



النشرة الوبائية السعودية



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Transportation of emergency cases by Saudi Red Crescent Society medical teams to health facilities in Makkah and Mina, Hajj 1429 H (2008).

Provision of health care to sick hajjis is entrusted to the Ministry of Health, while the Provision of health care to sick hajjis is entrusted to the Ministry of health, while the Saudi Red Crescent Society (SRCS) shares the responsibility of transportation of these patients and provision of first aid and emergency care. However, the role of the SRCS in health provision, especially in relation to patient transportation to MOH health facilities, has not been studied adequately.

A descriptive cross-sectional self-administered questionnaire-based study was conducted in Makkah and Mina centers during Hajj 1429 Hijra to assess the workload and practices of the medical teams of the SRCS regarding referral and transportation of emergency cases to health facilities; and to assess the coordination and communication mechanism between SRCS and MOH teams regarding referral and transportation of emergency cases. Of the 22 SRCS centers in Makkah and the 35 SRCS centers in Mina, 11 centers in Makkah and 16 centers in Mina were selected randomly; while all 111 teams posted at these centers were included in the study (55 teams from Makkah centers and 56 teams from Mina centers).

One hundred and one (91.0%) team leaders were Saudis, with mean age of 30 years (SD \pm 6); 10 (9.0%) leaders were paramedics, 92 (82.9%) were Advanced Emergency Medical Technicians (EMT) and eight (8.1%) were Basic EMT. Regarding their training, 106 (95.5%) had one or more certificate in life support, and 83 (74.8%) had attended at least one training course during the past year. The team leaders had an average experience of 7 years (SD \pm 6); 92 (82.9%) had previously participated in Hajj duty under 5 times, 33 (29.7%) were participating for the first time, and only 19 (17.1%) had participated over 5 times. The study showed that 17 (16.3%) team leaders had performed 100 and more Cardiopulmonary Resuscitations (CPR) during their entire career, 87 (78.4%) had done less than 100 CPRs and 7 (6.3%) had not. Endotracheal intubation (ETT) had been performed over 25 times

(Continued from page 26)

INDEX

- Transportation of emergency cases by Saudi Red Crescent Society medical teams to health facilities in Makkah and Mina during Hajj 1429 H, cont, 25
- Foodborne outbreak in Al-Hofuf, KSA, June 2009 27
- Pattern of health behavioral practices of hypertensive patients & factors influencing them, KCUH, 2009 28
- SEB Arabic page 30
- Calendar 31
- Notifiable Disease Reports 32

Transportation of emergency cases by Saudi Red Crescent Society medical teams to health facilities in Makkah and Mina, Hajj 1429 H, cont...

(Continued from page 25)

by 9 (8.1%), 1 – 25 times by 73 (66.0%), and 29 (26.0%) had not done any ETT during their whole career.

Information about patients was available for 109 teams. These teams had received 1,381 emergency calls in the last duty shift, with a mean of 13 calls (SD ± 5) for each team (range 5 – 22). Out of these emergency calls, 208 had been cancelled for different reasons and 156 of the emergency cases had been shifted to hospitals by others before the teams could reach the scene.

The total number of cases attended by the 109 teams was 1,342 cases (mean = 12 cases, SD ± 5) during the last duty shift. Emergency care was provided for 1,154 hajjis (mean = 11, SD ± 4) for each team. However, 172 cases were not given emergency care by the teams for different reasons: as 107 were not emergency cases, 50 cases refused medication, 12 cases were found dead, and 5 cases could not be found. One hundred seventy nine cases were given care and referred, or advised to go to hospitals or PHCC by themselves without transportation as they were mild cases; while 813 cases were transported to hospitals (mean 8, SD ± 3, for each team) in the last shift.

Teams managed a total of 987 cases, whose disease distribution is given in Table 1. CPR was performed for 40 cases by 24 teams (21.6%), and 87 teams (78.4%) did not perform any CPR in the last duty shift. Automated External Defibrillator (AED) had been used for 15 cases by 8 teams only (7.0%) in the last duty shift, while 103 teams (93.0%) had not used it.

Response time for teams ranged from 1 to 90 minutes (mean 12, SD ± 12). Transfer time of the emergency cases from the scene to the nearest hospital ranged from 2 to 45 minutes (mean 15, SD ± 9).

One hundred and three team leaders (96.3%) of 107 reported some delay in transporting cases to hospitals. The most common reasons indicated were overcrowding of streets (82.0%), delay during locating the emergency case inside the camp or the scene (43.2%) and delay due to poor support from traffic/security staff (39.6%).

Only 41.1% of team leaders reported

coordination and communication with the hospitals before transportation of cases.

- Reported by: Dr. Hassan Shaiban, Dr. Abdul Jamil Choudhry (Field Epidemiology Training Program).

Editorial notes: Organizing emergency care and transportation services during hajj is an immense task and, apparently, SRCS management is performing this job efficiently.

Regarding suitability of the assigned persons for the job, this was the first time of participation in hajj for 29.7% of the team leaders. Since Hajj is a unique emergency situation, it is preferable if team leaders had some previous experience of hajj duty. The study showed that a small percentage of team leaders (6.3%) had never performed any CPR, and about a quarter had never done an endotracheal intubation during their entire careers, which could create a serious handicap should the need arise.

The common diagnoses of the handled cases included non-specific fatiguability, malaise, and muscular pains, followed by fever, hypertension and acute abdomen. Pattern of diseases observed in this study appears different than the Dhaffar's study, which investigated patients transferred by SRCS ambulances to the emergency of a hospital during the month of Ramadan, which is similar to Hajj in terms of over crowdedness. The study demonstrated that the highest proportion of diagnoses was contusions, lacerations, abrasions and cut wounds mainly due to car accidents.¹ One of the reason for this difference may be that in Hajj the period is longer than Umrah in Ramadan and that Hajjis have to perform many religious rituals in a very limited time period. For example, hajjis have to walk very long distances which make them prone to fatigue, malaise, and muscular pain more often than those performing Umrah during the month of Ramadan.

(Continued on page 29)

Table 1: Type of cases attended and managed by medical teams of Makkah and Mina SRCS centers during Hajj season 1429 H .

Problem	Total		95 % C.I
	No.	%	
Non-specified	158	16.00	13.82-18.40
Fever	143	14.49	12.40-16.79
Hypertension	129	13.10	11.07-15.28
Acute abdomen	126	12.80	10.79-14.96
Bronchial asthma	75	7.60	6.07-9.38
Syncope	58	5.90	4.53-7.48
Hyperglycemic coma	52	5.30	4.00-6.80
Hypoglycemic coma	52	5.30	4.00-6.80
Gastroenteritis	41	4.20	3.04-5.54
Seizures	26	2.63	1.76-3.78
Angina	22	2.22	1.44-3.30
Trauma without coma	16	1.62	0.96-2.56
Electrocution	16	1.62	0.96-2.56
Myocardial Infarction	15	1.51	0.89-2.44
Trauma with coma	13	1.32	0.73-2.19
Burns	13	1.32	0.96-2.56
Chronic Heart Disease	8	0.81	0.38-1.53
Vaginal bleeding	7	0.71	0.31-1.40
Road Traffic Accidents	5	0.51	0.19-1.12
Labour	5	0.5	0.19-1.12
Bleeding	3	0.30	0.08-0.82
Fracture	2	0.20	0.03-0.67
Cerebrovascular Accidents	1	0.10	<0.00-0.50
Choking	1	0.1	<0.00-0.50
Heat stroke	1	0.1	<0.00-0.50
TOTAL	987	100%	

Food Borne Outbreak in Al-Hofuf, Saudi Arabia, June 2009.

On Tuesday 2/06/2009, an increased number of cases with food poisoning symptoms presented to the emergency department of King Fahad hospital in Al-Hofuf city, arriving after 10 pm and throughout the following two days. Two other hospitals (Al-Manaa, and Al-Hofuf maternity and pediatric hospitals) reported some cases at the same time. All were complaining of gastroenteritis symptoms including diarrhea, vomiting, abdominal pain, nausea and/or fever. All gave a history of eating a meal on the evening of Tuesday 2/06/2009 from one particular restaurant. The authorities closed the restaurant on Thursday 4/06/2009 and samples of the food leftovers were sent to the laboratory. The total number of cases was 50. A team from the Field Epidemiology Training Program investigated this outbreak.

The investigative team reviewed the case reports and available data in coordination with the Alahsa Directorate of health affairs. The team also reviewed the medical records of the three hospitals. A case-control study was conducted to identify factors responsible for the outbreak. A case was defined as any person who ate from the specified restaurant on the 2nd or 3rd of June 2009, and developed any gastrointestinal tract symptoms (diarrhea, vomiting, abdominal pain and fever) during the period of the outbreak. A control was defined as any person who ate from the same restaurant on the same dates and had not developed any symptoms.

We were able to trace and interview all the 50 cases. Another 50 individuals who had eaten food from the same restaurant and had not developed symptoms were selected as controls.

The outbreak occurred between Tuesday 2nd of June to Wednesday 3rd of June, 2009. The time lapse between food consumption and appearance of symptoms ranged between 4.5 and 23 hours (median 10.5 hours). The mean time from eating the meal till appearance of symptoms was 11.82 hours. The epidemic curve is suggestive of a common point source outbreak. (Figure1).

Symptoms of the 50 cases were diarrhea 47 (94%), abdominal pain 38 (76%), fever 35 (70%), vomiting 31 (62%), nausea 15 (30%), and headache 17 (34%).

Among the cases, 31 were males (62%) and 19 were females (38%) with a male to female ratio of 1.6:1.0 Their ages

ranged between 6 – 48 years (median 21 years). The majority of the cases were Saudis (98%).

Among the food items, there was a strong association of food poisoning with eating foods that contained mixed sauce (Odds Ratio (OR) = 44.59; 95% Confidence Interval (CI) = 11.82-168.1) and plate chicken shawarma (OR= 3.88; 95% Confidence Interval CI= 1.43-10.73). Other food items showed no association with food poisoning.

Salmonella enteritidis was isolated from 28 patients; 18 (36%) from stool culture, and 10 (20%) from rectal swabs. It was also isolated from the remnants of the mixed sauce. Stool cultures from the food handlers were negative.

The restaurant was small, with a total area of 56 m². It was divided into two main sections, one for the cashier and dining area and the other for refrigerators and food preparation. The restaurant owner claimed that they purchased all of their supplies from nearby stores.

Inspection of the food preparation area showed that frozen chicken were thawed in a plastic tub, that was connected to the water supply system with a separate drainage tube connected to the restaurant drainage system. Another smaller plastic tub was found in a bathroom at the back of the restaurant. This bathroom was very dirty and there was a floating sewage closeby. There were four refrigerators, two of which were not clean and contained remnants of old vegetables and meats. The dining hall of the restaurant was clean, and the coolers were clean and working well.

Food handlers interviewed stated that they usually prepared about 1000-1500 different sandwiches daily. Preparation of chicken for shawarma usually started at 1:00 pm daily. Frozen chicken is thawed in the thawing tub until 3:00 pm, after which it is boiled for 20 minutes, then cut into small pieces, placed in several large plates and kept in the cooler in the dining hall in preparation for cooking in different amounts at separate times, according to clients' demand. Meals are served from 4:00 pm until 1:00 am. The restaurant also supplies some colleges and schools with meals in the morning. These meals are prepared at night and reheated in the morning before delivery to the schools.

The mixed sauce is prepared daily at 1:00 pm by blending egg yolks, vegetable oil, cheese, salt, and vinegar in an electric mixer for about 10 minutes. After that it is placed in large plastic containers and kept in the fridge. It is taken out of the fridge at 4:00 pm and added to the sandwiches according to clients' demand. The leftover of the mixed sauce may be used the next day.

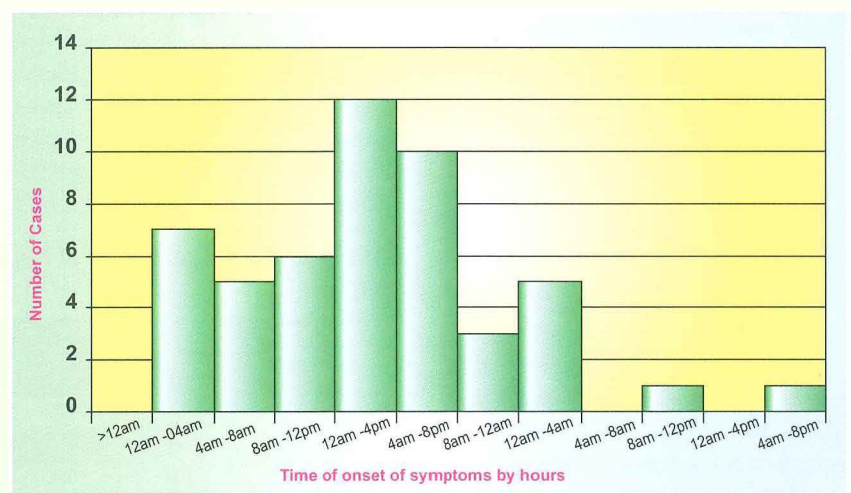
Regarding the food handlers' hygiene, their clothing was satisfactory, and their nails were short and clean.

- Reported by: Dr. Mansour S. Al-Elyani, Dr. Randa M. Nooh (Field Epidemiology Training Program).

Editorial notes: A food borne disease outbreak is the occurrence of two or more cases of a similar illness resulting

(Continued on page 31)

Figure 1 : Gastroenteritis cases by hour of onset after eating in a restaurant in Al-Hofuf, Saudi Arabia, May 2009.



Pattern of health behavioral practices of hypertensive patients and factors influencing them, KKHU, Riyadh, 2009.

Controlling blood pressure remains a difficult task for hypertensive patients. Besides pharmacological treatment, several life-style amendments have to be made to reach target blood pressures (BP). This cross sectional study aims to gain insight into efforts of hypertensive individuals to control their BP, and the effect of their demographic features, knowledge and health status on these efforts. This study was conducted by face to face interview of hypertensive patients at the primary health care clinics of King Khalid University Hospital, Riyadh, Saudi Arabia. The study population consisted of all adult Saudis of both genders, between 18-70 years old, diagnosed with essential hypertension for over one month, or was on hypertension treatment. Data were collected on a pre-designed form consisting of sociodemographic information, detailed health history relevant to the hypertension, a knowledge component and inquiry on healthy practices of participants. A cumulative knowledge score was created. Each knowledge question was given a score of 1 if the answer was correct and 0 if the answer was incorrect. The result was stratified into high and low knowledge scores.

Among male participants, the mean age was 53.5 years, 92% were married, 24% were illiterate, 44% were retired, 35% had full time work, 9% part time and 12% were unemployed. Almost half (46%) had a monthly income ranging from 5000-9000 riyals. Their mean diastolic BP was 79.5 mmHg, being over 90 mmHg among 19%. Their mean systolic BP was 135.5 mmHg, being over 140 mmHg among 49%; 43% had been hospitalized in the previous year as a consequence of high BP, and 41% had drug regimens that included over 5 tablets per day for all diseases. Other chronic diseases included diabetes (42%), chronic heart diseases (18%), high cholesterol (14%), chronic renal disease (6%), osteoarthritis (5%), and others (11%); 44% did not know their most recent BP reading.

The mean age of female participants was 50.6 years, 76% were married, 58% were illiterate, and 92% were unemployed. Almost half (49%) reported a monthly income from 5 to 9 thousand riyals. Their

mean diastolic BP was 77.7 mmHg, and was above 90 mmHg among 6%. Their mean systolic BP was 141.7 mmHg, and was above 140 mmHg among 57%; 10% had been hospitalized in the previous year as a consequence of high BP, and 46% had drug regimens that included over 5 tablets per day for all diseases. Other chronic diseases included diabetes (51%), high cholesterol (44%), thyroid diseases (13%), osteoarthritis (12%), chronic heart diseases (10%), and bronchial asthma (10%); 72% did not know their recent BP reading.

Table 1 demonstrates the knowledge status of participants by gender.

Among males, high knowledge was associated with high educational level of at least high school ($p=0.001$), monthly income over 5000 riyals ($p=0.004$), and disease duration of under 4 years ($p=0.01$). Among females, high knowledge was associated with age under 50 ($p=0.017$), education of at least high school ($p=0.004$), and employment ($p=0.033$).

Only 35% of males followed a dietary regimen to control BP; only 9% always avoided fatty or fried foods and only 9% always minimized salt intake. Among females, only 34% followed a dietary regimen; 32% always avoided fatty or fried foods, and 29% always minimized salt intake.

Regarding physical exercise, 38% of males never exercised, 34% exercised regularly, and 28% exercised irregularly. Factors influencing physical activity among males were marital status ($p=0.024$), education of at least high school ($p=0.001$), and income over 5000 riyals ($p=0.027$). Among females, 58% never exercised, 10% regularly exercised, and 32% exercised irregularly. Factors influencing physical activity among females were age under 50 ($p=0.003$), education of at least high school ($p=0.01$), employment ($p=0.001$), income over 5000

riyals ($p=0.03$), disease duration under 4 years ($p=0.002$) and high knowledge ($p=0.011$).

Regarding hospital follow up, 77% of males reported regular follow up every 3 months or less, 12% every 6 months, 4% annually and 7% occasionally. Among females, 67% had regular follow up every 3 months or less, 19% every 6 month, 6% annually and 8% occasionally.

Fifty percent of males had received advice to monitor BP at home, among whom 18% checked it daily, 14% on alternate days, 16% weekly, 26% monthly and 26% occasionally. Among females, 32% had received this advice, among whom 12.5% checked it daily, 6.3% on alternate days, 28.1% weekly, 15.6% monthly and 37.5% occasionally. The only factor influencing home BP monitoring among females was married status ($p=0.03$).

Regarding use of traditional therapy for BP control, 82% of males had never used any, 9% occasionally, 6% sometimes and 3% most of the times. Among females, 63% never, 23% occasionally, 9% sometimes, 4% most of the times and 1% always. The most commonly used traditional therapies were arugula leaves 70%, garlic 45.9%, flax seeds 5.4%, and marjoram (Bardakosh) 2.7%.

Regarding drug compliance, 62% of males always took their medication as prescribed, 26% most of the times, 9% sometimes, 2% occasionally and 1% never. Influencing factors among males were employment ($p=0.007$), education of at least high school ($p=0.031$), monthly income over 5000 riyals ($p=0.009$) and high knowledge ($p=0.007$). Among females, 77% always took their medications as prescribed, 5% most of the times, 7% sometimes, 6% occasionally and 5% never. The only influencing factor

(Continued on page 29)

Table 1: Knowledge status of hypertensive patients by gender, KKHU, 2009.

Gender	Total knowledge score				P-value
	Low knowledge		High knowledge		
	No.	%	No.	%	
Male	47	47	53	53	0.479
Female	53	53	47	47	
TOTAL	100	50	100	50	

Pattern of health behavioral practices of hypertensive patients, KKHU, cont.....

(Continued from page 28)

among females was married status ($p=0.01$).

The study showed that males exercised more often than females (62% compared to 42%, $p=0.007$), females smoked less than males (2% compared to 15%, $p=0.002$), more males monitored their BP at home than females (50% compared to 32%, $p=0.01$), females used traditional therapy more often than males (37% compared to 18%, $p=0.004$), and more males did not follow the prescription than females (38% compared to 23%, $p=0.03$).

- Reported by: Dr. Muhra M. Al-Alwy, Dr. Randa M. Nooh (Field Epidemiology Training Program).

Editorial notes: Hypertension is amenable to control through both nonpharmacological and pharmacological means. Nonpharmacological therapy is considered the first line in management. One of the primary lifestyle measures recommended for control of BP is physical activity, prescribed as 30 to 60 min of moderate intensity dynamic exercise (such as walking, jogging, cycling or swimming) four to seven days per week.¹ Weight reduction is another important health practice. Maintenance of a healthy body weight (BMI of 18.5 kg/m² to 24.9 kg/m²; waist circumference of <102 cm for men and <88 cm for women) is recommended.² Hypertensive patients should consume a diet emphasizing fruits, vegetables, low-fat dairy products, dietary and soluble fiber, whole grains and proteins from plant sources, and one that is reduced in saturated fats and cholesterol (Dietary Approaches to Stop Hypertension [DASH] diet).³ Minimization of salt intake is another important dietary habit.¹ Other healthy behaviors include cessation of smoking, compliance to treatment, and monitoring BP at home, since regular checkup can help in bringing it under control.⁴

Healthy behaviors of hypertensive patients have been investigated in several studies. In a study conducted in Kuwait among 132 hypertensive patients, 64% had uncontrolled hypertension. Poor compliance along with a sedentary lifestyle were the major determinants

of poor BP control.⁵ In Saudi Arabia, few studies have investigated healthy behavioral practices of hypertensive patients, and most were mainly focused on compliance to therapy.^{6,7}

This study has shed some light on healthy lifestyle practices of hypertensive patients, and has showed that both socioeconomic factors and patient knowledge have an influence on these practices. This information may help shape the policy for health care, education and research to reduce adverse consequences of hypertension in the Kingdom.

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Transportation of emergency cases by SRC, cont ...

(Continued from page 26)

Another justification is that quiet a few cases handled by the SRC teams were assessed as mild illnesses and were not transported to the health facilities, but were included in the listing of diagnosis of cases; whereas Dhaffar's study described only the cases received at the hospital emergency room, who are, in fact, the more severe cases than those observed in the field.

Although crowdedness in Mina was extreme during the time this study was conducted, the response time revealed in this study is remarkable. As compared to Al-Ghamdi's study on emergency medical service rescue times in Riyadh, which reported an average rescue time of 35.8 (± 6.4) minutes, the response time in this study was 10.23 (± 5.6) minutes.² However, this could have been achieved because of the close locations of the centers to the Hajjis camps, particularly in the Mina area, allowing faster accessibility to the nearby camps; in addition to the small size of Mina, as compared to Riyadh city.

This study showed that there was very poor communication and coordination between the SRC staff and MOH staff before transporting cases to ER. This poor communication and coordination may lead to delay in accepting cases in ER or arranging for beds if they require admission, which may be life threatening and may prevent the EMT team from responding to other emergency calls.

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ملخص باللغة العربية

فاشية تسمم غذائي، الهوف، ١٤٢٠ هـ (٢٠٠٩ م).

يصنف مرض التسمم الغذائي الذي تسببه بكتيريا السالمونيلا ضمن الأمراض التي تنتقل عن طريق الطعام الملوث. و ينتقل المرض غالباً من مصدر حيواني، مثل الدجاج والبيض التي ومنتجات الألبان، أو عن طريق تداول الطعام بواسطة شخص مريض أو حامل للمرض.

في يوم الثلاثاء ٩/١٠/١٤٢٠ هـ بدأت تصل إلى مكتب الطب الوقائي بالأحساء عدة بلاغات حول حالات تسمم غذائي من قبل عدة مستشفيات في مدينة الهوف، حيث تم التبليغ عن إصابة (٥٠) شخصاً اثر تناولهم الطعام من احد المطاعم المعروفة في مدينة الهوف، وقد قامت بلدية الأحساء بإغلاق المطعم في يوم الخميس ١١/١٠/١٤٢٠ هـ تم تكليف فريق من برنامج الوبائيات الحقلية لعمل دراسة استقصائية عن أسباب ظهور الفاشية. قام فريق الدراسة بزيارة موقع المطعم ومقابلة بعض المرضى النحومون في المستشفيات والإطلاع على سجلاتهم وتتابعهم المخبرية، ومن ثم تم عمل دراسة ضابطة لتحديد حجم التسمم الغذائي والتعرف بمصدر العدوى كي يتم وضع التوصيات الوقائية المناسبة للتلافي حدوث مثل هذا التسمم الغذائي مستقبلاً.

تم الوصول إلى (١٠٠) شخص بين أصحاء ومرضى والحصول على المعلومات عن طريق المقابلة الشخصية أو الهاتفية. تمت معاينة المطعم وأخذ مسحات (أبقية) - حلقية. شريحة (أبقية) من كل عامل بالمطعم. كما تم أخذ عينات من بقايا الطعام وارسالها إلى المختبر. وقد أخذت عينات برزاز من المرضى بالمستشفيات.

أظهرت الدراسة الضابطة ان الخاطئة التي كان يقدمها اطعم محلياً ثم يقوم بإضافتها إلى أصناف الطعام الأخرى بالإضافة إلى شاورما الدجاج على الصاج أكثر الأصناف ارتباطاً بحدوث المرض (معامل خطورة ٥٩؛ ٤؛ ٢٠٨٨ على التوالي). وكذلك أظهرت النتائج المخبرية عزل ميكروب السالمونيلا (SD) من العينة التي أخذت من بقايا الخاطئة التي كان يقدمها المطعم، إضافة إلى عزل ميكروب السالمونيلا (SD) من بعض عينات البراز التي أخذت من المرضى.

أظهر الاستقصاء الوبائي الوصفي ان العامل المسبب في وقوع هذه الفاشية من المحتمل ان يكون قطعياً مع الإصابة بجاء السالمونيلا وقد تأكد ذلك بعد ان تم عزلها من الصابين و بقايا الطعام. وقد أظهرت الدراسة الضابطة ان الخاطئة المحيطة بالصنع والشاورما على الصاج كانتا مرتبطتا بوقوع الفاشية.

تمت التوصية على التأكيد على تطبيق الأنظمة التي تمنح إعداد المايوتين داخل المطاعم والإكثفاء بشرائه ممكناً و جاهزاً، ومراقبة من يقدمه محلياً. التشديد على حفظ الأطعمة بعد شرائها مباشرة في ثلاجات نظيفة داخل المطعم، و تجنب إخراج البيض واللحوم والدجاج من الثلاجات قبل استخدامها لمدة تزيد على ثلاث ساعات.

إعداد: د. منصور سالم الطائي، د. رائد محمد نوح (برنامج)

اسباب و١٥٦ تم التعامل معها بواسطة فرق أخرى. تم معاينة ١٢٤٢ حالة بمتوسط ١٢ حالة \pm ٥ لكل فرقة، و تقديم الخدمة الإسعافية اللازمة لـ ١٠١٥٤ حالة بمعدل ١١ حالة \pm ٤ لكل فرقة، وكان هناك ١٧٢ حالة لم يقدم لها أي خدمة إسعافية لأسباب مختلفة.

بلغ عدد الحالات التي تم علاجها في موقع الحدث ولم تنقل للمستشفى ١٦٢ حالة، وعدد الحالات التي تم توجيهها للمراكز الصحية والمستشفيات بدون أن تنقل بواسطة سيارة الإسعاف ١٧٩، والتي تم نقلها بواسطة سيارة الإسعاف ٨١٣ حالة بمعدل ٨ حالات \pm ٣ لكل فرقة.

زمن الإسعافية للفرق الإسعافية المشاركة تراوح بين دقيقة واحدة إلى ٩٠ دقيقة (بمعدل ١٢ دقيقة \pm ١١). بينما كان متوسط أطول زمن مستغرق ٣٣ دقيقة \pm ٤١. تراوحت مدة نقل الحالات للمستشفى بين ٢-٤ دقيقة (متوسط ١٥ دقيقة \pm ٩)، وكان معدل أطول زمن للنقل ٢٩ دقيقة \pm ٢٨.

ذكر ٧٨٪ انهم لم يحتاجوا العمل إنعاش قلبي رئوي في المناوبة السابقة لأي حالة من الحالات المنقولة بسيارة الإسعاف، بينما عملت ٤٠٪ حالة من قبل ٢٤ قائد فرقة فقط. و ذكر ٧٪ (٨) انه قد تم استخدام جهاز صدمات إيقاف الرجفان البطيني لـ ١٥ حالة منقولة خلال المناوبة السابقة. و ذكر ١٧٪ (٦) انه حدثت ١١ حالة وفاة خلال عملية النقل للمستشفى خلال المناوبة السابقة. كما ذكر ٦٥٪ انهم يتوقعون جميع الحالات للمستشفى بغض النظر عن مدى خطورتها.

ذكرت أعلى نسبة من المشركين ان أسباب التأخير في عملية النقل هي الزحام الشديد (٨٧٪)، تحديد مكان الحالة داخل الخيم أو الموقع (٤٣٪)، قلة الدعم من قبل رجال المرور والأمن (٤٠٪)، عدم معرفة الاتجاهات داخل مكة ونوى (٣١٪)، قلة المعلومات المتوفرة لدى محل البلاغات بغرفة العمليات (٢٥٪)، خلال البحث عن موقع الحالة (٢٣٪)، كسر حجم سيارة الإسعاف (١٨٪)، صعوبة استقبال الحالات من قبل المستشفيات (١٢٪)، و قلة التنسيق والتعاون بين الهلال الأحمر والمستشفيات ووزارة الصحة (٨٪).

تمت التوصية على تكثيف الدورات التدريبية لأفراد الطاقم الطبي هي هيئة الهلال الأحمر السعودي واشتراط الحصول على شهادات الإنعاش القلبي الرئوي الأساسية والتقدم والإصابات لرؤساء الفرق الإسعافية المشاركة في الحج، وعمل دورات تثقيفية للحاصلين عليها قبل الحج بغرفة كافية، وتوفير عدد كاف من المسقنين في كل فرقة إسعافية. كما تمت التوصية على وضع بروكول موحّد لطبعية الحالات الإسعافية التي تحتاج إلى نقل للحوار، إضافة إلى تكوين لجنة من صناعات القرار في كل من الهلال الأحمر ووزارة الصحة لوضع صيغة مشتركة عن كيفية التنسيق بين الجهتين خاصة في فترة الحج.

إعداد: د. حسين الشيبان، د. عبدالحميل شويدي (برنامج الوبائيات الحقلية).

نقل الحالات الإسعافية بواسطة الهلال الأحمر السعودي إلى المنشآت الصحية بالعاصمة المقدسة ومنى خلال حج ١٤٢٩ هـ

تم تأسيس جمعية الهلال الأحمر السعودي كمنظمة خيرية عام ١٩٣٣ م، وضمها كمعضو رقم ٩٦ في الاتحاد الدولي للصليب والهلال الأحمر والتي تم تغيير الجمعية السعودية للهلال الأحمر العام ١٤٢٠ هـ إلى الهيئة السعودية للهلال الأحمر، من الإدارة المركزية في مدينة الرياض، ويتبع لها ٣١٨ مركزاً إسعافياً موزعة على المناطق الإدارية الثلاثة عشر بالمملكة. تقوم الهيئة سنوياً بالمشراكة في الحج من خلال مراكزها الإسعافية في العاصمة المقدسة والمواقع والمدينة المنورة والمثاقف. هدفت هذه الدراسة إلى بحث الحالة التطبيقية وضغط العمل على أفراد الطاقم الطبي التابع للجمعية من حيث تحويل ونقل الحالات الإسعافية للمنشآت الصحية، وتقديم آلية التنسيق والتواصل بين الهلال الأحمر ووزارة الصحة لاستقبال الحالات الحادة، وذلك لتقديم توصيات مبنية ومدعومة بانتائج آلية نقل الحالات الإسعافية والتنسيق مع الجهات الممولة لها.

هذه دراسة وصفية مقطعية اعتمدت على توزيع استمارات لرؤساء الفرق الإسعافية بالهلال الأحمر السعودي المشركين في العاصمة المقدسة حيث يوجد ٢٢ مركزاً ينقل ويحول الحالات الإسعافية إلى مستشفياتها (مستشفى النور، مستشفى الملك عبدالعزيز، مستشفى الملك فيصل، ومستشفى أجياد)، كما يوجد ٣٥ مركزاً للهلال الأحمر بشعور منى، يحول وينقل الحالات الإسعافية إلى المراكز الصحية ببنى وإلى أربعة مستشفيات حكومية هي: مستشفى منى والطوارئ، مستشفى منى الشرايح الجديد، مستشفى منى الوادي ومستشفى منى الجسر. تم اختيار عينة مكونة من ٥٥ فرقة إسعافية من العاصمة المقدسة و٦٥ فرقة من مشعر منى.

بلغ حجم العينة ١١٦ مشاركاً يمثلون رؤساء الفرق الإسعافية (٤٩,٥٪ في مكة و ٥٠,٥٪ في منى). أعمارهم تراوحت بين ٢٢ إلى ٥٢ سنة (متوسط ٣٠ سنة \pm ٦). كان غالبيتهم من السعوديين (٩١٪)، قدموا من الرياض، ٣٦٪ من مكة، ١٥٪ من المنطقة الجنوبية و ١٢٪ من مناطق أخرى. تراوحت سنوات الخبرة في مجال عملهم بين سنة واحدة و ٣٠ سنة (متوسط ٧ سنوات \pm ٦). كانت نسبة الذكور تتلوا دورات تدريبية خلال السنة الماضية ٧٥٪، وكان ٩٥٪ حاصلين على شهادات الإنعاش القلبي الرئوي الأساسية والمقدمة والإصابات. أضاف ٧٨٪ بانهم قد قاموا بعملية الإنعاش القلبي الرئوي اقل من ١٠٠ مرة و ١٦٪ قاموا بها أكثر من ١٠٠ مرة. ذكر ٧٤٪ انهم سبق ان قاموا بعمل التنبيب الرغامي (endotracheal intubation) أكثر من مرة خلال مدة خدمتهم. ذكر ٩٩ قائد فرقة (٨٩٪) انه لا يوجد في فريقه غير مسعف واحد فقط.

تلقت الفرق الإسعافية المشاركة ١,٣٨١ تسماء من فرقة العمليات بمعدل ١٣ تسماء لكل فرقة إسعافية في المناوبة السابقة، منها ٢٠٨ تسماء لم أعزهم لعدم

Foodborne Outbreak in Al-Hofuf, cont....

(Continued from page 27)

from the ingestion of a common food.^{1,2} It is obvious that *Salmonella* enteritidis was the cause of this outbreak, which is supported by the relatively short incubation period and isolation of the organism from patients.¹

In Saudi Arabia, the total number of reported food poisoning outbreaks during the period from 1416 through 1425H was 3,877, with a total number of 26,707 cases. *Salmonella* spp. was responsible for about 41.4% of these outbreaks.³ The main source of *Salmonella* infection is the chicken meat and eggs. Local studies have reported a large number of *Salmonellosis* outbreaks due to chicken shawarma, which has a great potential for food poisoning, since the meat is cooked very slowly by direct heat from a distance, which does not raise the meats' temperature to an extent that can kill the bacteria. Inadequate storage, cross contamination and use of raw ingredients may be additional risk factors in these outbreaks.⁴

This food poisoning outbreak occurred in the early months of summer, as observed in the majority of other food poisoning outbreaks in the Kingdom. Over the years, a seasonal variation has been observed, with the peak occurring during the hot summer months of June to August.⁵ This period coincides with the summer holidays; during which families spend a substantial amount of time outside their homes and obtaining food from restaurants or other food outlets. The high temperature facilitates growth, multiplication and toxin production of microorganisms in the absence of hygienic practices.⁶

The mixed sauce and the chicken shawarma were the food items which could have been the source of this outbreak. One of the main ingredients of the mixed sauce was fresh eggs, a well known source of salmonella. The mixed sauce was kept at room temperature until serving which facilitated organism growth. However, eggs were not part of the chicken shawarma, which raises suspicion to the role of cross-contamination during the food preparation process. Unhygienic conditions at the restaurant and food preparation mechanisms clearly indicate a high risk environment for food poisoning.

It was recommended that raw food products be kept immediately after

Mark your calendar . . .

Inside the Kingdom

April 17-21, 2010: 3rd Course on Basic Biostatistics.

Venue: Riyadh Military Hospital

Contact: Department of Medical Studies, Riyadh Military Hospital, P.O. Box 7897 Riyadh 11159

Tel: 4777714 Ext: 25704 / 28677 **Fax:** 4760853

Email: med.std@rmh.med.sa

Outside the Kingdom

March 13-14, 2010: 3rd Pan Arab Human Genetic Conference

Venue: Al Bustan Rotana Hotel, Dubai, United Arab Emirates.

Contact: 3rd Pan Arab Human Genetics Conference, Conference Secretariat, Centre for Arab Genomic Studies, P.O. Box 22252 Dubai, United Arab Emirates, Tel: +971 4 3986777, Fax: +971 4 3980999

Email: cags@emirates.net.ae

Website: <http://www.cags.org.ae/3rdpahgc.html>

purchasing in clean refrigerators. Eggs, raw meat and chicken should not be kept over three hours outside the refrigerator before cooking.

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Consultant Epidemiologist.

Selected notifiable diseases by region, Jul - Sept 2009

	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jizan	Najran	Baha	Al-Jouf	Goriat	Goufuda	TOTAL
Measles	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	4
Mumps	0	0	1	1	1	1	3	0	0	1	0	0	0	0	2	0	0	0	0	0	10
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Varicella	373	40	194	57	116	360	381	305	96	813	124	40	67	60	24	331	11	76	30	14	3512
Meningitis mening.	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Meningitis other	25	0	0	0	7	27	2	2	1	4	0	0	3	0	0	0	0	0	0	0	71
Hepatitis B	209	2	393	120	28	101	199	4	2	75	8	58	8	10	3	27	0	0	3	5	1255
Hepatitis C	132	1	309	22	18	29	70	4	0	30	9	7	4	4	0	4	0	8	4	1	656
Hepatitis unspecified	1	0	2	0	0	0	0	5	0	10	0	1	0	0	2	0	0	0	0	0	21
Hepatitis A	22	0	12	8	5	7	11	11	7	38	2	6	2	1	3	12	0	0	1	0	148
Typhoid & paratyphoid	1	0	23	4	0	1	14	8	0	10	22	1	6	0	1	0	0	0	0	5	96
Amoebic dysentery	43	1	612	12	41	2	163	21	1	55	20	0	0	0	1	2	0	0	0	0	974
Shigellosis	6	0	5	0	0	1	17	1	0	0	0	0	0	0	0	1	0	0	0	0	31
Salmonellosis	119	0	16	0	0	0	170	16	8	8	11	2	0	1	0	38	0	5	0	1	395
Brucellosis	96	2	14	19	62	161	45	3	62	173	55	9	76	17	8	49	0	10	0	0	861

Comparisons of selected notifiable diseases, Jul - Sept 2008 - 2009

DISEASE	Jul-Sep	Jul-Sep	Change %	Jan-Sep	Jan - Dec		Jul-Sep	Jul-Sep	Change %	Jan-Sep	Jan - Dec
	2009	2008		2009	2008		2008	2007		2009	2008
Cholera	1	2	-50	4	7	Meningitis other	2	168	-99	334	299
Diphtheria	0	0	0	0	0	Hepatitis B	71	1031	-93	5020	5066
Pertussis	2	2	0	26	30	Hepatitis C	1255	714	76	2487	2733
Tetanus,neonat	3	6	-50	10	13	Hepatitis unspecified	656	207	217	220	255
Tetanus,other	0	2	-100	5	4	Hepatitis A	21	666	-97	1258	1678
Measles	4	45	-91	81	158	Typhoid & paratyphoid	148	54	174	316	269
Mumps	10	25	-60	138	31	Amoebic dysentery	96	627	-85	3064	3311
Rubella	0	3	-100	13	15	Shigellosis	974	59	1551	121	188
Varicella	33	9336	-100	31402	60007	Salmonellosis	31	346	-91	1372	1292
Meningitis mening.	2	4	-50	6	7	Brucellosis	395	711	-44	4803	3447

Diseases of low frequency, Oct – Dec 2009

Yellow fever, Plaque, Poliomyelitis, Rabies, Echinococcosis: No Cases
 Pertussis: 2 Cases (Qassim)
 Neonatal Tetanus: 3 Cases (Makkah)