

### Pattern of diseases among visitors of health care facilities in Madinah during hajj season, 1428 H (2007).

Studying the disease pattern of hajjis is imperative in designing future plans and providing the best medical care during hajj. This study aims to investigate the disease pattern among visitors of Ministry of Health (MOH) facilities near the Prophet's Mosque (Haram) in Madinah. This cross-sectional study was conducted during Hajj season, 1428 H. It covered visits by the patients (hajjis and non-hajjis) to the Emergency Room (ER) of Al-Anssar Hospital and 4 PHCCs near the Haram (namely Bab Jibreel "permanent", Bab Al-Salam "seasonal", Bab Al-Majidi "seasonal", and Bab Al-Rahma "seasonal") from 16-30 Dhul Qaeda, 1428 H. It also covered the in-patient workload of Al-Ansaar Hospital during the same period. A total of 2110 outpatients and 301 inpatients were included. Weights were calculated to take the daily variation of outpatients within facility; and variation between sampling proportions calculated based upon last year's data and this year's actual workload within the facility and between facilities into consideration. All results of outpatients were based on the weighted values of variables.

The largest weighted proportion of outpatients came from Bab Jibreel PHCC (41.3%), followed by the Emergency Room (ER) of Al-Anssar Hospital (28.1%) and Bab Al-Salam PHCC (26.8%). Among outpatients, respiratory diseases were the most common affecting 974 patients (46.2%), followed by Gastro-intestinal diseases 368 patients (17.4%), and skin diseases 251 patients (11.9%). Heat-related diseases were not reported. Diseases grouped in the patient forms as "others" were found among 613 (29.3%) (Table 1), among those rheumatic diseases were the most common among outpatients (565 patients; 26.8%), followed by Pharyngitis (343 or 16.3%), common cold (337 or 16.0%), allergic skin diseases and bronchitis (173 or 8.2% for each).

Paracetamol tablets were the most commonly used treatment item, having been prescribed for 992 (47.0%) of outpatients, followed by ibuprofen tablets (33.1%),

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## Pattern of diseases among visitors of health care facilities in Madinah during hajj season, 1428 H (2007), cont...

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and amoxicillin capsules (29.6%).

Among inpatients admitted to Al-Ansar Hospital, circulatory diseases were the most common (38.2%), followed by respiratory (16.6%), endocrine and metabolic diseases (10.6%), and injuries and poisoning (10.0%). (Table 2) Diabetes mellitus and ischemic heart disease formed the largest proportion of admission diagnoses (10.3% each), followed by Myocardial infarction (9.6%), fractures (9.3%), cerebrovascular disease (8.3%), and pneumonia (8.0%).

This study highlighted that respiratory diseases were the most common diagnosis among outpatients. Hospital admission was related to old age, and showed predominance of chronic diseases. There were no cases of heat-related illnesses or meningitis.

- Reported by: Dr. AbdulKareem Al-Quwaidhi, Dr. Abdul Jamil Choudhry, Dr. Osamah Al-Hayani (Field Epidemiology Training Program).

**Editorial notes:** The Hajj season represents an ideal time for developing acute diseases or exacerbation of pre-existing chronic diseases as a result of interplay between many factors such as weather changes, crowdedness, and extra physical efforts. Very few studies have been conducted at the holy city of Madinah, in spite of the fact that it is visited by a large number of hajjis. According to official statistics of the governmental "Madinah Hajj Committee", around 700,000 hajjis from different countries arrived to Madinah during Dhul Qaedah 1428 H, alone.<sup>1</sup>

Among outpatients, respiratory diseases were the most common, which is in concordance with previous hajj studies,<sup>2</sup> followed by rheumatic complaints (26.8%), which is higher than previous reports. In a study at Al-Noor Hospital in Makkah, only 4.6% of outpatients presented with musculoskeletal complaints.<sup>3</sup> Skin and gastro-intestinal disorders were higher among outpatients in this study (11.9% and 17.4%, respectively) than the Al-Noor Hospital study (7.1% and 6.8% respectively).<sup>3</sup> Furthermore, Hajj season serves as an ideal environment

for developing different skin conditions as a result of warm weather and overcrowding.<sup>4</sup>

Health problems linked to food safety such as gastroenteritis, diarrhea, or abdominal pain collectively affected 9.4% of outpatients, which is lower than previous reports,<sup>3</sup> and may be justified by the fact that this year's hajj season fell in a cooler climate, when the risk of food borne illnesses may be lower.

Among inpatients, there was a predominance of circulatory diseases (38.2%), followed by respiratory diseases (16.6%). Yousuf et al. reported that respiratory diseases were the most common (74.3%), followed by circulatory (57%) and metabolic diseases (23.2%).<sup>5</sup> Most of the inpatients in this study were elderly, which explains the predominance of chronic diseases.

There were no cases of meningitis or heat-related illnesses. Heat-related illnesses represent a major health problem among hajjis during hot seasons.<sup>6</sup> However, the incidence of heat exhaustion among hajjis in Makkah and the holy places fell from 206/100,000 hajjis in 1417 H (April, 1997) to 3.4/100,000 hajjis in 1426 H

(January, 2006),<sup>7</sup> as the timing of hajj moved towards cooler winter months.

Another major health problem during hajj in previous years was Meningitis, with high incidence and fatality.<sup>8</sup> This explains the MOH's strict regulation on the mandatory vaccination of all hajjis with the quadrivalent meningococcal vaccine.

It was recommended to re-allocate resources among health facilities during hajj season according to their workload. Coordination with health departments of other countries is required to provide hajjis with chronic diseases with a special document recording the diagnosis and treatment. Health education programs should be directed to avoid crowded areas and use protective measures against respiratory infections, such as the face mask and influenza vaccination. Health facilities should be equipped with adequate supplies of the commonly prescribed medications before hajj season.

### References:

- 1- Madinah Hajj Committee. Number of hajjis arriving Madinah during

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**Table 1: Distribution of disease groups among outpatients, Madinah, 1428 H (2007), (N=2110).**

Disease Group	No.	%
Heat-related	0	0.0
Circulatory and metabolic	71	3.3
Gastro-intestinal	368	17.4
Respiratory	974	46.2
Injury and trauma	32	1.5
Eye and ear	100	4.7
Skin	251	11.9
Others	613	29.1

**Table 2: Distribution of disease groups among admitted patients, Al Anssar Hospital, Madinah - 1428 H (2007 G), (N=301)**

Disease Group	No.	%
Infectious and parasitic diseases	9	3.0
Neoplasm	3	1.0
Endocrine and metabolic diseases	32	10.6
Blood diseases	12	4.0
Nervous system and sensory diseases	26	8.6
Circulatory diseases	115	38.2
Respiratory diseases	50	16.6
Digestive system diseases	24	8.0
Genitourinary diseases	7	2.3
Musculoskeletal/Connective tissue diseases	1	0.3
Injury and poisoning	30	10.0
Other unclassified diseases	32	10.6



# Assessment of Hygienic Quality of Food, Food Handlers and Restaurant Environments in Makkah, Hajj 1428 H.

Large numbers of pilgrims visit Makkah for Hajj and Umrah throughout the year, where they obtain foods from local restaurants and cafeterias. The main purpose of this observation-based cross-sectional study was to investigate hygienic conditions of these food facilities, food handlers in the facilities, and identify possible food poisoning risk factors during Hajj 1428 H.

The study population included all the food facilities located within one kilometer area around AlHaram, and their workers. Two stage random sampling based on geographical mapping was done. Sixty one (61) food facilities were selected, 38 (62.3%) restaurants and 23 (37.7%) fast food/cafeterias. All had a valid food preparation license. Over 90% prepared food throughout the year.

Good condition of the entrance was seen in only 26% of facilities, and the internal cleanliness of 26.2% was poor. An operational UV insect killer was found in 57.4%. Hand washing facility for staff was available in 80%. However, flies were observed in 41%, poor cleanliness of the food cooking area was observed in 34%.

Food halls were available in 74%, and floors were clean in 55%. More than 90% provided tables and chairs for the customers, 82% of which were in good condition. The majority (95%) provided at least one wash basin for customers, and fewer than 50% had a customer's washroom (WC).

The majority of food handlers (90%) had valid health certificates. However, 67% had not been wearing gloves while preparing food, 45% had dirty nails, 14% had boils/cuts on their hands, and 10% had experienced diarrhea in the previous 24 hours.

There was no significant difference between general characteristics of facility, food serving and food handlers between restaurants and fast food/cafeterias. None of the microbiological results of the food samples and nails swabs were positive.

– Reported by: Dr. Ibrahim Al-Honaizil, Dr. Abdul Jamil Choudhry, Dr. Osama Al-Hayani (Field Epidemiology Training Program).

**Editorial notes:** Food-borne illness remains an important public health problem worldwide. Epidemiological research indicates that the majority of food-borne illness outbreaks originate in food service establishments, and are attributed to food handlers and improper food preparation practices.<sup>1,2</sup>

Foodborne outbreaks during hajj can be particularly disastrous. This study sheds light on the characteristics of food facilities, hygienic quality of the food and food handlers in Makkah during Hajj 1428 H. The main positive finding was that all the surveyed facilities had a valid food preparation license. However, conditions of the facility entrance and internal cleanliness were generally poor.

Hand washing is one of the FDA's recommended prevention methods which can significantly reduce transmission of pathogens.<sup>3</sup> The fact that 20% of food service establishments did not provide hand washing facilities for kitchen staff reveals that the workers do not wash their hands between handling of raw meat, poultry and ready prepared food, which increases the risk of cross-contamination and spread of food born illnesses.<sup>3</sup> The unavailability of WC for workers and inadequate supply of disposable gloves aggravate this situation.

Ten percent of the food handlers did not have a valid health certificates. This could be due to the fact that managements of these food establishments recruit temporary staff because of the increased work load during Hajj, without giving thought to health certification. These workers, however, are usually untrained,

with no prior experience or knowledge of food handling and serving. The fact that 10% of the food handlers reported having had diarrhea in the previous 24 hours is also alarming. This, combined with the presence of hand boils, can potentially transmit infection to a large numbers of customers, and constitute a large potential risk factor for food poisoning.

It was recommended that restaurants and fast food shops/cafeterias provide adequate WC and hand washing facilities for their workers, ensuring a regular supply of gloves for food handlers. Regular visits from the health directorate and municipality of Makkah should be conducted to check internal and external cleanliness, food preparation/cooking areas, cooking and serving utensils, which should be intensified during hajj season. Food facilities should not be allowed to employ workers without valid health certification.

## References:

- 1- Laura GR, Selman C. Factors impacting food workers and managers safe food preparation practices. Food protection trends. 2005; 25 (12): 981-990.
- 2- Jones TF, Angulo FJ. Eating in Restaurants: A Risk Factor for Foodborne Disease. CID. 2006; 43:1324-1328.
- 3- Green LR, Radke V, Mason R, Bushnell L, Reimann DW, Mack JC, et al. Factors Related to Food Worker Hand Hygiene Practices. Journal of Food Protection. 2007;70(3):661-666.

**Table 1: Comparison between facilities of Restaurants and fastfood/cafeterias, Makkah, hajj 1428 H.**

General Cleanliness of areas of the food facility		Restaurant n=38	Fast food/ Cafeteria n=23	Total	P-value
Entrance	Good	10(26.3)	6(26.1)	16(26.2)	0.63
	Satisfactory	14(36.8)	11(47.8)	25(41.0)	
	Poor	14(36.8)	6(26.1)	20(32.8)	
Internal area	Good	13(34.2)	9(39.1)	22(36.1)	0.82
	Satisfactory	14(36.8)	9(39.1)	23(37.7)	
	Poor	11(28.9)	5(21.7)	16(26.2)	
Food preparation area	Good	14(36.8)	6(26.1)	20(32.8)	0.49
	Satisfactory	7(18.4)	7(30.4)	14(23.0)	
	Poor	17(44.7)	10(43.5)	27(44.3)	
Cooking utensils	Good	11(28.9)	6(26.1)	17(27.9)	0.63
	Satisfactory	12(31.6)	10(43.5)	22(36.1)	
	Poor	15(39.5)	7(30.4)	22(36.1)	



## Behavioural Risk Factors for Diseases during Hajj 1428 H.

Certain behaviors among hajjis are influenced by their personal habits, educational background, and traditional beliefs. The fact that many come from countries endemic for numerous infectious diseases, their varying age distribution and nutritional states, in addition to being exposed to overcrowding and strenuous physical effort, render hajjis extra vulnerable to disease and may aggravate underlying medical conditions. The objective of this study was to estimate hajjis disease related Behavioral Risk Factors (BRF) during Hajj 1428 (2007) and compare them with the findings of earlier studies conducted by the Field Epidemiology Training Program (FETP).

A cross-sectional survey was conducted among hajjis in Mina. Single stage stratified random cluster sampling based on geographical mapping was done. The self-administered questionnaire used in 1422 H was reviewed and modified in light of the findings of the previous studies.

A total of 1706 hajjis participated in the study, with a mean age of 42.2 years. Of the total, 89.5% were male. The participants belonged to 29 nationalities; 33% were domestic hajjis, 54% of whom were Saudis; 61.3% were performing Hajj for the first time, and 42% had arrived to the hajj area just one week prior to our study.

Of the total hajjis, 19.7% kept food stored for over two hours before consumption. Hamla was the main source of cooked food in Mina. In the 24 hours prior to the survey, hajjis had eaten 3 or more meals in Arafat and Mina (42.3% and 56%, respectively), and only 16.4% had drank more than 2 liters of fluid; 24.9% from water coolers or water tankers, and 72.6% from plastic bottles or plastic bags.

Among male Hajjis, 48.5% had shaved their heads by razor blades, 25.4% had used hair trimmers or machines, and 20.6% had used scissors. Among those who had cut or shaved their heads, only 39.1% had it done by professional barbers, 6% used razor blades that had been used by other hajjis, and the rest had their hair cut or shaved by non professional barbers, mostly other hajjis (39.6%).

The mean number of sleeping hours in the previous 24 hours among hajjis contacted on the 10th of Dhul Hijjah was 4.5 hrs (corresponding to Arafat/Muzadalifa days), which rose to 6 hrs among those contacted on the 11th.

Hajjis suffering from acute or chronic problems were 56.6% and 32.2% respectively. Among those with chronic diseases, 73.9% had brought their medications with them.

Of all the hajjis, 84.4% had been vaccinated against meningococcal meningitis (MCM). However, only

53.5% had been vaccinated during the recommended period (10 days – 3 years before arrival to Hajj). The best vaccination coverage within the recommended period was among Iranian and South East Asian Hajjis (84% and 77% respectively), while the lowest was among domestic Hajjis (47%). Within domestic hajjis, only 38% of Saudis had received the vaccine within the recommended period. Some of the hajjis had been vaccinated against other diseases, including Influenza (38.0%), yellow fever (15.4%), cholera (13.9%), and poliomyelitis (11.6%).

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**Editorial notes:** The first study investigating hajjis' BRF was conducted by the FETP in 1418 H,<sup>1</sup> followed by a second study in 1422 H.<sup>2</sup> Since that time, however, there have been a number of changes during hajj, in terms of health care facilities, health education messages, food and water sanitation, major changes in the structure of Jamarat, possible changes in hajjis' awareness, in addition to the change in climate in the recent hajj seasons

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**Table 1: Comparison of study findings with the previous BRF studies conducted in 1418 H and 1422 H.**

Variables	1428 (%)	1422 H study			1428 H study			
		1422 (%)	1428% -1422%	P-value	1418 (%)	1428% -1418%	P-value	
First time in hajj	65.1	68.7	-3.6	0.037	70.5	-5.4	<0.001	
Food in Mina from Hamla	79.0	60.7	18.3	<0.001	54.2	24.8	<0.001	
Eating ≥ 3 meals in Arafat	42.3	64.8	-22.5	<0.001				
Eating ≥ 3 meal in Mina	56.0	67.1	-11.1	<0.001				
Left food > 2 hours	19.7	16.9	2.8	0.050	17.9	1.8	0.188	
Water from plastic bottles/ bags	72.6	59.2	13.4	<0.001				
Fluid intake >2 L	16.4	28.7	-12.3					
Razor blade for head shaving	48.5	50.7	-2.2	0.230	56.4	-7.9	<0.001	
Shaving in barber shop	39.1	32.7	6.4	<0.001				
Razor blade sharing	6.0	1.9	4.1	<0.001				
Accompanying doctor in Hamla	59.0	64.5	-5.5	0.003	58.7	0.3	0.862	
Using facemask during hajj	39.3	33.2	6.1	<0.001	17.8	21.5	<0.001	
Feet wounds during hajj	22.1	17.8	4.3	0.004	20	2.1	0.140	
Chronic disease	25.0	13.2	11.8	<0.001				
Brought medication with them	83.5	96.6	-13.1	<0.001	77.6	5.9	<0.001	
Vaccines	Meningitis	84.4	89.8	-5.4	<0.001	88.3	-3.9	<0.001
	Flu	38.4	10.2	28.2	<0.001			
	Cholera	13.9	11.1	2.8	0.022			
Hit by pebbles at Jamarat	Jamarat	4.8	4.0	0.8	0.294			
	Severely	38.1	26.2	11.9	<0.001			



## Pattern of diseases among visitors of health care facilities in Madinah, cont...

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- the Month of Dhul Qidah, 1428 H (Arabic). Saudi Arabia: Madinah Hajj Committee; 2007 [cited 2008 January 26]. Available from: www.hajcomatmad.gov.sa
- 2- Shakir HAS, Gazzaz ZJ, Dhaffar KO, Shahbaz J. Outpatient Services during (1423 H) Hajj Season. Sultan Qaboos University Medical Journal. 2006; 6(1):47-50.
  - 3- Al-Ghamdi SM, Akbar HO, Qari YA, Fathaldin OA, Al-Rashed RS. Pattern of admission to hospitals during Muslim pilgrimage (hajj). SMJ 2003; 24(10):1073-1076.
  - 4- Fatani MI, Al-Afif KA, Hussain H. Pattern of skin diseases among pilgrims during Hajj season in Makkah, Saudi Arabia. Int J Dermatology. 2000; 39(7):493-496.
  - 5- Yousuf M, Al-Saudi DA, Sheikh RA, Lone MS. Pattern of medical problems among haj pilgrims admitted to King Abdul Aziz Hospital, Madinah Al-Munawarah. Ann Saudi Med 1995; 15(6):619-621.
  - 6- Al-Harhi SS, Yaqub B, Al-Nozha M, Al-Aska AK, Seraj M. Pilgrimage (Hajj 1404) comparing a conventional method with a Body Cooling Unit. SMJ 1986; 7:369-376.
  - 7- Ministry of Health, Saudi Arabia. Health Statistical Year Book (1426 H). p. 323-325.
  - 8- El Bushra HE, Hassan NM, Al-Hamdan NA, Al-Jeffri MH, Turkistani AM, Al-Jumaily A, et al. Determinants of case fatality rates of meningococcal disease during outbreaks in Makkah, Saudi Arabia, 1987-97. Epidemiol Infect. 2000; 125:555-560.

## Behavioral Risk Factors for Diseases, Hajj 1428 H (2007), cont ...

Results of this study showed considerable improvement in certain health behaviors when compared with the earlier studies, while others remained relatively unchanged or showed some signs of deterioration.

High vaccination coverage against MCM has to be maintained to avoid outbreaks during Hajj.<sup>3</sup> During this hajj season, an overall vaccination proportion of 84.4% was observed. Hajjis should be vaccinated at least 10 days and not more than 3 years before travelling to Hajj in order to produce adequate immunity.<sup>3</sup> Only 53.5% of hajjis had been vaccinated during the recommended period, and this low coverage was observed among all groups except Iranians (85%). Unfortunately, Saudi hajjis had the lowest MCM vaccination coverage within the recommended period (39%). This indicates a deficiency in knowledge of the proper timing for MCM vaccination among a large number of hajjis.

The current Saudi Hajj rules enforce that hajjis perform Hajj attached to Hamlas. Furthermore, bringing food from outside the Kingdom is not permitted and cooking is prohibited in Mina. The study showed that hamlas were the main source of cooked food for hajjis, which is an improvement from previous studies. Hajjis also had a problem of food storage and maintenance of proper food environment, which is a major contributor to food poisoning.<sup>4</sup> The proportion of hajjis keeping their food over 2 hours was similar to the two earlier studies.<sup>1,2</sup>

Eighty three percent of hajjis reported drinking under two liters of fluid in the 24 hours preceding the survey, which may lead to dehydration and its complications.<sup>5</sup> The fact that 37% of hajjis were not satisfied with toilet facilities may have contributed to their drinking fewer amounts of fluids.

About half of the hajjis had used razor blades to shave their heads. Head shaving exposes hajjis to scalp wounds. Over a quarter of hajjis who got their head shaved were aware of having at least one cut wound on their scalps. This creates the risk of transmission of blood-borne diseases.<sup>3</sup> It was alarming to find that that the proportion of hajjis who got their heads shaved with used razor blades had increased in comparison with the earlier studies, from 1.9% to 6%; in addition to another 11.6% who were not aware whether the razor blades they had

used had been previously used. This reflects a decrease in awareness of the danger of using used blades. Also, only one third of hajjis reported having been educated to avoid shaving by a used razor blade.

In this study, hajjis suffering from one or more chronic diseases increased to 32.2%, and 16.5% of those with chronic diseases had not brought their medications. Old age and chronic diseases are both major risk factors for morbidity and mortality during hajj, particularly if hajjis are not taking their regular medications. This can lead to an increased workload on the Saudi health facilities.<sup>3</sup>

While comparing the results of our studies with the earlier BRF studies, there were improvements in some variables, such as the increase in proportion of hajjis for whom Hamla was the main source of cooked food, where sealed plastic bottles / bags were the main source of drinking water, getting hair cut by a professional barber, use of face mask, and receiving both influenza and cholera vaccination. Also, there was a decrease in the proportion of hajjis suffering from feet wounds. However, there was a deterioration in some behaviors, such as a decrease in the number of meals per day, the proportion of Hamlas with accompanied doctors, the proportion of hajjis with chronic diseases who had brought their medication, MCM vaccination coverage; and an increase in the proportion of hajjis who shaved their head with used blades and those hit by pebbles at Jamarat.

However, when making comparison with earlier BRF studies, it has to be kept in mind that the current study adopted a weighted mechanism to ensure that study participants represented the true proportion of hajjis according to their geographical grouping among the total hajjis for this year, adjusting for sampling and differential response rate issues. This was not done in the earlier studies, which may cause problems of differential response rates and proportionate sampling. The proportions of behaviors observed in this study, although more valid and representative of the study population are, therefore, strictly incomparable with the earlier studies, but would help make more valid comparisons with future studies of this type.

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## ملخص باللغة العربية

الهوائية (٨٠,٦٪ لكل منهما).

أما بين المرضى المؤمنين فقد كانت أمراض الجهاز الدوري الأكثر شيوعاً (٣٨,٢٪)، تليها الأمراض التنفسية (١٦,٦٪)، ثم أمراض العنق والصداع والإيض (١٠,٦٪)، ثم حوادث الإصابات والتسمم (١٠,٠٪). أو وضعت الدراسة بأن مرض السكري ومرض ضيق شرايين القلب التاجية كانا الأكثر شيوعاً (١٠,٣٪ لكل منهما)، ثم الجذبة القلبية (٩,٦٪)، ثم الكسور (٩,٣٪)، ثم ضيق شرايين الدماغ (٨,٣٪)، ثم ذات الرئة (٨,٠٪).

تمت التوصية بضرورة التنسيق مع الجهات الصحية بالدول الأخرى لتزويد الحجاج الذين يعانون من الأمراض المزمنة بوثيقة رسمية (بطاقة) تشمل التشخيص والعلاج تحمل مع الحجاج. و تنفيذ برامج توعية صحية يتم توجيهها للحجاج المسنين الذين يعانون من أمراض مزمنة بخصوص أهمية الالتزام بالعلاج و تنفيذ الإجهاد الجسماني. كما تمت التوصية بتنفيذ دراسات أخرى في المدينة المنورة خلال موسم الحج بين المرضى المؤمنين للدراسة مصير الحالات و معدلات الوفيات.

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**تقييم الجودة الصحية للأطعمة والعمال المتعاملين مع الطعام وبيئة المطاعم في مكة ١٤٢٨ هـ (٢٠٠٧ م).**

مكة المكرمة هي المكان المقدس للمسلمين ويؤورها العديد من الحجاج والمعتمرين من الداخل والخارج على مدار العام، حيث يقفون فيها إما لساعات قصيرة أو لأسابيع، معتمدون في الغالب على المطاعم القريبة من الحرم المكي الشريف. وهذه المطاعم تخضع للمراقبة من مديرية الشؤون الصحية والبلدية في مكة المكرمة. هدفت هذه الدراسة إلى تقييم الجودة الصحية للأطعمة، بحيث تشمل عمال المطاعم وبيئة هذه المطاعم.

دراسة نمط الأمراض بين مُراجعِي

المرافق الصحية في المدينة المنورة خلال موسم الحج لعام ١٤٢٨ هـ (٢٠٠٧ م).

لا يزال موسم الحج يشكل بيئة مثالية لاكتساب الأمراض على الرغم من الجهود الجارية التي تبذلها المملكة، وذلك بسبب الازدحام الشديد والجهد البدني الشاق. لقد تمت دراسة نمط الأمراض بين الحجاج في مكة المكرمة والمشاعر المقدسة سابقاً، أما في المدينة المنورة فإن هذه الدراسات لا تزال قليلة جداً.

قام فريق من برنامج الوبائيات الحقلية بدراسة مقطعية تهدف إلى دراسة نمط الأمراض بين مراجعي مرافق وزارة الصحة القريبة من الحرم النبوي الشريف بالمدينة المنورة خلال موسم حج عام ١٤٢٨ هـ و الخروج بتوصيات لتحسين رصد الموارد في نظام الرعاية الصحية بالمدينة المنورة خلال موسم الحج.

قامت الدراسة بتغطية زيارات المراجعين (حجاج و غير حجاج) لمستشفى الأنصار ( قسم الطوارئ) و ٤ مراكز رعاية صحية أولية (دائمة و موسمية) في منطقة الحرم النبوي الشريف خلال الفترة من ١٦ إلى ٣٠ من شهر ذي القعدة لعام ١٤٢٨ هـ، كما شملت جميع المرضى المؤمنين بالأقسام الداخلية بمستشفى الأنصار خلال نفس الفترة.

شملت الدراسة ٢١١٠ مرضى راجعوا العيادات الخارجية بالمرکز الصحية و قسم الطوارئ بمستشفى الأنصار، بالإضافة إلى ٣٠١ مريضاً تم تنويمهم بالمستشفى خلال فترة الدراسة. أو وضحت الدراسة بأن الأمراض التنفسية كانت الأكثر شيوعاً بين المرضى مراجعي العيادات الخارجية (٤٦,٢٪)، تليها الأمراض المعوية (١٧,٤٪)، و أمراض الجلد (١١,٩٪)، أما الأمراض المصنفة في نماذج المراجعين كـ «أمراض أخرى» فقد تم تسجيلها في (٢٩,٣٪). و بخصوص نمط الأمراض كأمراض مفصلة فقد كانت الأمراض الروماتيزمية أكثرها شيوعاً (٢٢,٨٪)، تليها التهاب البلعوم (١٦,٣٪)، ثم الزكام (١٦,٠٪)، ثم أمراض حساسية الجلد و التهاب القصبات

قام الفريق بدراسة وصفية مقطعية اعتمدت على الملاحظة، ودعت يأخذ عينات في جميع المطاعم التي تقع حول الحرم أو تبعد عنه بحدود كيلو متر واحد، حيث تم أخذ العينة بطريقة عشوائية على مرحلتين اعتماداً على الخريطة الجغرافية. تم ملا الاستبانة المعدة لذلك، بعد ذلك تم أخذ عينتين من الطعام المقدم وكذلك عينات من تحت أظافر العاملين في المنشأة الغذائية، والتي نقلت إلى مختبر الصحة العامة في مكة للفحص.

تمت زيارة ٦١ منشأة غذائية، بينت الدراسة أن (٥٧,٤٪) من المنشآت الغذائية يوجد بها مصادر للحشرات. فيما يخص الأواني التي تستعمل في التقديم والأكل بما فيها الملاعق والصحون. بينت الدراسة أن ٤٤,٣٪ من المنشآت الغذائية يستخدمون الأواني الدائمة. أما فيما يخص كانوا يستخدمون الأواني الدائمة. أما فيما يخص درجة نظافة الأواني، ف لوحظ أن الأواني في ٣٧,٧٪ من المنشآت الغذائية بدت بصورة سيئة.

تم تقييم نظافة ١٢٢ من العمال المتعاملون مع الطعام بشكل مباشر وكان أغلبهم يحملون تصاريح سريعة الأفعال (٩٠,٢٪). أما فيما يخص النظافة الشخصية للعمال المتعاملين مع الطعام فإظهار النتائج أن ٥٦,٦٪ يغطون شعر رأسهم عند تحضير الطعام والطبخ، ٦١,٥٪ منهم كانت أيديهم نظيفة، ٧٨,٧٪ كانت أظافرهم قصيرة، ٥٤,٥٪ كانت أظافرهم نظيفة، ٣٩,٩٪ كانت أيديهم جروح على اليدين، و ٣٢,٨٪ كانوا يستخدمون القفازات أثناء تحضير الطعام والطبخ. كما أظهرت الدراسة أن ٩,٨٪ من المتعاملين مع الطعام لديهم تاريخ مرضي للإسهال خلال الأربع والعشرين ساعة السابقة.

كانت النتيجة سلبية لجميع عينات الطعام وعينات تحت الأظافر.

إعداد : د. إبراهيم الحنيظل، د. عبد الجليل شودي، د. أسامة الحياي (برنامج الوبائيات الحقلية).



(Continued from page 29)

The majority of Hajj related illnesses relate to modifiable behaviors. Health education is the key element to prevent hajj-related health problems, which should commence even before the hajjis depart from their home countries. Strengthening the vaccination program against MCM is required. For international hajjis, it was recommended to increase coordination with Hajj authorities in different countries to ensure 100% vaccination coverage among their hajjis, especially focusing on hajjis from non-GCC Arabs countries and from meningitis belt countries; and ensuring the accurate timing of vaccination. For domestic hajjis, MCM vaccination coverage can be increased by strengthening local health education campaigns, and making proper timing of vaccination as part of the requirements for obtaining the Hajj license. Health education campaigns for hajjis in the coming years should be strengthened, focusing on MCM vaccination and its proper timing, eating

proper number of meals, while observing food hygiene, drinking adequate amounts of fluids, avoiding used razor blades, bringing medication and medical reports if possible from home countries, injuries prevention, importance of using the face mask, and avoiding crowding. The number of licensed barbers and barbershops should be increased. Toilet facilities should be improved. It is suggested to repeat this study in 3-4 years to evaluate changes in behavior of hajjis.

### References:

- 1- Al-Rabeah AM, El-Bushra HE, Al-Sayed MO, Al-Saigul AM, Al-Rasheedi AA, Al-Mazam AA, et al. Behavioral risk factors for diseases during Hajj to Makkah, 1998. Saudi Epidemiol Bull 1998; 5 (3,4): 19,20.
- 2- Almaghderi Y, Aljoudi A. Behavioral Risk Factors for Diseases during the Pilgrimage to Makkah 1422 H/2002 G [Dissertation]. Riyadh: King Saud University and Saudi Epidemiology Field program 2002.

- 3- Shafi S, Memish Z, Gatrad A, Sheikh A. Hajj 2006: communicable disease and other health risks and current official guidance for pilgrims. Hajj 2006: communicable disease and other health risks and current official guidance for pilgrims. Euro Surveill 2005; 10(12): E051215.2.
- 4- National Travel Health Network and Centre (NaTHNaC). Prevention of Food and Water Borne Diseases. 2006 [cited 3/10/2007] available from URL: <http://www.nathnac.org/pro/factsheets/food.htm>.
- 5- Guyton AC, Hall JE. The body fluids compartments: Extracellular and intracellular fluids; interstitial fluids and edema. In: Guyton AC, Hall JE. Textbook of Medical Physiology. 10th ed. Philadelphia: W B Saunders; 2000: 297-303.

## Mark your calendar . . .

### Inside the Kingdom

**January 19 – 21, 2009: The First International Saudi Conference for Health Education and Training.**

Location: Recreation Centre, Riyadh Military Hospital.

Contact: King Saud bin Abdulaziz University for Health Sciences.

**March 4 – 5, 2009: 1st Hereditary Blood Diseases Conference – A Look for a Better Future.**

Organizer: Riyadh Health Affairs

Location: Al-Maqsourah Hall for Banqueting & Conferences- Riyadh

Contact: Dr. Adel. Tel./ Fax.: 012695325

E-Mail: [hbdhrh2008@yahoo.com](mailto:hbdhrh2008@yahoo.com)

### Outside the Kingdom

**October 30 - November 02, 2008: 2nd World Congress on Controversies in Diabetes, Obesity and Hypertension (CODHY).**

Location: Barcelona, Spain.

Contact: Comtec Med . Tel: 011-972-3566-6166 Fax: 011-972-3566-6177

Email: [info@comtecint.com](mailto:info@comtecint.com), Website: [www.comtecmed.com](http://www.comtecmed.com)

**November 06-08, 2008: 16th European Conference on Public Health.**

Location: Lisbon, Portugal.

Contact: Dineke Zeegers Paget, EUPHA Office. Tel: 011-31-30-272-9709

Fax: 011-31-30-272-9729

Email: [d.zeegers@nivel.nl](mailto:d.zeegers@nivel.nl), Website: [www.eupha.org](http://www.eupha.org)

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Consultant Epidemiologist.



## Selected notifiable diseases by region, Oct — Dec 2008

	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jizan	Najran	Baha	Al-Jouf	Goriat	Gorifuda	TOTAL	
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
Mumps	2	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6
Rubella	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Varicella	1175	173	463	171	308	891	719	478	214	587	165	315	86	139	174	446	20	148	27	90	6789	
Meningitis mening.	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Meningitis other	22	0	8	10	9	12	4	3	2	2	0	3	5	0	14	0	1	0	0	0	0	95
Hepatitis B	251	4	259	43	29	61	197	6	0	72	11	105	6	56	57	32	2	31	4	10	1236	
Hepatitis C	124	4	196	18	14	29	104	4	1	22	4	15	1	7	6	6	0	11	1	2	569	
Hepatitis unspecified	20	0	15	4	0	12	0	4	0	8	0	1	0	0	23	0	0	0	0	0	87	
Hepatitis A	82	16	72	31	2	15	44	10	6	17	9	25	6	7	11	93	3	4	3	0	456	
Typhoid & paratyphoid	1	5	13	4	3	1	4	10	1	10	0	0	1	0	1	0	0	0	2	2	58	
Amoebic dysentery	17	20	681	3	8	0	52	14	4	40	22	4	1	0	1	0	9	0	0	0	876	
Shigellosis	21	0	4	2	0	4	4	1	9	0	0	10	0	2	1	8	0	0	0	0	66	
Salmonellosis	122	5	14	2	0	7	113	18	9	0	15	9	0	3	2	22	0	0	0	1	342	
Brucellosis	83	8	16	18	32	126	45	7	20	167	49	12	35	29	12	43	0	6	1	4	713	

## Comparisons of selected notifiable diseases, Oct — Dec 2008

DISEASE	Oct-Dec 2008	Oct-Dec 2007	Change %	Jan - Dec 2008	Jan - Dec 2007	DISEASE	Oct-Dec 2008	Oct-Dec 2007	Change %	Jan - Dec 2008	Jan - Dec 2007
Cholera	0	2	-100	7	4	Meningitis mening	2	2	0	7	13
Diphtheria	0	0	0	0	3	Meningitis other	95	68	40	299	316
Pertussis	2	3	-33	30	68	Hepatitis B	1236	895	38	5066	4501
Tetanus, neonat	4	5	-20	13	21	Hepatitis C	569	575	-1	2733	2776
Tetanus, other	0	2	-100	4	6	Hepatitis unspecified	87	36	142	255	192
Poliomyelitis	0	0	0	0	0	Hepatitis A	456	385	18	1678	1383
Guilain Barre Syndrome	24	22	9	121	93	Typhoid & paratyphoid	58	66	-12	269	281
Measles	3	12	-75	158	4648	Amoebic dysentery	876	814	8	3311	3645
Mumps	6	2	200	31	32	Shigellosis	66	32	106	188	154
Rubella	2	0	0	15	32	Salmonellosis	342	381	-10	1292	1894
Varicella	6789	6651	2	60007	47691	Brucellosis	713	738	-3	3447	4194

## Diseases of low frequency, Oct — Dec 2008

- Yellow fever, Plaque, Poliomyelitis, Rabies: No Cases
- Pertussis: 2 Cases (Qassim)
- Neonatal Tetanus: 4 Cases (Makkah)
- Ecchinococcosis: 2 Cases (Riyadh 1, Baha 1)