	10	11	9	2	4	3	3	1	3	3	2	0	0	160
Rubella	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Varicella	1655	368	903	365	463	1733	1088	587	396	1595	601	457	213	478	204	165	285	148	96	94	11894
Brucellosis	41	2	8	34	9	84	36	5	28	279	31	1	90	7	55	26	7	4	1	5	753
Meningitis mening	1	2	0	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Meningitis other	42	13	8	16	5	9	4	9	0	3	0	3	2	0	6	2	0	0	1	0	123
Hepatitis A	36	17	28	7	12	15	20	13	38	74	10	27	8	14	14	57	9	2	6	1	408
Hepatitis B	173	14	224	16	92	71	153	10	0	48	18	50	6	14	11	3	37	0	3	1	944
Hepatitis C	165	7	289	0	15	62	86	11	2	19	6	12	0	4	0	1	26	0	0	0	705
Hepatitis un-specified	35	10	5	0	3	0	0	5	0	25	0	21	0	0	114	0	0	0	0	0	218
Typhoid & pratyphoid	3	4	1	0	7	2	9	4	0	25	6	0	0	8	10	2	2	0	1	0	84
Amoebic dysentery	15	0	243	29	0	18	19	5	3	80	17	0	8	1	33	6	0	0	4	2	483
Shigellosis	27	0	24	0	4	3	21	8	0	0	0	8	0	6	3	6	5	0	1	1	117
Salmonellosis	99	3	40	4	6	4	265	30	7	13	10	25	0	3	0	17	11	0	3	0	540
Syphilis	5	0	11	0	0	1	11	0	0	2	5	0	2	0	1	0	4	0	0	1	43
VD, other	9	0	14	0	0	0	13	8	0	3	2	0	2	0	2	0	1	0	1	0	55

Comparisons of selected notifiable diseases, Oct - Dec 2002-2003

Disease	Oct-Dec 2002			Change		Jan-Dec 2003			Disease	Oct-Dec 2002			Change		Jan-Dec 2003	
	2002	2003	%	2003	2002	2002	2003	%		2003	2002					
Diphtheria	0	1	100	2	9	Meningitis other	226	123	-46	405	753					
Pertussis	11	19	73	120	42	Hepatitis A	657	408	-38	2104	2926					
Tetanus neonat	10	12	20	31	28	Hepatitis B	2231	944	-58	4329	5638					
Tetanus other	11	2	-82	12	21	Hepatitis C	1852	705	-62	2812	4283					
Poliomyelitis	0	0	0	0	0	Hepatitis un-specified	285	218	-24	1101	1227					
Measles	22	167	659	1208	311	Typhoid & pratyphoid	88	84	-5	403	390					
Mumps	328	160	-51	749	976	Amoebic dysentery	2289	483	-79	2328	4584					
Rubella	2	1	-50	22	11	Shigellosis	155	117	-25	490	472					
Varicella	16118	11894	-26	70884	53207	Salmonellosis	754	540	-28	2219	2539					
Brucellosis	986	753	-24	4534	4687	Syphilis	94	51	-46	166	187					
Meningitis mening	3	8	167	43	55	VD, other	148	64	-57	382	386					

Diseases of low frequency, Oct - Dec 2003

Yellow fever, Plague, Poliomyelitis, Rabies, Haemolytic Uraemic Syndrome, Purperal Sepsis: **No cases**

Pertussis: 19 cases (Eastern 7, Jeddah 4, Jizan 2, Najran 2, Hasa 2, Riyadh 1, Makkah 1)

Tetanus neonatorum: 12 cases (Makkah 8, Jeddah 3, Asir 1)

Echinococcosis: 3 cases (Riyadh 2, Jizan 1)

Guillain-Barre syndrome: 26 cases (Riyadh 6, Jeddah 4, Northern 4 Makkah 3, asir 2, Baha 2, Hasa 1, Tabuk 1, Bisha 1, Jouf 1, Hail 1)