



النشرة الوبائية السعودية



نشرة تفصيلية متخصصة في مجال الوبائيات تصدر عن وزارة الصحة • الوكالة المساعدة للطب الوقائي • برنامج الوبائيات الحضلي
المجلد السابع عشر • العدد الثالث • يوليو / سبتمبر

Saudi Epidemiology Bulletin

Department of Preventive Medicine and Field Epidemiology Training Program
Ministry of Health / Riyadh / Jul / Sept 2010 / Volume 17, Number 3

ISSN 1319-3965
www.fetp.edu.sa

Assessment of Knowledge and Practices of Saudi mothers giving birth at King Abdulaziz Specialist Hospital in Taif City regarding antenatal care.

One of the most important elements of mother and child services is antenatal care (ANC). ANC ensures that pregnant women go through regular check-ups and can prevent mother and child deaths by identifying pregnancy related complications and fetal abnormalities at an early stage.¹ This study aimed to assess the knowledge and practices of Saudi mothers giving birth at King Abdulaziz Specialist Hospital in Taif City, regarding ANC and to identify their socio-demographic determinants.

This cross-sectional study was conducted among Saudi mothers resident of Taif governorate, who had delivered in the hospital during the month of October 2009.

Data was collected using a self-administered questionnaire in the post-partum period, before discharge from hospital. Some technical information about pregnancy, delivery and laboratory investigations was extracted from the mothers' files. If the mother was illiterate, a trained nurse assisted the mother in completing the form.

A total of 400 Saudi mothers participated in this study, with a mean age of 28.5 years (SD \pm 5.91), and 63.0% were living in Taif city. Regarding educational status, 14.3% of the mothers were illiterate, 14.0% had completed primary school, 12.3% intermediate school, 28.0% secondary school and 31.5% had a level of education higher than secondary school.

The obstetric history showed that 25.5% were primigravida, 28.5% had a history of previous abortions. For the current delivery, 22.9% had Caesarian section while the rest had vaginal delivery.

A number of aspects of knowledge of mothers regarding ANC were assessed.

In response to the question about the number of visits required during pregnancy, responses were: three times or less (1.0%), 4-6 times (6.3%), 7-9 times (25.9%), 10-12 times (33.7%), more than twelve times (12.1%) and did not know (21.1%).

Regarding antenatal practices, 74.6% mothers had their first antenatal visit in the 1st trimester, 12.1% in the 2nd trimester, 6.3% in the 3rd trimester and 3.5% came di-

(Continued on page 18)

INDEX

- Assessment of Knowledge and Practices of Saudi mothers giving birth at King Abdulaziz Specialist Hospital in Taif City regarding ante-natal care, cont, 18
- Knowledge and attitude of healthcare workers at King Abdul-Aziz In-ternational Airport regarding preventive measures of communicable diseases for pilgrims, Jeddah 1430 H..... 19
- The role of Hamla management in the prevention and control of ood poisoning episodes in Mina during Hajj, 1430 H..... 20
- SEB Arabic page..... 22
- Calendar..... 23
- Notifiable Disease Reports..... 24

Assessment of Knowledge and Practices of Saudi mothers giving birth at King Abdulaziz Specialist Hospital in Taif City regarding antenatal care, cont....

(Continued from page 17)

rectly for delivery. Overall 3.5% mothers had no ANC visit, 13.3% had 3 or less visits, 23.0% had 4-6 visits, 22.3% had 7-9 visits, 18.8% had 10-12 visits, and 9.8% had more than 12 visits, while 9.0% did not remember the number of visits. During this pregnancy, 81.0% of mothers had taken iron supplements, 70.6% had taken folic acid and 54.4% had taken multivitamins.

Regarding overall satisfaction with ANC, 50.6% mothers were completely satisfied, 31.9% were somewhat satisfied and 17.5% were not satisfied.

Based on 13 questions exploring different aspects of mother's knowledge about ANC, a cumulative knowledge score was calculated. The score was divided at median score of 9, into 2 groups of "above-" and "below average knowledge score".

While studying the relationship between mother's knowledge and her ANC practices, it was observed that 83.3% of the mothers with "above average knowledge score" had their first visit during the first trimester, compared to 64.2% of mothers with "below average knowledge score" ($P < 0.001$). Only 6.1% of mothers with "above average knowledge score" had less than four antenatal visits, compared to 34.1% of mothers "below average knowledge score" ($P < 0.001$). The number of missed ANC visits were significantly lower among mothers with above average knowledge score as compared to mothers with low average knowledge score ($P < 0.001$). About 12.3% of mothers with "above average knowledge score" took non-prescription medications compared to 24.4% of mothers with "below average knowledge score" ($P < 0.001$). A much higher proportion of mothers with above average knowledge scores were satisfied with ANC ($P < 0.001$). (Table 1)

The study also showed that there was a statistically significant association between actual number of antenatal visits and mothers' satisfaction with the antenatal services ($P < 0.001$).

- Prepared by: Dr. Mansour S. Al-Elyani, Dr. Abdul Jamil Choudhry (Field Epidemiology Training Pro-

gram).

Editorial notes: As the major focus of this study was to assess knowledge and practices of mothers during pregnancy regarding ANC, they were assessed by covering a variety of aspects including time of first ANC visit, number of ANC visits, number of missed visits, taking nutritional supplement and non-prescription medications.

Regarding total number of ANC visits, excluding the mothers who had first contact with the health system during labor, the vast majority had 4 or more visits, i.e. the minimal stipulated visits recommended by WHO.²

However, the number of the visits is not the best indicator to judge the quality of care; timing of these visits and failure to attend an appointment can add more insight to the issue. It is encouraging to note that almost three fourths of the mothers had made their first antenatal visit during the first trimester, thus providing them with the opportunity to obtain health ad-

vice earlier in the pregnancy. The study also highlighted that a substantial proportion of mothers had their first ANC visit during the third trimester or, for some of them, reaching hospital during labor was the first contact with the health system for this pregnancy; indicating a failure of the health system for these mothers. In addition, under half of the mothers had missed at least one appointment due to a variety of reasons; many of them personal. However, some responsibility has to be shared by health care providers who had not adequately emphasized the need of ANC visits.

Knowledge of mothers about ANC related issues was found to be a leading determinant of mothers' practices in regard to ANC, since the majority of mothers who had made their first ANC visit in the first trimester, and the higher number of ANC visits was more among mothers who had above average level of knowledge. It is well known that health education on maternal care is mainly provided to pregnant women by

(Continued on page 23)

Table 1: Relationship of mothers' practices during pregnancy with their knowledge about ANC, Taif city, 2009.

Mothers' Practices	Knowledge score			P-value
	Total	Above average level	Below average level	
Time of 1st Antenatal visit				
During 1st trimester	297	83.3%	64.2%	<0.001
After 1st trimester	103	16.7%	35.8%	
Total	400	100.0%(210)	100.0%(190)	
No. of total antenatal visits				
Less than 4 times	69	6.1%	34.1%	<0.001
4-9 times	181	51.8%	47.3%	
10 times or more	114	42.1%	18.6%	
Total	364	100%(197)	100%(167)	
Missed antenatal visits				
Yes	206	46.6%	58.0%	<0.001
No	176	52.9%	35.1%	
No visits	14	0.5%	6.9%	
Total	396	100.0%(208)	100.0%(188)	
Taking non-prescription medications				
Yes	68	12.3%	24.4%	0.002
No	311	87.7%	75.6%	
Total	379	100.0%(203)	100.0%(176)	
Satisfaction with ANC				
Completely satisfied	200	60.4%	39.9%	<0.001
Somewhat satisfied	126	30.4%	33.5%	
Not satisfied	69	9.2%	26.6%	
Total	395	100.0%(207)	100.0%(188)	

Knowledge and attitudes of healthcare workers at King Abdul Aziz International Airport regarding preventive measures of communicable diseases for pilgrims, Jeddah

A descriptive cross-sectional study was conducted from 25th to 30th Dhul Qaeda, 1430 H, at King Abdul Aziz international airport (KAAIA) hajj terminals. The aim of this study was to determine the level of knowledge and attitude of healthcare workers (HCW) toward preventive measures applied at entry points. All HCW assigned to work in hajj terminals were included in the study. A self-administered questionnaire was designed to collect data on demographic characteristics, knowledge of preventive measures, and attitudes toward these measures.

A total number of 325 HCW agreed to participate in the study, representing a response rate of 96%. Physicians constituted 12.9%, nurses 36.6%, health inspectors 41.5% and other health specialties 8.9%. All HCW were males, and the largest proportion were in the 31-40 years age group (41.2%). The mean age \pm S.D was 36.2 \pm 8.7 years. The majority were Saudis (88.9%), 46.3% had a work experience between 2 to 10 years, and 49.1% had participated in working at entry points between 2 to 5 times. Most of the study participants had not received any training courses on infectious diseases in hajj (80.9%) or preventive measures applied at entry points (91.4%).

Over 70% of HCWs answered the questions concerning the preventive measures applied against Meningococcal meningitis correctly, except for the type of vaccine recommended for infants over three months and under one year of age, and the type of chemoprophylaxis given to children under 15 years, which were answered correctly by only 13.2% and 38.8% respectively.

Over 80% of HCWs answered the questions concerning the preventive measures applied against poliomyelitis correctly. Regarding Yellow fever; the period of which Yellow fever vaccination certificate is considered valid was answered correctly by 45.8% of HCWs. Regarding the right measures that should be taken against unvaccinated pilgrims, 53.5% knew the correct answer. Regarding Novel Influenza A (H1N1), the suspected case definition was answered correctly by the majority of the HCWs (95.7%). On the other

hand, only 32.9% correctly answered the question concerning the preventive measures applied against Novel Influenza A (H1N1).

The majority of HCWs (91.4%) agreed that preventive measures applied at entry points were necessary to prevent outbreaks in hajj. However, 21% stated that the measures were unclear and 42% reported that the work environment was not appropriate for conducting their duties.

Regarding knowledge scores, an over 75% score was achieved by 61.9% of physicians, 29.9% of health inspectors, 20.0% of nurses and 20.7% of other health specialties ($p < 0.001$). Forty nine percent of HCWs with > 20 years of experience scored over 75% which was higher than those with 11-20 years of experience (27.8%) and those with 1-10 years of experience (22.7%), ($p = 0.002$). Those who reported having read written guidelines had a significantly higher level of knowledge

(32%) compared to those who had not (24.4%), ($p = 0.018$). There was no significant association between the number of previous participation in hajj or previous training courses on the level of knowledge of HCW (Table 1).

- Prepared by: Dr. Adel Al-Ghamdi, Dr. Ibrahim Kabbash (Field Epidemiology Training Program).

Editorial notes: Hajj is the largest and the most diverse mass gathering of people in the world. This mass gathering entails some of the world's most important public-health and infectious disease hazards.¹ Many of these infections can be avoided or averted by adopting appropriate preventive measures. Physicians and health personnel must be aware of these risks to appropriately educate, immunize and prepare pilgrims facing the unique epidemiological challenges of Hajj, in an effort to minimize unwanted effects.

(Continued on page 21)

Table 1: Level of knowledge of HCW in King Abdul-Aziz International Airport regarding preventive measures at entry points related to different variables.

Variables	Level of knowledge							
	< 50%		50% - 75%		> 75%		Total	
	No.	%	No.	%	No.	%	No.	%
Occupation $\chi^2 = 31.37$ $P < 0.001$								
Physicians	0	0	16	38.1	26	61.9	42	12.9
Nurses	19	16.0	76	63.9	24	20.0	119	36.6
Health inspectors	18	13.4	76	56.7	40	29.9	134	41.2
Other (HCWs)	7	24.1	16	55.2	6	20.7	29	8.9
Years of working experience $\chi^2 = 16.13$ $P = 0.002$								
1-10	27	18.0	89	59.3	34	22.7	150	46.2
11-20	12	11.1	66	61.1	30	27.8	108	33.2
> 20	4	7.3	24	43.6	27	49.1	55	16.9
Number of times of participation in hajj $\chi^2 = 4.49$ $P = 0.343$								
1 st time	16	16.8	47	49.5	32	33.7	95	29.2
2-5 times	19	12.2	97	62.2	40	25.6	156	48.0
> 5 times	8	12.1	36	54.5	22	33.3	66	20.3
Previous training courses in infectious disease $\chi^2 = 0.66$ $P = 0.717$								
Yes	8	12.9	33	53.2	21	33.9	62	19.1
No	36	13.7	151	57.6	75	28.6	262	80.6
Previous training courses in preventive measures $\chi^2 = 1.25$ $P = 0.535$								
Yes	2	7.1	18	64.3	8	28.6	28	8.6
No	42	14.2	166	56.1	88	29.7	296	91.1
Reading written guidelines $\chi^2 = 7.94$ $P = 0.018$								
Yes	17	9.1	108	58.1	61	32.8	186	57.2
No	27	19.6	76	55.1	35	25.4	138	42.5

The role of Hamla management in the prevention and control of food poisoning episodes in Mina during Hajj, 1430 H.

Every year during Hajj, over two million hajjis gather in Mina; a relatively small area with temporary cooking, storage, and serving facilities. Hamla managements' major responsibilities include assuring the quality of food services provided for hajjis, availability of medical facilities and reporting of incidents, such as food poisoning episodes, to authorities. This study aims to identify the role of Hamla management in prevention and control of food poisoning outbreaks during Hajj.

A cross-sectional survey was conducted by interviewing Hamla managers and observing food preparation and dining services provided at the camps. Stratified random sampling was used to identify the sampling units. Data was collected on the 7th, 8th, 10th and 11th of Dhul Hijjah, 1430 H.

A total of 91 camps were surveyed; 33 (36.3%) domestic and 58 (63.7%) international. The mean number of years of Hamlas' experience in hajj was 12.8 years (SD \pm 7.4). The mean number of hajjis served by the Hamlas was 2020.9 (SD \pm 1655.7). International hamlas had a significantly higher number of hajjis per camp than domestic hamlas (P-value <0.001).

A total of 54 camps (59.3%) had a contract with a caterer; particularly domestic hamlas (P-value=0.016). Twenty 20 camps (22.0%) did not have any supervisory staff, almost all (19) were International (P-value=0.027). Among camps with supervisory staff, the most senior supervisor of 49 (69.0%) had previous experience of supervising food services other than hajj. The most frequently supervised food service was cleanliness of the cooking and dining areas (97.8%), followed by supervision of the served food (94.5%). Domestic camps were supervising food preparation significantly more often than international camps (P-value=0.014). This was mostly done by visual inspection (80.2%). The only significant actions taken by the supervisory team were that towards defective food preparation equipment (P-value=0.008), and defective heaters and cooling equipment (P-value=0.048), by getting them repaired.

Open buffet was served more frequently in domestic camps (P-value <0.001). Gas stoves were the most frequent heating appliances (86.8%), and

were used more often in international camps (P-value <0.001). A separate dining area was available in 25.3%, which was higher in domestic camps (P-value <0.001). The mean dining area size in all camps was 75.4 m² (SD= 45.2 m²) and the mean cooking area size was 94.6 m² (SD= 34.7 m²). Cooking area cleanliness was satisfactory in 25.3%, and storage area cleanliness was satisfactory in 24.2% of hamlas. Both were significantly better in domestic hamlas (P-value= 0.020 & <0.001, respectively).

A mechanism to lodge complaints was available in 61.1% of hamlas, and was higher in domestic (P-value= 0.008). Discarding food that was a source of complaint was the most frequent measure undertaken in response to complaints regarding food.

Medical facilities were available in 44 (48.4%), and were higher in domestic hamlas (P-value <0.001). A physician was available in 45 (49.5%) hamlas, and was higher in domestic (P-value <0.001). A reporting mechanism was in place in 63 hamlas (69.2%), which was also higher in domestic (P-value=0.042). Reporting was the responsibility of hamla managers in almost all camps (96.8%).

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

Editorial notes: Food poisoning is a preventable disease that is acquired by consumption of foods contaminated by a variety of organisms, ranging from infective organisms (bacteria, viruses, or parasites) or their toxins to chemical contaminants. A food poi-

soning outbreak occurs when a group of people consume the same contaminated food and two or more of them develop the same sickness.^{1,2}

Continuous changes in human populations and the epidemiology of infectious diseases are important risk factors for food borne disease. The population of highly susceptible persons is expanding worldwide because of ageing, malnutrition, low immunity persons and other underlying medical conditions. Epidemiological studies have shown that the majority of reported food poisoning outbreaks originate from food service providers, and can be attributed to improper food preparation practices.³⁻⁵

In Saudi Arabia, the peak occurrence of food poisoning outbreaks is in the summer, and during Hajj and Umrah seasons. From 1986 to 1998, the number of reported cases of food poisoning ranged from 44 to 132 in each Hajj season.³ Fortunately, this number has gone down in recent years.

Hamla management is responsible for providing and supervising a variety of services for hajjis, such as the food served, residence, transportation, and medical services. This study may be the first direct study addressing the issue of the role of Hamla managements in preventing and controlling food poisoning episodes during Hajj.

Most of the camps participating in this study had a good experience in hajj, therefore, better services for hajjis are expected. Two roles of Hamla management were identified in this study that play a major role in prevention of food poisoning episodes; these are the presence of contract with a caterer and the location of food preparation place. Food

(Continued on page 21)

Table 1: Medical Services in Hamlas in Mina during Hajj 1430 H (2009 G)

Variable	Domestic (n=33)		International (n=58)		All Hamlas (n=91)		P-value
	N	%	N	%	N	%	
Availability of Medical Facilities							
Yes	31	93.9	13	22.4	44	48.4	<0.001
No	2	6.1	45	77.6	47	51.6	
Type of Medical Staff Available in Hamla							
Physician	31	93.9	14	24.1	45	49.5	<0.001
Nurse	8	24.2	6	10.3	14	15.4	0.077
Reporting Mechanism Existed							
Yes	28	84.8	35	60.4	63	69.2	0.042
No	4	12.2	14	24.1	18	19.8	
Not sure	1	3.0	9	15.5	10	11.0	

Knowledge and attitude of healthcare workers at King Abdul-Aziz International Airport regarding preventive measures, cont...

(Continued from page 19)

The Saudi Ministry of Health (MOH) exerts all possible efforts to apply preventive measures against imported infectious diseases by inspecting pilgrims upon their arrival at 15 entry points. KAAIA is the main entry point, where pilgrims are checked for their fulfillment of the Saudi MOH requirements for entry visas for the hajj.² The success of implementing these preventive measures and hence preventing the occurrence of outbreaks during hajj depends on the awareness and adherence of physicians and health personnel at hajj terminals to these measures.

Meningococcal meningitis is a major public health concern, particularly during hajj. Effective protective and control measures with immunization is crucial in order to reduce the impact of the disease.³ Overcrowding, high humidity and dense air pollution during Hajj contribute to carrier rates as high as 80%. Antimicrobial prophylaxis with single-dose oral ciprofloxacin can be a powerful tool for limiting the spread of meningococcal infection.⁴

Although wild poliovirus transmission has ceased in most countries due to improved immunization and the global initiative to eradicate poliomyelitis, importation remains a threat especially from Afghanistan, India, Nigeria and Pakistan where they could not succeed in interrupting viral transmission.⁵ Our study revealed that most HCWs had good level of knowledge regarding the preventive measures against poliomyelitis, which can be attributed to the high level of polio control in Saudi Arabia, in addition to the fact that most of the studied sample were working in preventive medicine departments and had shared in the previous campaigns against poliomyelitis in the Kingdom.

Yellow fever is another cause of concern which, when epidemics occur in unvaccinated populations, case-fatality rates may exceed 50%.⁶ So far, the virus circulation has remained within the borders of endemic countries. However, it could spread quickly and cause epidemics in areas with a high density of vectors and a non immune population such as Makkah and Jeddah, where the *Aedes aegypti* mosquitoes are endemic, especially during Hajj.

Respiratory infections are the most common vaccine preventable disease and the most frequently reported among Hajjis.⁷ Health education and immunization play a major role in prevention of this disease.

It is clear from the study findings that a large proportion of HCW at KAAIA had not received training courses on the common infectious diseases during Hajj, or the preventive measures that should be applied at entry points. Many of them were willing to attend such courses. Some difficulties were found in some preventive measures, especially among non-physicians, those with lower years of experience and those who had not read the guidelines, which highlights the importance of arranging training courses for HCW before Hajj season.

References

1. Ahmed QA, Arabi YM, Memish ZA. Health risks at the Hajj. *Lancet* 2006; 367: 1008- 15.
2. World Health Organization. Health Conditions for travelers to Saudi Arabia for the pilgrimage to Makkah (Hajj). Weekly epidemiological record, NO. 46, 13 November 2009. Available from: <http://www.who.int/wer/2009/wer8446/en/index.html>. (accessed on 25th May 2010)
3. Memish ZA, Alrajhi AA. Meningococcal disease. *Saudi Med J.* 2002; 23(3):259-264.
4. Center for Disease Control and Prevention. Prevention and control of meningococcal disease. Recommendations of Advisory Committee on Immunization Practices. *MMWR* 2000;49:RR-7.
5. David L. Control of Communicable Disease Manual. 19th edition, American Public Health Association. 684- 690.
6. WHO, Global Alert and Response. Yellow fever fact sheet. Available at: <http://www.who.int/csr/disease/yellowfev/en/>. (accessed on 30th May 2010)
7. Balkhy HH, Memish ZA, Bafageer S, Almuneef MA. Influenza a common viral infection among Hajj pilgrims: time for routine surveillance and vaccination. *J Travel Med* 2004; 11: 82-86.

The role of Hamla management in prevention and control of food poisoning episodes in Mina during Hajj, cont...

(Continued from page 20)

providers and caterers usually follow food safety protocols which minimize the risk of food poisoning.

Serving food by open buffet was found in over one third of the camps, mostly domestic, which may carry a higher risk of food poisoning, due to easier contamination of food. Gas stoves were the most frequent heating appliances used, which were higher in international camps. A previous study in 2006 reported that 64.4% of camps used liquid gas stoves in food preparation.⁶ Our results support an improvement in the quality of food preparation. Presence of a mechanism to lodge complaints by hajjis, an important control and preventive measure, was in place in two thirds of camps and was more frequent in domestic. Reporting of cases is another important control and preventive measure that helps in rapid identification and treatment. In this study, most Hamla managements would report food poisoning cases to authorities when they occurred. Again, this was practiced more frequently in domestic camps.

In order to provide hajjis with better and immediate health services, and to decrease the burden on governmental health facilities, new Saudi hajj regulations have enforced the availability of medical facilities and a physician and/or nurse in each domestic camp. No such regulations are forced on international camps. Fortunately, most international camps had medical facilities.

General food services provided by Hamla management; such as the availability of supervisory staff, contract with a caterer, etc, were generally acceptable. Domestic camps provided significantly better services than international camps. It was recommended to strengthen food safety health education among Hamla management, staff, and hajjis by all possible means, before or during hajj.

(Continued on page 23)

ملخص باللغة العربية

التسمم الغذائي في المملكة العربية السعودية، وتكون ذروتها خلال أشهر الصيف وموسم الحج والعمرة. وفي موسم الحج بالتحديد هناك عوامل متعددة تساعد على حدوث هذه الفاشيات. تم إجراء هذه الدراسة لوصف الممارسات المتبعة من إدارات الحملات لتفادي حدوث فاشيات التسمم الغذائي أثناء الحج. تم عمل دراسة مقطعية شملت عينة إختيرت بصورة عشوائية من حملات الداخل والخارج في منى خلال الفترة من 7 إلى 11 ذو الحجة لعام 1430 هـ. شملت الدراسة 91 حملة، منها 33 (36.3%) من حملات الداخل و 58 (63.7%) من حملات الخارج. كان متوسط سنوات الخبرة 12.8 سنة (إنحراف معياري قدره 7.4). وكان متوسط عدد الحجاج في كل الحملات 2020.9 حاج، بإنحراف معياري قدره 1655.7.

بلغت نسبة حملات الداخل المتعاقدة مع متعهدي تغذية 75.8% مقارنة بـ 50% من حملات الخارج. من بين جميع الحملات فإن 22% لم يكن لديهم موظفين متخصصين في الإشراف على خدمات التغذية بينما البقية 78% تراوح فيها عدد المشرفين من 1 إلى 5 وكان 69% منهم لديه خبرة في مجال الإشراف على خدمات التغذية خارج نطاق موسم الحج. وكانت أعلى نسبة في عدد مرات الإشراف على خدمات التغذية هي 49.4% مع كل وجبة. بالنسبة للإجراءات المتخذة في حالة وجود شكوى عن الطعام، كانت 76.9% من الحملات ترمي الطعام. وفي حالة وجود عطل بأحد أجهزة إعداد الطعام فقد كانت 64.8% من الحملات تقوم بإصلاحها و 44% توفر بديلة.

أغلب الحملات كانت تستخدم السخانات الغازية (86.8%) تليها الأفران الكهربائية (27.5%). كانت نظافة المطبخ جيدة في 28.6%، و نظافة المستودع في 24.2%، و نظافة مكان الأكل كانت جيدة في 56.2%.

نسبة الحملات التي لديها آلية تمكن الحجاج من تقديم الشكاوي والمقترحات كانت 81.8% عند حملات الداخل مقارنة بـ 49.1% عند حملات الخارج. الخدمات الطبية كانت متوفرة في 93.9% من حملات الداخل مقارنة بـ 22.4% من حملات الخارج. وكانت نسبة وجود طبيب في الحملة أعلى في حملات الداخل (93.9%) عن حملات الخارج (24.1%).

كان هناك بعض الاختلافات في الخدمات الغذائية التي تقدمها حملات حجاج الداخل مقارنة بخدمات حجاج الخارج. كما لوحظ أيضاً أنه يوجد نقص في الخدمات الطبية المقدمة لحالات التسمم الغذائي في كلا الفئتين إلا أن حملات حجاج الداخل تقدم خدمات طبية أفضل نسبياً.

إعداد: د. سامي سعيد المدرع، د. عبدالجميل شودري (برنامج الوبائيات الحقلية).

حول الأمراض الوبائية في الحج (50%)، و الإجراءات الوقائية بالمنافذ (23,8%).

أوضح 94,5% من العاملين الصحيين رأيهم بوجوب قيام الوزارة بتنظيم دورات تدريبية قبل المشاركة في الحج، وبلغ عدد من يرغبون في حضور هذه الدورات 94,8%. وفيما يخص الإجابة على الأسئلة المتعلقة بالإجراءات الوقائية المتبعة بالمنفذ؛ فقد أجاب الغالبية (أكثر من 70%) على الأسئلة المتعلقة بالإجراءات الوقائية ضد الحمى الشوكية بشكل صحيح، وكانت إجابات الأطباء على معظم الأسئلة أفضل من إجابات باقي الفئات. وقد أجاب معظم العاملون الصحيون على الأسئلة المتعلقة بشلل الأطفال بشكل صحيح. تم تقسيم مستوى المعرفة لدى العاملين الصحيين إلى ثلاثة مستويات حسب نسبة إجاباتهم الصحيحة، وقد كان هناك إختلاف ذو دلالة إحصائية بين الأطباء وبقيّة العاملين، حيث كانت نسبة الأطباء الذين حصلوا على تقييم أعلى من 75% وأجابوا إجابات صحيحة 61,9%، أما بقية العاملين فقد تراوحت نسبهم بين 20 إلى 29,9%.

كما أظهرت الدراسة إختلافاً ذا دلالة إحصائية بين عدد سنوات الخبرة في المجال الصحي ومستوى المعرفة؛ حيث أن 49,1% من الذين لديهم خبرة أكثر من عشرين سنة أجابوا على أكثر من 75% إجابات صحيحة. لم تظهر الدراسة أي إختلاف بين مستوى المعرفة لدى العاملين الصحيين وعدد مرات مشاركتهم بالعمل في المنافذ في موسم الحج. بينما أظهرت وجود إختلاف ذو دلالة إحصائية بين العاملين الصحيين الذين قرأوا دليل الإجراءات الوقائية ومستوى المعرفة، حيث حصل 32,8% من الذين قرأوا الدليل على تقييم أعلى من 75%.

أبدى 96,9% من العاملين الصحيين رأيهم بأن عدد ساعات العمل تؤثر سلباً على أدائهم الوظيفي، كما ذكر 42,4% أن بيئة العمل لا تساعدهم على أداء مهامهم الوظيفية.

يتضح من الدراسة أن نسبة كبيرة من العاملين الصحيين لم يتلقوا دورات تدريبية في مجال الأمراض الوبائية والإجراءات الوقائية المتبعة بالمنافذ أثناء الحج، وأن الكثيرين منهم لديهم الرغبة في حضور مثل هذه الدورات.

إعداد: د. عادل الغامدي، د. إبراهيم كباش، (برنامج الوبائيات الحقلية)

دور إدارة الحملة في التحكم والحد من حالات التسمم الغذائي في منى، خلال موسم حج 1430 هـ.

التسمم الغذائي حالة مرضية مفاجئة تظهر أعراضها خلال فترة زمنية قصيرة على الفرد بعد تناول أغذية ملوثة. وقد لوحظ على مر السنين التفاوت الموسمي في حدوث فاشيات

تقييم معرفة وإدراك العاملين الصحيين بمطار الملك عبد العزيز الدولي بجدة للإجراءات الوقائية ضد الأمراض المعدية للحجاج القادمين خلال موسم حج عام 1430.

تشهد المملكة العربية السعودية أثناء موسم الحج تجمعا يتجاوز المليونين ونصف المليون مسلم كل عام. هذا التجمع وما يصاحبه من تزامم يشكل بيئة ملائمة لانتقال مسببات الأمراض، مما قد يؤدي إلى حدوث فاشيات، ليس على المستوى المحلي فقط بل قد تنتشر على المستوى العالمي أيضاً. قامت المملكة العربية السعودية ممثلة في وزارة الصحة بوضع إشتراطات صحية وإجراءات وقائية للحجاج طبقاً للأنظمة واللوائح الدولية قبل قدومهم للحج والتأكد من تطبيقها. يعتبر منفذ مدينة الحجاج بمطار الملك عبدالعزيز الدولي بجدة أحد المنافذ الرئيسية لإستقبال الحجاج، ويزود كل عام بفرق وقائية فنية تقوم بتطبيق هذه الإشتراطات الصحية والإجراءات الوقائية أثناء موسم الحج.

تم إجراء دراسة مقطعية بمنفذ مدينة الحجاج بمطار الملك عبد العزيز الدولي بجدة أثناء موسم حج عام 1430 هـ، هدفت إلى تقييم معرفة وإدراك العاملين الصحيين للإجراءات الوقائية، ومعرفة الصعوبات التي يواجهها العاملون الصحيون بالمنفذ أثناء أدائهم لمهامهم، لوضع توصيات قد تساهم في تحسين المعرفة لدى العاملين الصحيين بالمنافذ.

شملت الدراسة جميع فئات العاملين الصحيين من أطباء وتمريض ومرافقي وبنائيات، بإجمالي 325 عاملاً صحياً؛ شكل الأطباء عدد 42 (12,9%)، التمريض 119 (36,6%)، المرافقين الصحيين 135 (41,5%)، الوظائف الصحية الأخرى 29 (8,9%). وقد كان جميعهم من الذكور، معظمهم في المجموعة العمرية 31-40 سنة (41,2%) وكان متوسط أعمارهم 36,2 سنة بإنحراف معياري ± 8.7 . كما بلغ عدد السعوديين 289 (88,9%) وغير السعوديين 36 (11,1%). بلغ عدد العاملين الصحيين الذين تتراوح خبرتهم من 2-10 سنوات في المجال الصحي 145 (46,3%)، و كان عدد العاملين المشاركين في العمل بالمنفذ لأول مرة 95 (29,9%)، وكان أكثرهم قد تراوحت مشاركتهم من 2-5 مرات (49,1%).

أغلب العاملين لم يسبق لهم أن تلقوا دورات تدريبية في الحج، حيث بلغ عدد الذين تلقوا دورات حول الأمراض الوبائية 62 (19,1%) فقط و عدد الذين تلقوا دورات في الإجراءات الوقائية المتبعة بالمنافذ 28 (8,6%). أظهرت الدراسة إختلاف ذو دلالة إحصائية بالنسبة لتلقي الدورات التدريبية حيث كان الأطباء أكثر العاملين الصحيين الذين قد تلقوا دورات تدريبية

Assessment of Knowledge and Practices of Saudi mothers, cont...

(Continued from page 18)

health workers at the time of antenatal visits. Xue described maternal health knowledge level was higher among pregnant women who attended ANC than those who did not.³ Knowledgeable mothers were unlikely to miss any scheduled ANC visits or to take non-prescription medications.

This study showed that utilizing ANC services was higher among mothers with higher knowledge score which agrees with other studies confirming that the utilization of ANC among women with sufficient knowledge on the benefits of ANC was higher than among women lacking such knowledge.⁴ Improving knowledge on the benefits of ANC for pregnant women is an important element to support women in protecting both their, their children's, and their families health.

References:

1. Akyuz A et al. Reasons for using antenatal care in women coming to the antenatal outpatients department. *Balkan Military Medical Review* 2007;10: 38 - 39.
2. Overbosch G, Nsawah-nuamah J, Vanden B, Damnyag L. Determinants of antenatal care use in Ghana. Center for world food studies. Staff working paper workshop, 2 - 13, November 2002.
3. Xue L, Jia YJ, Pang SL, Su JQ. A survey on knowledge of prenatal care of 300 pregnant women. *Maternal and Child Health Care of China*. 2007; 22: 2115-2117.
4. Erlindawati, Chompikul J, Isaranurug S. Factors related to the utilization of antenatal care services among pregnant women at Aceh Darussalam Province, Indonesia. *J Public Health Dev* 2008; 6: 99-108.

Saudi Epidemiology Bulletin (SEB)
Is published quarterly
by the
Department of Preventive Medicine
and the
Field Epidemiology Training Program
of the Ministry of Health.

Mark your calendar . . .

Inside the Kingdom

30 November - 1 December 2010: A New Vision in Medical Nutrition Symposium

Venue: King Faisal Specialist Hospital & Research Center
Contact: Ms. Shahinaz Murshed, Conference Coordinator - P.O. Box 3354
Riyadh 11211, Kingdom of Saudi Arabia Telephone: 966 1 464-7272 Ext. 31830
or 442-7206

8 December 2010: Osteoporosis Awareness Day

Location: Jeddah, Saudi Arabia.
Venue: Crowne Plaza Hotel, Jeddah
contact: Mr. Saber Alem or Ms. Najwa Hamad, Symposia Coordinator.
Academic Affairs, King Abdulaziz Medical City, P.O. Box 9515, Jeddah 21423.
Tel.: 02-6240000 ext. 21336, Fax: 02-6240000 ext. 21336/21009

Outside the Kingdom

November 25-27th, 2010: VIIIth IEA Eastern Mediterranean Regional Scientific Meeting

Location: Crowne Plaza Hotel- Beirut-Lebanon
Email: mary.deeb@gmail.com
<http://lea-lb.org>

The role of Hamla management in prevention and control of food poisoning episodes in Mina during Hajj, cont...

(Continued from page 21)

References:

1. CDC, Atlanta. Food borne Ill-ness: Frequently Asked Questions. 2005. Available at: http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm. Accessed on May 27, 2010.
2. Mead PS, et al. Food related illness in the United States. *Emerg inf Dis* 1999, 5: 607 - 625.
3. Al-Turki, et al. Bacterial food poisoning. *Saudi med j* 1998; 19 (5): 581 - 584.
4. Lammerding AM, Paolit GM. Quantitative Risk Assessment: An Emerging Tool for Emerging Food borne Pathogens, *Emerging Infectious Diseases*, National Center for
5. Saudi Ministry of Hajj. Instructions Regulating Agreements between Hajj Missions and the Ministry. 2009. Available at: <http://www.hajjinformation.com/main/m40.htm>. Accessed on May 30, 2010.
6. Alenezi F al. Hygienic quality of food supplied for hajjis in Mina camps and factors affecting it during hajj in 2006, [A report of study project in Diploma in Field Epidemiology, graduated in 2006], Riyadh, Saudi Arabia, King Saud university, 2006.

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:
Saudi Epidemiology Bulletin
Editor-in-Chief
P.O. Box 6344
Riyadh 11442, Saudi Arabia
☎ For epidemiological assistance,
call or fax the FETP at
01 - 4960163
Website: www.fetp.edu.sa

Department of Preventive Medicine:
Dr. Ziad Memish
Assistant Deputy Minister for Preventive Medicine, and SEB Supervisor
Dr. Raafat AlHakeem
General Director, Parasitic and Infectious Diseases Department
Dr. Amin Mishkhas
Assistant General Director, Parasitic and Infectious Diseases Department
Field Epidemiology Training Program:
Dr. Mohammed Al-Mazroa,
FETP Supervisor,
SEB Editor-in-Chief
Dr. Randa Nooh,
Consultant Epidemiologist,
Bulletin Editor

Selected notifiable diseases by region, Jul — Sept 2010

	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jizan	Najran	Baha	Al-Jouf	Goriat	Gonfuda	Total	
Measles	19	0	6	0	0	2	0	0	0	1	4	0	4	2	60	1	0	0	0	0	0	99
Mumps	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Rubella	2	0	0	0	0	0	0	0	0	0	0	1	1	0	1	3	0	0	0	0	0	8
Varicella	172	21	202	90	65	664	448	299	73	736	52	70	12	12	56	69	4	34	3	20	3102	
Meningitis mening.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningitis other	16	0	0	1	0	13	4	6	0	1	3	2	1	0	0	0	0	0	0	0	0	47
Hepatitis B	107	2	242	153	56	60	140	3	0	92	7	85	3	11	0	46	0	0	0	0	0	1007
Hepatitis C	39	1	169	51	13	22	82	3	0	39	24	7	1	0	1	10	0	11	0	1	474	
Hepatitis unspecified	5	0	3	3	0	0	0	0	0	2	0	0	0	0	7	0	0	0	0	0	0	20
Hepatitis A	12	0	5	14	3	9	6	1	1	23	0	14	2	1	2	10	0	0	1	0	104	
Typhoid & paratyphoid	1	0	8	1	0	0	25	17	1	14	0	0	2	0	0	0	0	2	0	1	72	
Amoebic dysentery	2	0	331	11	50	6	199	26	0	61	16	0	0	0	0	0	0	0	3	2	707	
Shigellosis	1	0	0	4	2	1	4	1	0	0	0	0	0	0	0	1	0	1	0	0	15	
Salmonellosis	31	1	24	1	0	3	201	23	9	5	8	10	1	1	0	37	0	2	0	0	357	
Brucellosis	70	2	7	117	42	262	71	7	94	212	66	9	48	13	8	87	0	16	4	1	1136	
Dengue Fever	2	47	217	0	4	0	1	0	0	0	0	0	0	0	10	6	0	0	0	0	287	
Khorma Fever	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	14	

Comparisons of selected notifiable diseases, Jul - Sept 2009 - 2010

DISEASE	Jul-Sep 2010	Jul-Sep 2009	Change %	Jan-Sep 2010	Jan-Dec 2009	DISEASE	Jul-Sep 2010	Jul-Sep 2009	Change %	Jan-Sep 2010	Jan-Dec 2009
Cholera	4	2	100	5	4	Hepatitis B	1007	852	18	2578	5020
Diphtheria	0	0	0	0	1	Hepatitis C	474	391	21	2468	2487
Pertussis	0	0	0	0	26	Hepatitis unspecified	20	19	5	620	220
Tetanus, neonat	0	0	0	1	10	Hepatitis A	104	171	-39	301	1258
Tetanus, other	0	1	-100	5	5	Typhoid & paratyphoid	72	67	7	357	316
Measles	99	6	1550	191	81	Amoebic dysentery	707	425	66	1564	3064
Mumps	3	6	-50	18	138	Shigellosis	15	19	-21	763	121
Rubella	8	2	300	34	13	Salmonellosis	357	372	-4	789	1372
Varicella	3102	4438	-30	14842	31402	Brucellosis	1136	1135	0	2892	4803
Meningitis mening.	0	1	-100	2	6	Dengue Fever	287	491	-42	3230	3350
Meningitis other	47	61	-23	195	334	Khorma Fever	14	20	-30	46	59

Diseases of low frequency, Jul – Sept 2010

Yellow fever, Plague, Poliomyelitis, Rabies, Diphtheria, Pertussis, Neonatal Tetanus, Meningococcal Meningitis, Eccinococcosis: No Cases
Cholera: 4 Cases (Eastern 2, Jeddah 1, Hassa 1)