

Distribution of Influenza virus during Hajj season 1426 Hijra (2005 G)

Influenza is a highly contagious, usually self-limiting, acute respiratory disease caused by influenza viruses. Influenza A is the only subtype which can trigger a pandemic because of the ability to change their genetic compositions at unpredictable intervals.¹ During hajj, millions of hajjis from across the globe intermingle with each other, creating an opportunity for transmission of any such new strain of influenza, and later spread it to all parts of the world within a short time. Two years back, Influenza Surveillance System was initiated in Saudi Arabia in Makkah region during Hajj 1426 Hijra, and has been gradually expanded.²

Although main rituals of hajj are performed in Makkah city and around it, most international hajjis also visit AlMadina AlMunawwarah city during their pilgrimage. Further, in distinction from the virus strains circulating among hajjis in Makkah, it is important to identify the strains which are imported into the country by international pilgrims, which necessitated the expansion of surveillance system to the airports where international pilgrims land in Saudi Arabia.

As part of this surveillance activity, during the Hajj of 1426 H (2005 G), a cross-sectional study was conducted by the Field Epidemiology Training Program to identify the serotypes of influenza viruses among hajjis staying in Makkah and Madina; and among international pilgrims coming through airports of Jeddah and Madina for improved understanding of the epidemiology of influenza in Hajj.

Data for the study was collected in Ajiad hospital in Makkah, Al-Ansar hospital in Madinah, King AbdulAziz airport in Jeddah and Prince Mohammed bin AbdulAziz airport in Madinah from 16 Dhul Qaida to 6th Dhul Hajja 1425 (17/12/2005 to 6/1/2006). For the purpose of study, a case of suspected influenza was defined as any patient who is suffering from fever of at least 38°C, in combination with either cough or sore throat, and time of onset of fever within last 72 hours. All the cases presenting with a case definition of suspected influenza at one of the four

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participating sites were included in the study. All participants were interviewed using a structured questionnaire and a throat swab was collected for viral isolation using Dacron swab. The swabs were later analyzed at King Abdul Aziz University virology laboratory in Jeddah.

A total of 483 suspected influenza cases were recruited in the study, 43 (7.5%) from Ajjad Hospital Makkah, 6 (1.2%) from AlAnsar Hospital Madinah, 165 (34.2%) from King AbdulAziz Airport Jeddah and 276 (57.1%) from Prince Mohammad bin AbdulAziz Airport Madinah.

The ages of the suspected cases ranged between 13 and 96 years with a mean of 51.6 years (SD 13.3 years). All the recruited suspected cases were international Hajjis. The suspected cases belonged to 15 nationalities, including 70 (14.8%) each from Iran and Turkey, followed by 59 (12.4%) from Senegal, 58 (12.2%) from Sudan and 49 (10.3%) from Egypt. Regarding the clinical features, fever was reported by all the suspected cases, as it was essential part of case definition. Other symptoms reported were cough (72.3%), myalgia (30.5%), sore throat (26.1%), runny nose (22.2%), headache (19.1%), sputum (17.6%) and blocked nose (16%). Among the total suspected cases 142 (29.9%) cases were vaccinated against influenza, while 152 (32%) were not vaccinated and 181 (38.1%) did not know about their vaccination status. Among the suspected cases, 67 (14.2%) cases have already used antibiotics before they were included in study, while 212 (45%) cases have not used antibiotics and 192 (40.8%) cases did not know about antibiotic consumption.

47 cases (9.7%; 95% CI 7.2 – 12.7) of suspected influenza cases were confirmed by the laboratory to have influenza viruses. Out of these 47 confirmed cases, 40 cases (85.1%) were from hospitals and the other 7 cases (14.9%) were from airports. Among all the suspected cases from airport only 1.6% were confirmed, while among suspected cases from hospitals 95% proved to be confirmed cases. The ages of the confirmed cases ranged from 13 to 96 years with a mean of 40.0 years (SD \pm 15.0 years). All confirmed cases were international Hajjis. Highest number of confirmed influenza cases in our study came from Pakistan with 13 cases (28.3%), followed by 12 (26.1%) from Egypt, 7 (15.2%) from Sudan, 4 (8.7%) from India, 4 (8.7%) from Syria, 3 (6.5%) from Turkey, and one case (2.2%) each came from Indonesia, Nigeria, and Senegal.

Regarding the clinical features, as mentioned earlier, fever was reported by all confirmed influenza cases as it was an essential part of case definition. Among others, sore throat was reported by 83.0%, myalgia 70.2%, cough 66.0%, headache 61.7%, runny nose 38.3%, sputum 55.3%, and blocked nose 34.0%, of confirmed influenza cases.

14.9% of confirmed cases were vaccinated against influenza, 76.6% were not vaccinated and 8.5% were of unknown status. In the airports 42.9% of confirmed cases were vaccinated against influenza while in the hospitals 10.0% of confirmed cases were vaccinated against influenza. 25.5% of confirmed cases have used antibiotics before the sample was taken for virological examination, while 57.4%

have not used antibiotics and another 17.0% did not know about antibiotic use. In the airports 14.3% of confirmed cases have used antibiotics while in the hospitals 27.5% of confirmed cases had used antibiotics.

Influenza type A was more common (76.6%) than influenza type B (23.4%), and the most predominant influenza serotype among the isolates was A/H1N1, accounting for (34.0%), followed by FLU A not typed (29.8%), B/SICHUAN (17.0%), then A/H3N2 (12.8%), and B/HONG KONG (6.4%).

Regarding the distribution of influenza serotypes according to the place where specimen was collected in (airports or hospitals), it was observed that influenza A/H1N1 serotype was the predominant strain from the airports confirmed cases (71.4%). Where in hospitals, FLU A not typed was the predominant strain (35.0%) (Table 1). Regarding the distribution of influenza serotypes according to nationality, it was observed that influenza A/H1N1 serotype was the predominant strain from Syria (50.0%), India (50.0%), Egypt (41.7%), and turkey (100%). Whereas in Pakistanis Influenza, FLU A not typed was the predominant strain (61.5%).

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Editorial notes: The results of this study are comparable to the findings

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Table 1: Frequency of virus subtypes of confirmed influenza cases recruited in Hajj, 1426H

Place of recruitment	Type of virus					Total
	Flu A			Flu B		
	H1N	H3N2	Not typed	B/Hong Kong	Flu B Sichuan	
Airports	5	1	0	0	1	7
Hospitals	11	5	14	3	7	40
Total	16	6	14	3	8	47

Assessment of Resident physicians and other health services provided by local hamlas during Hajj season 1426 H.

During Hajj season, the Saudi government provides free health services for all pilgrims (hajjis). In recent years, some local hajj organizers (hamlas) have provided additional health services for their hajjis within their camps in Mina. This study was conducted to evaluate these health services, while assessing their benefits and their role in reducing utilization of governmental health facilities. A cross sectional study was conducted in Mina area among a sample of 30 randomly selected camps from the Ministry of Hajj records. Data was collected from the 8th to the 12th of Dhul Hijjah 1426 H (9th to 13th January 2006).

Of the 30 selected hamlas, 20 (66.7%) provided health care services. Hamlas with health services had a significantly higher number of hajjis ($P=0.026$), and were significantly more expensive ($P= 0.0002$).

Physicians were available in all (100%); all allowed the medical staff to perform their hajj free, and only 15.8% offered financial reward.

Hamla directors gave several reasons for providing health services within their camps, the most frequent was providing care for minor illness (75%), immediate care for serious illness (65%), to attract a larger number of hajjis to the hamla (60%), to reduce the load on Ministry of Health (50%), and finally to raise the cost of joining the hamla (15%). However, hajjis were not asked to pay extra fees for using these health services.

The study also involved interviewing physicians working with the hamlas. The total number interviewed was 20; their mean age was 42.5 years ($SD \pm 8.3$). Non-Saudi nationality accounted for 95%, and 95% were males. They were either general practitioners (60%) or specialists (40%); 60% belonged to private sector, 25% other governmental health sectors, and 15% belonged to Ministry of Health. Only 35% had received training for medical management in hajj.

Among hamlas that provided health services, only 30% had a specific location for the health facility, 80% had a designated area for clinical examination and diagnosis, 70% had a pharmacy, 70% had a dressing area, and 5% had a CPR facility.

Most of the hamla health facilities (75%) received a daily average of up to 10 sick hajjis. Only 5% received 51 or more. In addition to examination and diagnosis, other health services included providing medicines for minor ailments (100%), emergency medicines (95%), and simple laboratory investigations (5%).

The most common reasons stated by physicians for hajjis to seek the hamlas' health facilities were: diagnosis and treatment of an acute illness (80%), obtaining medication for a known diagnosis (60%), routine check up of blood pressure (25%), routine check up of blood sugar level (20%), routine check up of a chronic disease (40%), and administration of routine injections e.g. insulin (30%).

According to the physicians, the three most common presenting health problems of hajjis were acute respiratory tract infection (ARI) (80%), gastroenteritis (75%), and injuries (45%). The three most commonly prescribed medications were analgesics/antipyretics (100%), antibiotics (90%), and antihistamines or decongestants (80%). Most of the sick hajjis were given medical advice along with the medications (90%).

The study also involved interviewing 500 hajjis from the 30 camps. Among

them (79.4%) were males. Most were Saudi (74.8%), those from Arab countries (19.8%), and Non-Arab countries (5.4%). During their stay in Mina, 101 (20.2%) of the total hajjis had fallen sick. Of 68 (67.3%) sick hajjis belonging to hamlas with health facilities, 63 (92.7%) had sought medical advice from their hamla physicians. However, among hajjis belonging to hamlas with health facilities 54.9% had not visited the health facilities, and 38.7% were satisfied with the services provided.

Among the total hajjis interviewed, 28.8% had specifically planned to join hamlas with health facilities, and 93.2% planned to perform future hajj with hamlas that provided health facilities. Male gender and married hajjis were more likely to join hamlas with health facilities (Table 1).

- Reported by: Dr. Badria Al- Malki, Dr. Abdul Jamil Choudhry (Field Epidemiology Training Program).

Editorial notes: More than 2 million pilgrims gather during Hajj, and are therefore prone to different communicable diseases. Fatigue and lack of sleep from the physically demanding regimen of hajj rites lower immunity, leading to

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Table 1: Impact of health education program on food practices and dietary related habits among girls' in a primary school, Riyadh, Saudi Arabia.

	Hamlas with health facilities		Hamlas without health facilities		P-value
	No	%	No	%	
Number of hajjis					
< 500	3	15.0	5	50.0	0.026
500-800	7	35.0	3	30.0	
> 800	10	20.0	2	20.0	
Total	20	100	10	100	
Fee paid to hamla (SR)					
<3000	4	21.0	8	88.9	0.0002
3000-4000	12	63.2	1	11.1	
>4000	3	15.8	0	0	
Total	19	100	9	100	
Marital status					
Married	260	66.7	130	33.3	0.020
Single	64	58.2	46	41.8	
Total	324	64.8	171	34.2	
Utilization of governmental PHC					
Yes	8	11.8	12	36.4	0.003
Total	68	100	33	100	

Assessment of utilization of additional human and medical resources to primary health care centers in Makkah city during Hajj season 1426 H.

The Saudi Ministry of Health invests a huge amount of human and financial resources during hajj to provide free health care to millions of hajjis. The health services provided year-round is strengthened during Hajj by assigning additional manpower and medical resources and additional supplies, in preparation for a higher patient load, care for longer hours and more frequent supervisory activities. However, it is feared that these supplies may be maldistributed, leading to waste of precious resources. This study aimed to evaluate the need and utilization of these health services, in order to provide answers for optimal distribution of health resources in future seasons.

There are 73 Primary Health Care Centers (PHCCs) in Makkah city. Most of them have a permanent duty during the year while some of them only operate during hajj. Some of the PHCCs are very close to Haram (within 1- 2 km) and some are farther away (over 5 km).

It is a known fact that during hajj, all hajjis prefer to stay close to Kaa'ba to perform their religious rituals easily, thus creating a gradient of patient load with highest concentration near Kaa'ba. In consequence, the Makkah Health Directorate distributes manpower and medical resources to PHCCs according to their distance from Haram and Hajji's congestion, adding more supplies to those in need. During this hajj season, there were

27 PHCCs that received additional resources (AR).

A cross-sectional study was conducted among 23 PHCCs of those supplied with AR (AR PHCCs; i.e. those that received additional staff and medications during hajj season) and 7 PHCCs without additional resources (NoAR; i.e. staff and medications same as year-round) were selected. Data was collected in two visits: the first at the beginning of hajj, when the investigating team visited all participating health facilities and collected pertinent information about the previous year and the allocation of additional resources during Hajj; the second was carried out after hajj, to collect the data on patient load and drug consumption during hajj.

The minimum distance of the PHCCs from Haram was 300m and the maximum was 50km. The mean distance of AR PHCCs from Haram was 5.8 km (SD \pm 5.2), while that of NoAR PHCCs was 24.1 km (SD \pm 15.9) (t-test = 4.89, P <0.0001).

The mean number of total physicians in the AR PHCCs was 7.57 (SD \pm 2.29) as compared to 5.3 (SD \pm 3.4) in NoAR PHCCs (P=0.048); the mean number of total nurses in the AR PHCCs was 12.0 (SD \pm 3.7), compared to 13.4 (SD \pm 6.5) in NoAR centers (P=0.56).

Among AR PHCCs, 91.3% reported that the duty of additional staff was from the 1st-15th Dhul

Hijjah, 4.3% was 1st-30th Dhul Hijjah, and in one center (4.3%) was 1st-7th. One duty shift was implemented in most AR PHCCs (82.6%), and the rest (17.4%) had two shifts. Among NoAR PHCCs, 42.9% implemented one shift system and 57.1% had two shifts. Regarding duration of the shift, among AR PHCCs, 19 (82.6%) implemented one shift duty of 12 hours, and 4 (17.4%) implemented two shifts of 12 hours each. Among NoAR centers, 3 (42.9%) had 2 shifts of 4 hours each, 3 (42.9%) had one shift of 9 hours, and one (14.3%) had two shifts of 8 and 9 hours.

The mean number of staff in AR PHCCs in the 1st shift was 27.5 (SD \pm 6.95) compared to 9.1 (SD \pm 6.4%) in NoAR centers; and in the 2nd shift was 14 (SD \pm 10.9) in the AR PHCCs compared to 10.3 (SD \pm 8.6) in NoAR centers. Most of the AR centers (95.7%) and over half of NoAR centers (57.1%) reported that the number of medical staff was sufficient.

On average, a physician managed 54.2 (SD \pm 47.0) patients/day, and a nurse managed 31.1 (SD \pm 38.0) patients/day during hajj. In general, AR PHCCs, had the highest patient load, but was thought to be reasonable in most AR facilities, with exception to a few PHCCs that showed daily patient to physician ratio and patient to nurse ratio reaching or exceeding one hundred

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Table 1: Comparison between mean patient load during the hajj period and the rest of the year 1426H, among PHCCs with additional resources and those without additional resources

		PHCCs with additional resources	PHCCs without additional resources
Total patients	Mean during months 1-11/1426 H	3133.5	3145.9
	95% CI	2885.7 - 3381.2	3573.1 - 2718.7
	Mean during Hajj 1426 H	6956	1698
Emergency cases	Mean during months 1-11/1426 H	5.7	5.8
	95% CI	5 - 6.5	7.5 - 4.1
	Mean during Hajj 1426 H	69	7
Notifiable diseases	Mean during months 1-11/1426H	1.5	1.5
	95% CI	1.1 - 1.8	2.2 - 0.7
	Mean during Hajj 1426 H	0	0

Assessment of resident physicians and other health services, cont...

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higher vulnerability to disease. ARI is very common during hajj.¹

In recent years, a number of local hamlas have provided health facilities for their hajjis, in an effort to increase the number of hajjis in the hamla, or raising the price of these hamlas.

Emergency situations are common during hajj, such as heat exhaustion, sunstroke, dehydration, injuries; in addition to complications of certain chronic diseases.^{2,3} The most common illness among hajjis in this study was ARI. As previously reported, almost 40% of hajjis may suffer from ARI during hajj.³

Another very important effect of having health facilities in the camps is reducing the load on ministry of

health facilities. In this study, hajjis who did not have health facilities at their camps sought health care at governmental health facilities when they became ill. It has been reported that 27.4% of hajjis utilize governmental health facilities during their stay in Mina.⁴

This study showed that health services within the camps are of benefit to hajjis, and may also reduce the load on governmental health facilities. However, the high cost of these hamlas may hinder hajjis' from joining them. Training of hamla physicians is recommended, and they should remain in contact with MOH.

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Assessment of utilization of additional human and medical resources to PHCCs in Makkah city during Hajj season 1426 H, cont...

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(Al-hajla, Al-sulaimania and Al-shamia health centers).

During years 1425 & 1426 H, the means of total patients in AR PHCCs reached maximum numbers during hajj. In the NoAR centers, there was no difference in mean total patient number throughout the year including hajj. During hajj 1426 H, the mean of total patients in AR PHCCs reached a maximum on days 7 & 14, and minimum on the 9th. There was no difference in NoAR PHCCs.

The number of drug items prescribed exceeded 30 tablets/patient/day in some PHCCs. On average, 24 (SD ±16.9) drug items were dispensed to each patient. However, 2 AR PHCCs (8.7%) and 4 NoAR PHCCs (57.1%) dispensed over 40 items/patient. Means of all medications consumed during hajj in AR PHCCs were higher and above the upper 95% CI limit than that consumed during the rest of the year. In NoAR PHCCs, almost all the means of medications consumed during hajj period fell within the 95% CI of the mean of that consumed during the rest of the year.

-Reported by: Dr. Moslem Abu Hassan, Dr. Adel Turkistani, Dr. AbdulJamil Choudhry (Field Epidemiology Training Program).

Editorial notes: During hajj season, certain health facilities in Makkah are augmented by assigning extra health workers for hajj duty, based on the distance of the PHCCs from Haram and the congestion of Hajji's. The strategy for provision of additional resources based on the distance of the health facility from the Kaa'ba is apparently working well, as confirmed by this study.

Demarcation of a clear catchment area and accurate estimate of the population to be served are essential requirements for planning and evaluating health services, especially PHCCs.² However, the population for the selected Makkah PHCCs was fleeting, to an extent that 3 centers claimed they had no concept of the catchment population. This unique feature could be a major obstacle in the proper planning of resources for these facilities, not only during hajj but for the whole year, and needs addressing by defining the catchment area and estimating the number of permanent and temporary residents.

The lowest number of cases on the 9th of Thul hijjah is explained by the fact that all Hajjis are in Arfat that day. The increase in number of cases on day 14th is due to the occurrence of many accidents after rain fall that day.

It was noticed that none of the facilities had a deficiency of essential drugs during Hajj or throughout the year. Patient-staff ratio also seemed adequate. However, those facilities where patient to physician/nurse ratio were unrealistically high demand intervention to bring down to manageable levels.

It was recommended that allocation of staff and medicinal resources to all the facilities continue in the same pattern, except for those facilities that were found to have very high patient to physician/nurse ratio where more staff should be allocated. Those facilities that showed a very high ratio of number of medicinal items prescribed per patient requires further exploration. Makkah health directorate should routinely analyze the data collected during each hajj to study the pattern of morbidity among patients and health care utilization, in order to develop an evidence-based resource allocation model for coming hajj seasons.

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ملخص باللغة العربية

دراسة أنماط فيروس الأنفلونزا بين الحجاج لعام ١٤٢٤هـ (٢٠٠٦ م)

تعتبر الأنفلونزا من الأمراض الحادة التي تصيب الجهاز التنفسي للإنسان. رغم أن انتقال العدوى من الشخص المصاب إلى الشخص السليم يحدث بسهولة ولكن تعتبر الأنفلونزا من الأمراض التي يمكن تجاوزها من قبل المصاب عادة بدون مضاعفات. أنواع الأنفلونزا التي تصيب الإنسان عادة النوعان (أ) أو (ب) والتي يمكن أن تؤدي إلى ظهور بعض الفاشيات المختلفة الشدة وخاصة في موسم الشتاء.

هدفت هذه الدراسة إلى تحديد أنماط فيروس الأنفلونزا المنتشرة بين الحجاج أثناء تواجدهم في مكة المكرمة وجدة والمدينة المنورة، من أجل إنشاء قاعدة معلومات لفهم وبائية مرض الأنفلونزا خلال موسم الحج والمساعدة في اختيار لقاحات الأنفلونزا المناسبة.

تم عمل دراسة مقطعية خلال موسم الحج (٢٠٠٥/١٢/١٧ إلى ٢٠٠٦/١/٦) من خلال بعض المستشفيات والمطارات في مكة المكرمة وجدة والمدينة المنورة. تم تعريف حالة الأنفلونزا المشتبه بها على حسب تعريف منظمة الصحة العالمية. قام بالعمل فريق مدرب على جمع البيانات والمسحات الحلقية وكذلك تخزينها ونقلها بطريقة صحيحة.

بالنسبة إلى الحالات المشتبه بها: كان متوسط عمر الحالات $51 \pm (13,3)$ سنة. وكانت جميع الحالات من الحجاج من ١٥ جنسية مختلفة ولكن أكثر الحالات كانت من إيران وتركيا بمعدل (١٤,٨٪) لكل منهما. جميع الحالات كانت تعاني من ارتفاع درجة الحرارة (وهو جزء أساسي لتعريف الحالة)، من بعدها السعال (٧٢,٣٪). أقل نوع من الأعراض ظهوراً كان انسداد الأنف (١٦٪). كانت نسبة من استعملوا اللقاح الخاص بالأنفلونزا قبل القدوم إلى الحج (٢٩,٩٪). وقد استخدم (١٤,٢٪) من الحجاج المضادات الحيوية.

بالنسبة للحالات المؤكدة: تم تأكيد (٩,٧٪) من الحالات المشتبه بها. متوسط عمر الحالات المؤكدة $40 \pm (15)$ سنة. وكانت الحالات من تسع جنسيات مختلفة وخاصة من باكستان (٢٨,٣٪). جميع الحالات كانت تعاني من ارتفاع بدرجة الحرارة، ثم السعال (٦٦٪). كانت نسبة من استعملوا اللقاح الخاص بالأنفلونزا من مجموع الحالات المؤكدة قبل القدوم إلى الحج (١٤,٩٪). كذلك (٢٥,٥٪) من الحجاج المصابين استعملوا المضادات البكتيرية الحيوية.

معظم حالات الأنفلونزا التي تم اكتشافها كانت من النوع (أ) بنسبة (٧٦,٦٪) ومن بعده النوع (ب) بنسبة (٢٣,٤٪). النمط الأكثر ظهوراً بين الأنماط المختلفة كان A/H1N1 بنسبة (٣٤٪) وكذلك النوع ألف غير محدد النمط بنسبة (٢٩٪).

أنماط الأنفلونزا التي تم اكتشافها هي نفس الأنماط المنتشرة والمعروفة في مناطق العالم المختلفة من قبل منظمة الصحة العالمية، حيث تم شمولها في لقاح الأنفلونزا الجديد لعام ٢٠٠٥-٢٠٠٦. مم يدعو إلى تشجيع استعمال اللقاح وخاصة للحجاج من المجموعات المعرضة للخطر كبار السن والمصابين

بأمراض القلب والرئة وغيرهم.

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دراسة استخدام الموارد البشرية والطبية الإضافية في المراكز الصحية بالعاصمة المقدسة خلال حج عام ١٤٢٦ هـ.

تقوم وزارة الصحة بالتعاون مع مديرية الشؤون الصحية بالعاصمة المقدسة خلال موسم الحج بإنشاء مراكز صحية إضافية مؤقتة بالإضافة إلى تدعيم المراكز الصحية الموجودة من أجل تقديم خدمة صحية أفضل واستيعاب أعداد كبيرة من الحجاج. قمنا من خلال هذه الدراسة المقطعية بمراجعة توزيع الموارد البشرية والطبية في المراكز الصحية في مكة المكرمة خلال موسم حج عام ١٤٢٦هـ، ومقارنتها بحجم الخدمة المقدمة من خلال هذه المراكز.

تم توزيع المراكز الصحية إلى مجموعتين بناءً على توفر الدعم الإضافي لها. تم جمع المعلومات على مرحلتين: المرحلة الأولى في بداية موسم الحج، حيث تم جمع بيانات عن المركز الصحي خلال العام الماضي وعن الإمدادات الإضافية خلال موسم الحج. المرحلة الثانية كانت بعد إنتهاء موسم الحج، وفيها تم جمع بيانات إحصائية لأعداد المرضى المراجعين والأدوية المصروفة خلال موسم حج ١٤٢٦هـ. ضمت الدراسة ٣٠ مركزاً صحياً منها ٢٣ (٧٦,٧٪) بإمدادات إضافية و ٧ (٢٣,٣٪) بدون إمدادات إضافية.

ثلاثة من المراكز ذات الإمدادات الإضافية اعتبروا كمناطق حج بدون عدد سكان محدد، و ٢٠١ الآخرون كانوا يقدمون الخدمة الصحية لعدد سكان أكبر كثيراً من المراكز بدون الإمدادات.

بلغ متوسط المسافة بين المراكز ذات الإمدادات الإضافية والحرم ٥,٨ كم (الانحراف المعياري ٥,٢) مقارنة ب ٢٤,١ كم (الانحراف المعياري = ١٥,٩) في المراكز بدون الإمدادات. كل المراكز ذات الإمدادات الإضافية و ٥ من المراكز بدون الإمدادات كان لديهم عيادة للرجال، عيادة للنساء، صيدلية، تطعيم و مختبر، أما المركزين المتبقين فلهي عيادة واحدة عامة.

أفاد ٦٥,٢٪ من المراكز ذات الإمدادات الإضافية وجميع المراكز بدون الإمدادات بأن لديهم عدد غرف كافية. بلغ متوسط عدد الأطباء المنتظمين في المراكز ذات الإمدادات الإضافية ٤,١ (الانحراف المعياري ١,٤) وفي المراكز بدون الإمدادات ٥,٣ (الانحراف المعياري ٣,٤)، ومتوسط عدد الأطباء الإضافيين ٣,٥ (الانحراف المعياري ٢,٢). بلغ متوسط عدد التمريض المنتظمين في المراكز ذات الإمدادات الإضافية ٩,٥ (الانحراف المعياري ٣,٢) وفي المراكز بدون الإمدادات ١٣,٤ (الانحراف المعياري ٦,٥)، ومتوسط عدد التمريض الإضافيين ٣,٨ (الانحراف المعياري ٣,٨). بلغ متوسط عدد الصيدلانيين المنتظمين في المراكز ذات الإمدادات الإضافية ١,٩ (الانحراف المعياري ٠,٦٣)

وفي المراكز بدون الإمدادات ١,٧ (الانحراف المعياري ٠,٧٦) ومتوسط عدد الصيدلانيين الإضافيين ١,٦ (الانحراف المعياري ٠,٩٤). بلغ متوسط عدد المراقبين الصحيين المنتظمين في المراكز ذات الإمدادات الإضافية ١,٣ (الانحراف المعياري ٠,٤٦) وفي المراكز بدون الإمدادات ١,٤ (الانحراف المعياري ٠,٧٩) ومتوسط عدد المراقبين الصحيين الإضافيين ١,٠ (الانحراف المعياري ٠,٠). أفاد ٩٥,٧٪ من المراكز ذات الإمدادات الإضافية و ٥٧,١٪ من المراكز بدون الإمدادات بكفاية عدد الموظفين العاملين فيها.

بالنسبة للإمدادات الطبية خلال فترة الحج ففي المراكز ذات الإمدادات الإضافية ٦٩,٦٪ استقبلت الإمدادات مرة واحدة في بداية موسم الحج و ٢٦,١٪ فقط عند الحاجة، مركز واحد فقط استقبلت الإمدادات مرتين خلال موسم الحج. كل المراكز بدون الإمدادات استقبلت الإمدادات مرة واحدة في بداية الحج. لم يشترك أي مركز من المراكز ذات الإمدادات الإضافية بأنهم كانوا من نقص في الإمدادات خلال فترة السنة وخلال موسم الحج، بينما أقر ٢٨,٦٪ من المراكز بدون الإمدادات بأنهم كانوا من هذا النقص في بعض الأدوية كأدوية الربو ومخفضات الحرارة. كل المراكز ذات الإمدادات الإضافية و ٩٥,٧٪ من المراكز بدون الإمدادات كانوا مقتنعين بكمية وكفاءة هذه الإمدادات.

أوضحت الدراسة زيادة أعداد المرضى في المراكز الصحية ذات الموارد الإضافية خلال موسم الحج مقارنة ببقية أشهر السنة، ومقارنة بالمراكز الصحية التي لا تمتد بالموارد الإضافية، وهذا يرجح اختيار هذه المراكز من أجل تقديم الإمدادات الإضافية لها خلال موسم الحج. كان المعدل اليومي من المرضى للطبيب الواحد مرضياً في معظم المراكز الصحية، ولكن وجد في ٣ مراكز صحية بأن المعدل اليومي يصل إلى أكثر من ١٠٠ مريض والذي لا يبدو مقبولاً.

لاحظنا وجود ٣ مراكز صحية ليس لها منطقة عمل محددة خاصة بها، مما قد يعيق التخطيط السليم من أجل تقديم الخدمة الصحية ليس فقط خلال موسم الحج وإنما خلال شهور السنة أيضاً.

خلال موسم الحج يفضل الحجاج البقاء قريباً من الحرم، مما يؤدي إلى زيادة أعداد المرضى في المناطق القريبة من الحرم. لذا تعتمد مديرية الشؤون الصحية بمكة المكرمة على هذا في توزيع الموارد الإضافية لهذه المراكز. وقد لوحظ أنه يتم صرف الأدوية بمعدل يفوق المعدل المتعارف عليه في ٦ مراكز صحية، مما يتطلب أيضاً استيضاح أكبر لمعرفة سبب هذه الظاهرة.

تم التوصية على استمرار توزيع الموارد البشرية والطبية بنفس الطريقة فيما عدا بعض المراكز. على مديرية الشؤون الصحية بمكة المكرمة أن تقوم بالتحليل الدوري لبيانات موسم الحج لمعرفة نمط الأمراض بين المرضى في المراكز الصحية للاستفادة منها في إعادة التوزيع في مواسم الحج القادمة.

● اعداد: د. مسلم يونس أبوحسن، د. عبدالحميل شودي، د. عادل محمد تركستاني (برنامج الوبائيات الحقلية)

Distribution of Influenza virus during Hajj season, cont...

(Continued from page 10)

reported by FETP for Hajj 1424 H, with some significant differences. Both studies have shown that the Influenza virus subtypes circulating in Hajj are similar to the strains circulating elsewhere in the world, and are already part of the influenza vaccines recommended for the forthcoming seasons.

As the number of confirmed cases recruited at airports were only 7, so non-isolation of Influenza A not-typed or only 1 case of Type B can not be stressed strongly, but this variation indicates some variation in the viral subtypes which are imported with these hajjis and the one circulating locally. In addition, around one third of the total viruses fall in the group "non-typed" indicates the need for strengthening of the virology laboratory involved.

An earlier study, reported on data collected only from health care facilities (both PHC and hospitals), while this study recruited most of the patients at airports.

The case definition used for identification of suspected cases has not proved to be specific enough, as only 9.7% of the suspected cases who fulfilled the symptom-based case definition resulted in isolation of influenza virus; but the yield was not uniform across the places of case recruitment.

Although the total number of suspected cases recruited in Ajyad hospital (only facility reported in both studies) from 185 to 43, the proportion of confirmed cases among suspected cases has improved tremendously.

However, the proportion of confirmed cases is still low among suspected cases recruited at airports, which indicates using either a different case definition or a different way of applying the same case definition. The issue needs a careful revision of the strategy for recruitment of suspected cases, thus decreasing variation between the sites, maybe by improved training of the staff.

Keeping in view the usefulness of the surveillance information, it is recommended to expand it to other entry ports of the country dealing with pilgrims and preferably continue

Mark your calendar . . .

Inside the Kingdom

February 24-26, 2007: Arab Child Health Conference.

Venue: The King Faisal Conference Hall, Riyadh Intercontinental Hotel, Riyadh, Kingdom of Saudi Arabia.

Contact: Ministry of Health, Riyadh, KSA.

Tel. : 966(1)4602332

Fax.: 966(1)4602316

April 01-04, 2007: 3rd Saudi Annual EBM Conference & Workshop.

Venue : The Westin Hotel, Jeddah, Kingdom of Saudi Arabia.

Contact: Academic Affairs, King Abdulaziz Medical City - Jeddah, KSA. Tel. +966-2-6240000 ext. 21244 / 21562.

Fax. + 966-2-624000 ext. 21009

E-mail : ngcebm@ngha.med.sa

Website: www.ngha.med.sa/ebm

Outside the Kingdom

May 09-12, 2007: 5th International Symposium on the Diabetic Foot.

Location: Noordwijkerhout, Netherlands

Contact: Nicolette van Erven.

Tel. : 31-0-348-567-667, 31-0-348-446-057

E-mail: info@diabeticfoot.nl

the activity around the year. Also, sample preservation in hospitals is recommended.

References

1. Pacific public health surveillance network (PPHSN) influenza Guideline, Guidelines for influenza preparedness and control, part1, 2005; 5-9.
2. Al Saleh E, Al Mazroua M, Choudhry AJ. Serotypes of Influenza during hajj 1424h (2004), SEB. 2005; 12 (1): 1,2,7

The Saudi Epidemiology Bulletin welcomes reports from the regions. Please send your reports to the address shown. Thank you.

Send correspondence, comments, calendar listings, or articles to:

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Selected notifiable diseases by region, Apr - Jun 2006

	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jazan	Najran	Baha	Al-Jouf	Gorlat	Gonfuda	TOTAL
Measles	7	28	87	11	5	1	2	1	1	0	3	0	0	0	72	5	3	0	0	0	226
Mumps		0	2	0	0	1	3	5	1	1	1	0	2	0	2	1	1	0	0	1	27
Rubella	3	1	0	1	0	1	1	0	0	0	1	0	0	0	1	1	0	0	0	0	10
Varicella		459	1697	1578	368	2245	1253	1681	979	1020	539	550	373	151	164	357	91	200	91	41	16008
Meningitis mening.	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
Meningitis other		5	40	6	13	8	3	4	0	4	0	5	0	0	0	1	1	4	0	1	129
Hepatitis B	225	21	354	77	13	79	126	3	2	46	17	97	15	6	30	9	0	45	0	12	1177
Hepatitis C		9	345	51	4	36	92	3	2	34	15	36	7	1	4	3	0	29	0	16	821
Hepatitis unspecified	25	0	14	0	0	0	2	8	0	20	0	39	1	0	161	1	0	0	0	1	272
Hepatitis A		32	15	45	1	127	1	26	27	44	3	104	26	25	136	71	4	5	1	5	732
Typhoid & paratyphoid	8	4	0	1	0	1	6	34	0	17	0	3	6	5	3	0	0	4	0	2	94
Amoebic dysentery		0	431	9	20	3	44	55	7	29	37	0	5	0	30	0	0	4	1	0	681
Shigellosis	6	0	5	0	0	3	2	2	2	0	0	7	0	1	0	5	0	0	0	0	33
Salmonellosis		13	47	13	0	2	102	50	17	10	24	14	0	0	0	18	0	25	9	4	447
Brucellosis	127	13	8	70	47	250	93	14	63	176	50	31	228	13	38	56	10	3	0	4	1294

Comparisons of selected notifiable diseases, Apr - Jun 2005-2006

DISEASE	Apr - Jun 2006	Apr - Jun 2005	Change %	Jan - Jun 2006	Jan-Dec 2005	DISEASE	Apr - Jun 2006	Apr - Jun 2005	Change %	Jan - Jun 2006	Jan-Dec 2005
Cholera	4	5	-20	4	16	Meningitis mening	3	4	-25	13	18
Diphtheria	0	3	-100	2	7	Meningitis other	129	117	10	234	510
Pertussis	10	3	233	12	21	Hepatitis B	1177	1096	7	2172	4209
Tetanus, neonat	5	6	-17	10	22	Hepatitis C	821	676	21	1513	2674
Tetanus, other	2	3	-33	5	10	Hepatitis unspecified	272	300	-9	518	1179
Poliomyelitis	0	0	0	0	0	Hepatitis A	732	685	7	1634	2461
Guillain Barre Syndrome	34	10	240	58	103	Amoebic dysentery	94	126	-25	145	325
Measles	226	142	59	309	373	Amoebic dysentery	681	792	-14	1398	2806
Mumps	27	29	-7	53	115	Shigellosis	33	40	-18	68	198
Rubella	10	1	900	16	18	Salmonellosis	447	354	26	677	1349
Varicella	16008	16335	-2	28701	45389	Brucellosis	1294	1159	12	2357	3804

Diseases of low frequency, Apr - Jun 2006

Yellow fever, Plaque, Poliomyelitis, Rabies, Haemolytic Uraemic Syndrome: No Cases

Pertussis: 10 Cases (Eastern 3, Hasa 2, Asir 1, Hail 1, Najran 1)

Neonatal Tetanus: 5 Cases (Makkah 3, Jeddah 2)

Ecchinococcosis: 4 Cases (Riyadh 2, Baha 1, Qunfudah 1)

Guillain Barre Syndrome: 34 Cases (Riyadh 8, Qassim 3, Hail 3, Jazan 3, Baha 3, Makkah 2, Jof 2, Northern 2, Eastern 2, Jeddah 1, Madinah 1, Taif 1, Hafr Al-Batin 1, Najran 1, Hasa 1)