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النشرة الوبائية السعودية

تصدرها وزارة الصحة

الوكالة المساعدة للطب الوقائي وبرنامج الوبائيات الحقلي

المجلد الرابع – العدد الثاني – إبريل ، مايو ، يونيو ١٩٩٧م

Foodborne salmonella outbreak among enterally fed patients

On May 7-9, 1997 (1-3 Moharam 1418) nine patients in a 180-bed hospital and a 50-bed extended care unit (ECU) in northern Saudi Arabia developed febrile gastroenteritis. All nine patients were among 22 patients who were on nasogastric tube feedings (NGT) prepared in the hospital kitchen. An epidemiologic investigation was initiated to determine size, extent, possible source, and factors contributing to this outbreak including possible defects in the enteral feeding.

A gastroenteritis case was defined as any patient or staff member in the hospital or ECU who developed diarrhea (more than two unformed stools per 24 hours) or had *Salmonella enterica enterica* isolated from a stool specimen from May 1 through May 10, 1997. Case finding included review of the medical records of all NGT patients at both facilities, of other patients present during the study period, and of microbiology records for all stool cultures done during the study period.

Only the nine cases originally reported by the hospital were found. All six NGT patients in the ECU had fallen ill (100% attack rate) between 2:30 p.m. and 7:30 p.m. on May 7. In the hospital, three out of sixteen NGT patients in different rooms were affected (19% attack rate) with onset on May 7 (one patient) and May 9 (two patients). The median age of the case-patients was 58 years (range=15-90 years). In addition to diarrhea, all case-patients had fever (38-40°C), 67% had vomiting and 78% had hypotension (<90/60 mm Hg). All nine patients recovered from the gastroenteritis within five days. *Salmonella enterica enterica* Group D (non-typhi) was recovered from the stools of two patients and from the nasogastric aspirates of two other patients.

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From the Editor — We have learned that some health officials have gone to great effort translating *SEB* articles from English to Arabic for employees in their regions. Beginning from this issue one page of the *SEB* will be written in Arabic. This page will include abstracts of field investigations, preventive instructions, and other public health information.

We welcome contributions in Arabic from all readers, especially those working in Primary Health Care Centers.

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Salmonella outbreak among enterally fed patients, May 1997

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All ill and well NGT fed patients had exactly the same diet administered in the same way and given at the same time for each of the three preceding meals. Accordingly, no difference in rates of illness could be demonstrated by food exposure. NGT breakfast served on May 7 (date of illness) included eggs, bread, and milk. Lunch and dinner served on May 6 included, boiled vegetables, fruit, bread, and milk, with mutton for lunch and chicken for dinner. All food items for each meal had been mixed in a common blender.

Interviews of cooks and dietitians and direct observation of the NGT food preparation revealed several key defects in the preparation, storage and distribution of the NGT foods. For the most part these foods were kept after cooking at incorrect temperatures (10 to 60°C) for extended periods (two to five hours) before being fed to patients.

Food for all patients and staff is initially prepared for cooking in the same area of the kitchen. However, NGT food and special diets are separated from the rest of the hospital food for cooking. The food is then cooked and pureed in a different area of the kitchen.

Lunch, dinner and breakfast were exposed to environmental temperatures from 28 to 33°C between cooking and arriving at the wards. ECU meals had additional exposure to temperatures up to 51°C. Although stored in a ward refrigerator prior to being served, air temperature near the food containers inside the refrigerator did not drop below 15°C up to four hours after food was cooked. Food was taken from the refrigerator and fed to patients hourly for three hours. The total time between cooking and final feeding was two to five hours.

The actual source of salmonella was not verified. However observations of cooking and preparation revealed that the cook could have deboned cooked chicken while skinning raw chicken. Unlike the chicken there was no identifiable mode of cross contamination between cooked and uncooked eggs or mutton.

Cultures taken five to 10 days after the outbreak of raw foods, the remnant water after thawing, the bloody fluid on the cutting board, equipment and utensils did not yield pathogens. *Escherichia coli* was recovered from a plastic cutting board and two other utensils. No enteric pathogens were isolated from any of the kitchen staff.

—Reported by: Dr. Abdullah M. Al Saigul and Dr. R.E. Fontaine, (Field Epidemiology Training Program).

Editorial note: The explosiveness of the outbreak, the clustering of illness onsets within few hours and the growth of salmonella from gastric aspirate point to a large dose of organisms and probably a short incubation period. Accordingly, the investigation focused on chicken from the previous day, eggs from breakfast of the same day, and chicken and mutton from the previous day. All three suspect meals were exposed to incorrect temperatures before and after cooking, during transportation, and serving. The fact that ECU patients had a an attack rate of more than five times that of the hospital, clearly reflects the additional temperature abuse of the ECU meals.

One of the *Salmonella enterica enterica* serotypes in group D, *enteritidis* is likely to be from eggs or chicken. Chicken was a more likely source and vehicle because we identified a clear mechanism of cross contamination between the raw and cooked chicken. Eggs are also a possible source of infection since *Salmonella* serovar *enteriditis* may produce transovarial infection from hen to egg and may survive inside eggs boiled up to eight minutes(1). Improper washing of utensils, hands, or equipment used for preparing the liquid diet are other possible methods of cross-contamination.

The problem represented by this outbreak may be common since clusters of gastrointestinal illness occur commonly in health facilities, and may not be identified as outbreaks(2). Salmonellosis outbreaks have consistently been the major contributor to foodborne morbidity and mortality in nursing homes. Salmonellosis was responsible for 52% of outbreaks and 81% of deaths in USA nursing homes for the period 1975-1987(3).

Foodborne nosocomial illness is perhaps the most common preventable of all hospital-acquired morbidity. With proper attention to nosocomial infection surveillance, food service practice, and maintenance of employee health, food borne nosocomial illness could become a rarity. To ensure food safety, appropriate temperatures for food must be maintained, contamination of cooked food by raw food, infected food handlers, or contaminated equipment must be avoided, and food service personnel must be educated in correct food handling procedures(2). Enteral feeding preparation also needs to be handled carefully. A quality control program such as the Hazard analysis critical control point (HACCP)(4) needs to be established and activated in all MOH hospitals.

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An outbreak of measles in Najran valley, January to March, 1997

From January 1 to March 12, 1997 (22 Shaban to 3 Dhu al Qada 1417), Preventive Medicine Department (PMD) of Najran health affairs reported an unusual increase in measles cases (46) in towns in the Najran valley. From 1992 until this time only 69 cases had been reported from all Najran region. An investigation was begun to discover the extent of the outbreak, to evaluate the existing measles vaccination program and to evaluate the surveillance system.

We defined an outbreak - associated case of measles as a febrile illness with a generalized maculopapular rash lasting at least three days and cough, coryza or conjunctivitis that occurred between December 25, 1996 through March 12, 1997 in a resident of Najran valley (Figure 1). We sent a new circular to all government and private health facilities requesting that they report all measles cases to PMD within 24 hours. We then reviewed student records for absenteeism in all affected schools. We also interviewed all family members of reported measles patients to determine immunization history and previous measles. We compared measles case-patients to three control-persons for each case-patient >13 years of age and five control-persons for case-patients $\leq$ 13 years of age randomly from the neighborhood. We reviewed all case and control files from the PHCCs.

The first measles patient was an unvaccinated 23 year old Saudi male who had been exposed to a measles patient when visiting a friend in Nammas, Asir region. He returned to Najran on December 23, 1996 and developed measles symptoms on December 25, 1996 while staying with his cousin. His cousin showed symptoms of the disease 12 days later and the cousin's brother showed symptoms of the disease an additional 10 days after the cousin. The cousin's brother was a member of a football team. One of the team players who was in close contact with the brother later developed measles symptoms. Subsequently, four distinct chains of transmission were identified. One originated from a second imported case from Riyadh. Of 19 primary cases two were imported, five had exposure in a school, six had visited a medical facility and six had unknown contact in the community.

The attack rate (AR) for measles in Najran valley during this period was 23/100,000 persons. Cases were scattered among 24 families within five PHCC catchment districts. Students with measles were scattered among 15 schools. One school had five cases, one had three cases, and the rest (13) had one case per school.

The age of case-patients ranged from six months to 41 years (median 17 years). Most measles case-patients (74 %) were > 13 years of age. The highest AR was among Saudi males aged five to 19 years. Of cases, 25 were in males (71%) and 10 in females (29%). The sex ratio for children under 12 years was 1:1 (two cases in males and two in females) and for children 12 years and older M:F sex ratio was 2.8:1 (23 cases in males and eight in females).

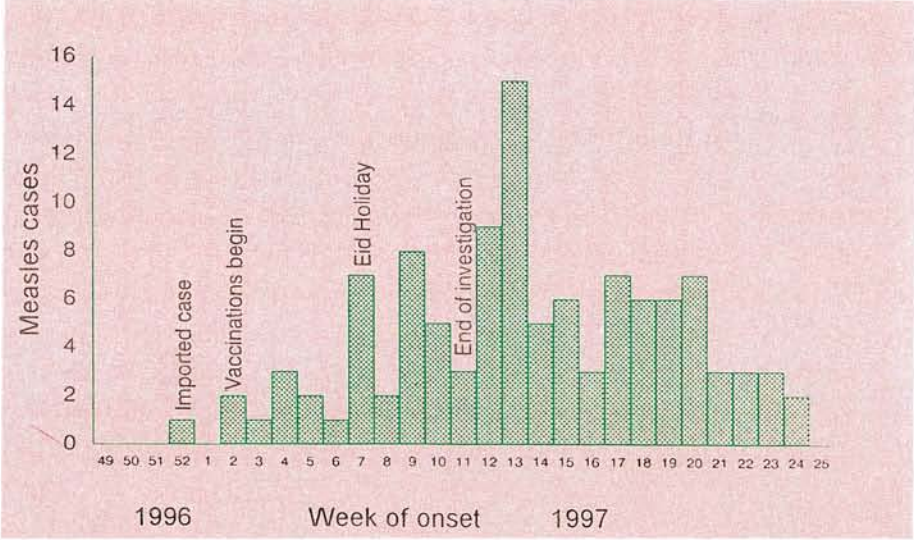
A comparison of measles vaccination history between measles cases and controls showed prior measles vaccination in the age group >13 years gave protection and was within the expected level of vaccine effectiveness (95%) for measles vaccine. We were unable to estimate the vaccine effectiveness in the children aged from one to 13 years as there were not enough unvaccinated persons.

—Reported by: Shaker Al Sagoor, Dr. Ali Al Zahrani, Dr. R.E. Fontaine (Field Epidemiology Training Program), Mr. A. Alokeiel (General Director of Najran Health Affairs), Mr. S. Al-Shihe (Assistant Director for Preventive Medicine Najran), and Mr. M. Al Gohiefan (Preventive Medicine Department Najran).

Editorial note: This measles outbreak propagated throughout a highly vaccinated population by contact among persons born before the year of universal measles vaccination (1983). This was reflected by the high median age of measles cases. The small number of cases in children under 13 years of age shows the effectiveness of the measles immunization program in Najaran. The MMR vaccine, given to girls at age 12 for rubella control, is probably the reason few females were affected. In more isolated rural areas of Saudi Arabia, immunity from naturally acquired measles infection will be less common among older children and young adults.

MMR vaccination for boys as well as girls aged 13 to 20 years in rural areas of Saudi Arabia could help limit measles outbreaks.

Figure. Measles case distribution by week of onset, 1996-1997, Najran Valley, Saudi Arabia.



Measles outbreak Riyadh city, 1997

In December 1996, there was a two-fold increase in the number of measles cases among school age children in Riyadh City as compared to the number of cases that occurred in 1995. The School Health Units (SHU) vaccinated students with MMR vaccine. The Field Epidemiology Training Program was asked to identify potential risk factors for transmission of measles, and to evaluate the control measures instituted during the outbreak. Surveillance of clinically diagnosed measles was activated to identify additional cases of measles in primary health care centers (PHCCs), schools, SHU, governmental and private hospitals, and among relatives, friends and neighbors of cases. The vaccination status of 131 cases and 223 controls, matched by school and class were ascertained. Information about number of cases, total number of students, and date of school vaccination were collected from 44 schools.

From October 1996 to June 1997, 482 cases of clinically-diagnosed measles were reported from 103 schools all over Riyadh city. The mean age in years of cases was 13.3 for males, and 11.8 for females; the inter-quartile range for age was 9-16 years. The age-sex specific attack rate (ASAR) for measles was highest among male children aged 10-14 years, and lowest in children aged 1-4 years (Table). Thirty (23%) out of 131 cases and 29 (13%) out of 223 controls were never vaccinated against measles (OR=2.0, 95% CI= 1.1–3.6). Sixty-one cases (47%) and 131 controls (58.7%) received a single vaccination against measles (MV or MMR) whereas 39 cases (30%) and 63 controls (28.3%) received the two routinely scheduled vaccinations against measles. School children who received MMR 10 years or more prior to the outbreak were more likely to contract measles as compared with those who were vaccinated within the last nine years (OR=0.48, 95% CI= 0.13–1.63). Other risk factors for contracting measles included being at a health facility, a PHCC (OR=3.95, 95% CI=2.2–6.9), or a SHU (OR =6.1, 95% CI=3.3–11.4), visiting a hospital out patient department (OR=4.3, 95% CI=2.3–8.0), exposure to a friend in the same school with measles (OR =4.3, 95% CI=2.6–7.2), having a relative with measles (OR=3.7, 95% CI 1.2-7.5) and visiting a person with measles within two weeks prior to onset of symptoms (OR=3.1, 95% CI =1.1–9.2).

SHU were able to vaccinate all student in 14 (31.8%) schools, a variable number of students in six (13.6%) schools, and no students in 24 (54.6%). The vaccination campaigns began a median of 14 days after the date of diagnosis of the first case of measles in the school (range 0-56 days). In fully vaccinated schools vaccination within 10 days after the onset of the first case and yielded a PF% of 59.5% (95%CI 40.6–72.4) compared with 2.1% (95% CI=0.0–32.7) for a delay of 19 days or more (Figure).

Reported by: Dr. Salim Al Wahaibi, Dr. H.E. El-Bushra (Field Epidemiology Training Program), and Dr. M.A. Al-Sulaiman (Riyadh Health Directorate).

Editorial note: Measles virus is highly infectious and can result in outbreaks in schools and other places where susceptible contacts convene. An infected person was believed to have transmitted measles to dozens of others at a sport meeting(1). In this outbreak 50% of measles cases acquired their infection in a medical setting. In urban areas, visits to hospitals; including emergency rooms and immunization clinics, contributed in perpetuating measles transmission during epidemics; some studies confirmed that 3-20% of measles cases acquired their infection in medical settings(1,2). Exposure to measles virus in medical settings could have occurred while children were waiting to see a doctor for some other health problems. Airborne transmission via aerosolized droplet nuclei has been documented in closed areas e.g. a doctor's examination room, two hours after a person with measles occupied the area(3). Prevention of measles transmission in the medical facilities must include screening of children with rash at waiting areas so that patients with measles can be isolated promptly.

To contain outbreaks in schools, the vaccination campaign should be started within the first incubation period. A study in the USA, confirmed that vaccination of the schools during the first incubation period will stop inter-school transmission of measles(4). Efforts should be made to immediately vaccinate all students in areas where an unusual increase in the number of measles cases is noted.

During this outbreak, the incidence of measles among girls was lower than that of boys. The lower age-sex specific attack rate of measles among girls sharply declined after the age of 14 years, and is probably due to girls' exposure to a routine booster dose of MMR at the secondary schools.

Two factors would probably explain the low efficacy of MV: the strain of the vaccine and the age of its administration. The VE of the MV (Schwartz vaccine) given at age of nine before 1991, was as twice as that of MV (EZ vaccine) administered at the age of six months (56% vs. 26%).

Table. Age-sex specific attack rates of measles during an outbreak of measles, Riyadh city, October 24, 1996 - June 1, 1997.

Age group	Population *	Female Cases	Attack rate /100,000	Male Cases	Attack rate /100,000
<1	55020	8	15	9	16
1-4	220082	15	7	16	7
5-9	267242	54	20	40	15
10-14	229514	46	20	113	49
≥15	611512	49	8	132	22

*The population obtained from Riyadh Directorate of Health Affairs

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Health screening of workers in Saudi Arabia

Because large numbers of workers come from different countries with diverse economies, cultures and endemic diseases to work in the Kingdom of Saudi Arabia (KSA), the Ministry of Health has required screening for infectious and non infectious diseases for foreign workers. Before 1995, health certificates for workers' visas could be issued by any clinic or physician in the country of origin. Approved Health Clinics (AHCs) operating under guidelines set by the Gulf States may issue certificates for workers' visas. To assess the new AHC system we carried out a quality assurance survey (QAS) on workers who had entered Saudi Arabia within 3 months prior to the study.

From a list of companies which had requested more than 25 foreign workers in the last six months, 22 companies were selected at random. From these 22 companies, 501 newly arrived workers were selected. We repeated 14 clinical and laboratory tests and defined a screening failure as any result in any test that would have resulted in a rejection of an individual worker during the initial AHC screening. We tested the null hypothesis that the observed failure rate was less than a failure rate of 1.5%.

We identified 4 failures (0.8%, 95% CI=0.26–2.2) of the AHC screening program originating from 4 different AHCs in 3 countries. The 0.8% failure rate was not significantly less than 1.5%. The failures included 3 workers (0.6%, 95% CI= 0.15–1.9) with reactive reagin (VDRL) and one worker (0.2%, 95% CI=0.01–1.3) with chest film with old right upper lobe tuberculosis. All three reactive VDRL tests were confirmed with a

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Measles outbreak in Riyadh City

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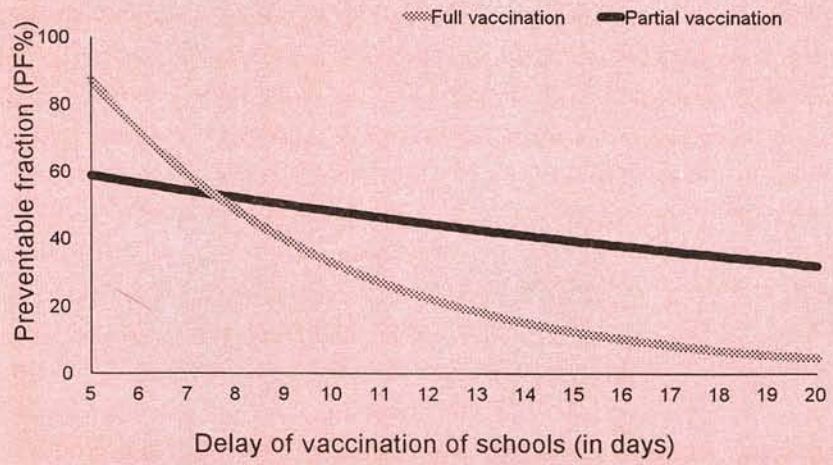
Figure. Comparison between two different strategies of vaccination against measles during an outbreak of measles, Riyadh city, October 1996-June 1997.



A serosurvey of Hepatitis A (HAV IgG Positive), Riyadh children

Between April 1995 and February 1996 the prevalence of anti-HAV antibody was determined in children presenting to clinics in Suliemania children hospital and three health centers in Riyadh city. A blood sample was taken to test for the presence of IgG and a questionnaire concerning personal and epidemiological data relating to hepatitis A was completed.

Of 592 children aged 6 months to 15 years, 30% (95% CI=23%, 34%) had anti-HAV IG. The proportions of children positive for HAV varied 32-49% in the 7-15 age range compared with 13-20% aged 6 and below. Children with current jaundice or a personal history of jaundice were significantly more likely to be HAV positive ($p=0.001$ and $p=0.006$, respectively). Children with lower social level had a higher anti-HAV prevalence than other children ($p<0.05$) but there was no difference in prevalence by residential environment. Saudi Arabian children had a lower anti-HAV prevalence (28%) than other nationalities ($p<0.05$).

—Reported by: Dr. Yagob Al-Mazrou, Dr. Mohamed Al-Jeffry, Dr. Mohamed Khalil, Dr. Mansour Al-Howasi, Kingdom of Saudi Arabia, Ministry of Health

Editorial note: Ten years ago, HAV was endemic in the region with an anti-HAV prevalence of over 90%. In comparison, the current results show a halving of the rate in children. Presumably the decrease is due to recent, rapid improvements in living conditions including safe water and sanitary sewage disposal. These results suggest a susceptible adolescent and young adult population exist since this age group is more often affected with symptomatic HAV infections than with inapparent infections. Medical practitioners in Saudi Arabia should expect to see higher numbers of symptomatic HAV infections. In this situation a HAV vaccine policy needs to be addressed.

ملخص باللغة العربية

الفحص الصحي للعمال الأجانب في المملكة العربية السعودية

نظراً لقدوم أعداد كبيرة من العمال من مختلف بلدان العالم بما فيها البلدان التي تكون موطناً لأمراض معدية للعمل في المملكة، فقد قامت وزارة الصحة بالمملكة بالتعاون مع نظيراتها في دول مجلس التعاون الخليجي بإيجاد نظام فحص صحي للعمالة الوافدة في بلدانهم يتيح لهم الحصول على شهادة صحية يتم على ضوئها منحهم تأشيرة دخول للعمل وذلك عبر مراكز صحية مختارة بدلاً من النظام السابق الذي يتم فيه إصدار شهادات صحية للعمال من أي مركز صحي في بلدانهم.

إن هذا النظام الجديد يعمل تحت ضوابط وأسس موضوعة من قبل دول مجلس التعاون الخليجي، ولتقييم هذا النظام قمنا بمسح صحي على العمال الذين دخلوا للملكة في غضون ثلاثة أشهر من ٢٢-٣ إلى ١٦-٥-١٤١٨هـ.

ولقد تم اختيار (٢٢) شركة عشوائيا وذلك من خلال قائمة بالشركات التي قامت باستقدام أكثر من (٢٥) عاملا وكان العدد الإجمالي للعمال المختارين من هذه الشركات (٥٠١) عامل تم إعادة فحصهم لـ (١٤) فحص سريري ومخبري وتم تعريف فشل الفحص على أنه فشل أي فحص مخبري أو سريري يترتب عليه عدم منح العامل شهادة صحية في المركز الصحي المختار في بلده.

ولقد وجدنا من المسح (٤) عمال لم يتجاوزوا الفحص (٠,٨٪) حدي الثقة ٠,٢ - ٢,٢ ونسبة التأكيد ٩٥٪ من (٤) مراكز صحية في ثلاثة بلدان.

نسبة الذين لم يتجاوزوا فحص الزهري ٠,٦٪ ومعامل الثقة ٠,١٥-١,٩، هذا الفشل في الفحص يشمل (٣) عمال وجدوا إيجابيين لفحص الزهري وعامل واحد وجد لديه آثار درن قديم بالرئة اليمنى بواسطة صور الأشعة.

لم يوجد أي فشل في إعادة الفحص للأمراض الفسيولوجية المزمنة كالسكر أو الضغط أو الأمراض المعدية الأخرى كالإيدز والتهاب الكبد الفيروسي ب،ج.

إن هذا النظام الجديد لفحص العمالة الوافدة أوضح نتيجة ممتازة بالنسبة للأمراض الفسيولوجية المزمنة والأمراض المعدية الأخرى. إن معرفة معدلات الإصابة بالأمراض، المراد فحصها، في البلدان التي تفد منها العمالة وكذلك معرفة دقة الفحص المخبري يعطي دلالة على نسبة الفشل التي قد تكون مقبولة من قبل الوزارة.

إننا وعلى ضوء هذه الدراسة نحث على استمرار إعادة الدراسة داخل المملكة كل سنة ويمكن تقييم هذا البرنامج بصورة أدق على ضوء النتائج.

إعداد : د. محمد المزروع
برنامج الوبائيات الحقلي

فاشية الحصبة بين طلاب المدارس في مدينة الرياض: تحديد عوامل الخطورة في انتشار الفاشية (٢٤-٦-١٤١٧هـ إلى ٢٦-١-١٤١٨هـ)

في شعبان ١٤١٧هـ (ديسمبر من عام ١٩٩٦م) حدث إرتفاع حاد في حالات الحصبة بين طلاب المدارس بمدينة الرياض، (ضعف الحالات المسجلة في عام ١٩٩٥م) حينها قامت الوحدات الصحية المدرسية بتطعيم الطلاب بلقاح الثلاثي الفيروسي. ولم يتم تطعيم كل الطلاب في كل المدارس. قام برنامج الوبائيات الحقلي بعمل دراسة ضابطة لتحديد عوامل الخطورة التي أدت إلى انتقال الحصبة بين الطلاب، وتقييم الطريقة المتبعة من قبل الوحدات الصحية المدرسية لوقف الفاشية. وقد تم تعريف مريض الحصبة: بأنه المريض الذي لديه تاريخ مرضي بالأعراض التالية: حدوث حاد لحمى مصحوبة بطفح جلدي بقعي عام لمدة ثلاثة أيام فأكثر، مع وجود رشح أنفي وكحة واحمرار بالعينين أو بقع كبلك. كما تم تدعيم نظام المراقبة الوبائية للحصبة في مدينة الرياض، حيث تم إبلاغ جميع المستشفيات والمراكز الصحية سواء الخاصة أو الحكومية بضرورة الإبلاغ عن أي حالة حصبة خلال ٢٤ ساعة من اكتشافها. وعلى مستوى المدارس، فقد تم القيام بزيارات يومية للتعرف على حالات الغياب وأسبابها مع الكشف على أي طالب يشعر بأحد الأعراض الموضحة أعلاه، مع مراجعة سجل المراجعين للوحدات الصحية المدرسية. وفي فترة الفاشية تم تسجيل ٤٨٢ حالة حصبة. تم تبليغ ٤١٣ (٨٥,٧٪) منها للشئون الصحية، بينما تم اكتشاف الباقي عن طريق التحري النشط عن الحالات (٦٥ حالة). وكانت الفترة العمرية من ١٠ إلى ١٤ سنة أكثر الفئات العمرية عرضة للإصابة بالحصبة حيث بلغ معدل الإصابة ٣٥ حالة لكل ١٠٠,٠٠٠ من الأطفال في هذه الفئة العمرية، بينما كانت الفئة العمرية من سنة إلى أربع سنوات أقل الفئات إصابة. وعند تحليل بيانات سابقة التطعيم بلغ الذين لم يحصلوا على التطعيم مطلقا ٢٣٪ من الحالات و ١٣٪ من العينة الضابطة (معامل الشذوذ ١,٩٩ مع نسبة التأكد ٩٥٪ من ١,٠٩ إلى ٣,٣٦). وبلغ متوسط الفترة بين أخذ لقاح الحصبة وبداية ظهور حالات الحصبة ٩,٩ سنة بانحراف معياري قدره ٣ سنوات، أما في حالة لقاح الثلاثي الفيروسي فبلغ متوسط الفترة بين أخذ اللقاح وظهور الحالات ٧,٨ سنة بانحراف معياري قدره ٣ سنوات. وعند تحليل عوامل الخطورة في انتشار المرض وجدنا أن الأطفال الذين أخذوا لقاح الثلاثي الفيروسي قبل ١٠ سنوات وأكثر هم أكثر الأطفال عرضة للإصابة بالحصبة مقارنة بالأطفال الذين أخذوا اللقاح خلال التسع سنوات الماضية. وكانت زيارة أي مستوصف أو مستشفى أثناء الفاشية أكثر العوامل خطورة في اكتساب العدوى (معامل الشذوذ ٤,٦ ونسبة التأكيد ٩٥٪ من ٢,٩ إلى ٧,٥).

إن الأطفال الغير مطعمين أو الذين أخذوا التطعيم بلقاح الثلاثي الفيروسي هم أكثر عرضة للإصابة بالحصبة خلال فترة حدوث هذه الفاشية، أما لقاح الحصبة شوارتز الذي أعطي قبل عشر سنوات من الآن فأنه لم يظهر أي مقدرة على الحماية من الإصابة بالحصبة فغالبا هؤلاء الأطفال أخذوا التطعيم في الفترة بين عامي ١٤٠٠ هـ و ١٤٠٧ هـ (١٩٨٠ و ١٩٨٧م) عندما كانت نسبة التغطية ٧٥٪ (١٢).

هناك دراستان سابقتان تتفقان مع نتائج دراستنا في هذا الموضوع. الأولى في أحد المدارس الثانوية في الولايات المتحدة الأمريكية والأخرى في جمهورية بالاو، فقد خلصت الدراستان إلى أن خطر الإصابة بالحصبة يزداد بشكل حاد بعد ١٠ سنوات أو أكثر من إعطاء التطعيم.

إعداد : د. سالم الوهيبي
برنامج الوبائيات الحقلي

Health Screening

(Continued from page 5)

treponemal test (TPHA). No screening failure was found in investigation indicating chronic or physiologic diseases and this 0% failure rate was less than the 1.5% standard ($P<0.01$) with a 95% CI from 0% to 0.95%.

—Reported by: Dr. Mohammed Al-Mazrou, Dr. R.E. Fontaine (Field Epidemiology Training Program), Dr. Mohammed Al Jefri (Director of Infectious Diseases, MOH).

Editorial note: This new AHC system for worker screening showed excellent quality overall for chronic and physiologic and for most infectious diseases. The screening failure for infectious diseases was specifically due to a laboratory test for syphilis (VDRL) known for poor sensitivity in asymptomatic (latent or early primary) infections. In the future the known sensitivity of specific tests and the prevalence of infection in the country of origin will need to be taken into account in setting an acceptable failure rate for evaluating the AHC program. From this study we can continue the assessment of this program by periodically repeating the QAS.

Mark your calendar . . .

Inside the Kingdom

Feb 22-24, 1998: The Paediatric and Neonatology Symposium, Department of Postgraduate and Academic Affairs and the Department of Paediatrics at the Riyadh Armed Forces Hospital. Contact: Department of Postgraduate & Academic Affairs, Riyadh Armed Forces Hospital, PO Box 7897, Riyadh 11159. Tel: 477-7714, 479-1000 ext 4934. Fax: 478-4057, 476-0853.

Feb 23-25, 1998: The 2nd Symposium on Computer & Information Technology in the Health Field, King Faisal Specialist Hospital and Research Centre, Academic Affairs & Postgraduate Education Computer and Hospital Information Center.

Mar 2, 1998: Riyadh Primary Health Care Club Meeting, Riyadh Armed Forces Hospital. Contact: PO Box 2925, Riyadh. Tel: 467-1564, 467-1556. Telex: 403748 DARAYAH SJ.

Outside the Kingdom

Feb 16-21, 1998: INCLEN XV Global Meeting, Querétaro, Mexico. Contact: INCLEN Executive Office, 3600 Market Street, Suite 380, Philadelphia, PA, 19104-2644, USA. Tel: (215) 222-7700./ Fax: (215) 222-7741. E-mail: INCLEN@INCLEN.ORG

Mar 8-11, 1998: International Conference on Emerging Infectious Diseases, Marriott Marquis Hotel, Atlanta, Georgia, USA. Contact ICEID Headquarters: American Society for Microbiology, 1325 Massachusetts Ave, NW, Washington, DC 20005. Tel: (202) 942-9248 Fac: (202)942-9340. E-mail: meetinginfo@asmusa.org

Apr 15-17, 1998: EIS Conference, 1998 FETP Scientific Meeting and International Night. Contact: Dr. Douglas Hamilton, Division of International Health, EPO, Mailstop C-08, Centers for Disease Control, 1600 Clifton Road, Atlanta, Georgia 30333, USA. E-mail: dhh0@cdc.gov

Apr 20-24, 1998: CDC EIS Conference, Atlanta, Georgia, USA. Contact: Dr. Douglas Hamilton, Division of International Health, EPO, Mailstop C-08, Centers for Disease Control, 1600 Clifton Road, Atlanta, Georgia 30333, USA. E-mail: dhh0@cdc.gov

Aug 31-Sept 4, 1998: The XV International Scientific Meeting of the International Epidemiological Asociation, Epidemiology for Sustainable Health, Florence Italy. Contact: Organising Secretariat, IEA Florence 99, C/O SINEDRION, Via G. Marconi, 27, 50131 Firenze, Italy.

Errata

Please note in Volume 4 number 1 on page 2, Measles and Rubella Outbreak During Hajj, Security Forces, Makkah, 1996 was incorrectly titled. The year was 1997.

The table on page 8, Comparisons of selected diseases, 1996-1997 listed the number of poliomyelitis cases as one. The number should have been zero as no cases were reported.

Send correspondence, comments, calendar listings or articles to:

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Selected notifiable diseases by region, Apr-Jun 1997

	Gonfuda	Goriat	Al Jouf	Baha	Najran	Gizan	Al Shmal	Hail	Tabuk	Bisha	Asir	Hafr Al Batin	Hasa	Eastern	Qassim	Medinah	Taif	Jeddah	Makkah	Riyadh	Total
Measles	8	0	5	56	56	72	8	21	29	0	261	33	19	60	181	334	51	161	99	338	1792
Mumps	1	8	4	3	35	16	4	8	6	3	48	11	11	57	23	156	4	154	33	59	644
Rubella	1	3	0	0	0	4	1	0	2	1	22	4	3	12	10	14	1	13	17	16	124
Varicella	170	41	127	310	295	216	72	764	541	142	1603	446	1676	3385	490	716	556	1594	982	2242	16368
Brucellosis	3	18	20	9	98	68	13	254	53	106	245	108	35	84	323	57	39	15	52	239	1839
Meningitis, mening	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	6	0	2	0	1	12
Meningitis, other	0	0	0	0	1	4	0	1	2	3	4	2	1	4	1	4	0	8	15	51	101
Hepatitis A	3	13	22	18	193	46	14	5	98	22	117	95	80	63	92	164	78	68	163	158	1512
Hepatitis B	4	3	1	52	8	13	1	10	12	11	32	2	7	146	15	20	10	117	73	101	638
Hepatitis, unspecif	2	0	0	0	4	76	1	77	24	0	79	0	16	6	0	49	4	52	44	42	476
Typhoid & para	10	0	0	2	1	5	1	4	3	12	7	0	1	17	2	1	0	3	10	3	82
Amoebic dysentery	38	0	0	0	27	5	0	59	50	12	264	0	5	43	44	15	69	636	0	26	1293
Shigellosis	13	0	0	0	21	0	0	0	19	0	8	17	2	34	3	1	3	19	0	13	153
Salmonellosis	0	0	0	3	16	0	0	0	23	0	0	32	9	229	9	4	0	20	0	129	474
Syphilis	1	2	0	3	2	0	0	0	0	3	0	0	3	22	0	0	0	19	0	3	58
VD, other	0	11	0	0	1	6	0	0	0	5	4	1	21	29	2	0	0	97	0	4	181

Comparisons of selected notifiable diseases, 1996-1997

	Apr-Jun 1997	Apr-Jun 1996	Change %	Apr-Jun 1997	Jan-Dec 1996		Apr-Jun 1997	Apr-Jun 1996	Change %	Apr-Jun 1997	Jan-Dec 1996
Diphtheria	0	0	0	0	0	**Meningitis, other**	101	165	-39	101	559
Pertussis	18	16	13	18	56	**Hepatitis A**	1512	1129	34	1512	3796
Tetanus, neonatal	6	3	100	6	28	**Hepatitis B**	638	701	-9	638	3076
Tetanus, other	9	4	125	9	12	**Hepatitis, unspec.**	476	479	-4	476	1471
Poliomyelitis	0	0	0	0	0	**Typhoid & parathy.**	82	103	-20	82	461
Measles	1792	975	83	1792	2407	**Shigellosis**	153	272	-44	153	925
Mumps	644	673	-4	644	2256	**Salmonellosis**	474	605	-22	474	2349
Rubella	124	171	-27	124	449	**Amoebic dysentery**	1293	2184	-41	1293	8184
Varicella	16368	17408	-6	16368	47463	**Syphilis**	58	84	-31	58	294
Brucellosis	1839	2002	-8	1839	5933	**VD, other**	181	298	-39	181	1118
Meningitis, mening.	12	8	50	12	38						

Diseases of low frequency, April-June 1997

Pertussis: 18 (Makkah 4, Qassim 1, Riyadh 5, Eastern 4, Madinah 1, Jeddah 2, Asir 1)
Tetanus, neonatal: 6 (Makkah 2, Jeddah 3, Gizan 1)
Tetanus, other: 9 (Makkah 4, Qassim 1, Riyadh 1, Jeddah 2, Gizan 1)
Guillain-Barré Syndrome: 11 (Tabuk 1, Al-Baha 1, Riyadh 1, Taif 4, Jeddah 2, Asir 2)
Echinococcosis: 7 (Riyadh 1, Hafral-Batin 4, Asir 2)
No cases: Yellow fever, plague, diphtheria, rabies, poliomyelitis, viral encephalitis, puerpural sepsis, hemolytic-uremic syndrome