

## النشرة الوبائية السعودية

تصدرها وزارة الصحة

الوكالة المساعدة للطب الوقائي وبرنامج الوبائيات الحقلية

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### Cutaneous leishmaniasis control in Al Hasa region, 1989-1996

First recognized by ARAMCO health workers in 1948 [1], cutaneous leishmaniasis (CL) has been continually endemic in Al Hasa region, Eastern Province, Saudi Arabia. In the early 1990s CL was estimated to affect 2.8% of the population in Al Hasa [2]. Two leishmaniasis strains probably cause CL in Al Hasa, *Leishmaniasis major* and *Leishmaniasis arabica*.

*Psammomys obesus* is considered to be the reservoir host for both *Leishmania* species. Infections have also been found in another rodent, *Meriones libycus*, and in dogs [3]. The vector for CL in Al Hasa region is *Phlebotomus papatasi* [4]. Control of *P. obesus* and other rodents and *P. papatasi* began in 1988. From 1989 onward, the leishmania control program in Al Hasa has maintained continuous surveillance of CL and applied a variety of control measures. This report summarizes these eight years of CL surveillance data to assess the current epidemiology of the disease and effects of control measures.

We calculated CL incidence rates for each primary health care center (PHCC) catchment area for each year

from 1989 to 1996. These rates and yearly changes in rates were compared to possible explanatory factors reflecting land use and intensity of control measures.

CL cases tended to cluster in eight of the 44 districts. This pattern of high incidence rates (84 to 374 per 10,000 per year) repeated in the same eight districts every year (Figure 1). The remainder of the districts consistently had low CL incidence rates that averaged under 20 per 10,000 per year. Districts with high CL incidence rates occurred throughout the farming areas of Hofuf. However, some low-incidence districts also were within the farming areas and one high-incidence district fell outside farming areas.

In 1989 control measures were first applied to 13 (30%) of the 44 Hofuf districts. CL incidence rates decreased by 35% from 1989 to 1990 (Figure 2). From 1990 to 1995, from 19 to 32 districts were covered by control measures. However, CL rates dropped an average of 10% per year during this period. Districts that at the beginning of the control program had higher CL incidence rates re-

(Continued on page 20)

#### Index

<b>Salmonella from chicken shawarmas, Riyadh</b>	<b>18</b>
<b>Hepatitis A from unsafe water, Afif</b>	<b>19</b>
<b>Infection control in MOH dental clinics, Riyadh</b>	<b>21</b>
<b>Doctors' knowledge of NIDs, 1997</b>	<b>23</b>
<b>Notifiable disease reports</b>	<b>26-27</b>
<b>Calendar</b>	<b>28</b>

# Salmonella poisoning and chicken shawarmas, Western Riyadh, June 1997

On the morning of June 23, 1997, 36 patients from five different families sought emergency treatment at Prince Salman Hospital in Riyadh for abdominal cramps, diarrhea, fever or vomiting. All patients reported eating food purchased the previous evening from a small restaurant. The restaurant sold only shawarmas and hamburgers. An epidemiological investigation was initiated to determine both the magnitude of the outbreak and the food responsible.

A case was defined as any ill person who ate food from the restaurant and presented to any medical facility in Riyadh with loose stools ( $\geq 3$  times/24 hours) between June 22 and 25. A questionnaire was constructed and given to all persons in households with one or more cases. Hospitalized patients and family contacts were interviewed directly, and outpatients and family contacts by telephone.

We identified 142 cases. The median age of case-persons was 13 (range 1-61 years), both sexes were equally affected and 93% were Saudi nationals. Of the cases, 35% were admitted to four hospitals; the average hospitalization was 4.7 days (range 3-9). *Salmonella* (Group D) was isolated from rectal swabs of 82% of the case-persons. Most (98%) case-persons were seen at least once in a health institution and 96% (89 persons) received treatment with an antispasmodic, an anti-emetic and/or antibiotics. Onset of illness occurred over a 42-hour period after the food from the restaurant was eaten; the median incubation period was 9-12 hours (range 3-42 hours). All persons interviewed reported buying their food throughout the serving time for shawarmas (1600-2230) on June 22.

We interviewed and obtained full food histories for all persons in 22 family groups with one or more cases. These included 80 case-patients and 14 family contacts who also ate food from the restaurant on June 22 but did not become sick, giving an attack rate (AR) of 85% for eating from the restaurant on June 22. The AR for eating shawarma was 88%, compared

with 0% for persons who did not eat a shawarma (Table 1). The AR for eating only hamburger was 0%, and the AR for eating both hamburger and shawarmas was 50%. Both hamburgers and shawarmas contained mayonnaise from common containers in the kitchen. No specific ingredient of the shawarma was alone associated with an excess risk of illness.

The restaurant made 154 to 184 shawarmas per day. Answers to the questionnaire indicated that each person ate an average of 1.0 (range=0.2-2.0) shawarma. Using the 88% AR, the estimate of total illness that developed during this outbreak ranged from 135 to 162.

On June 23, an intact chicken shawarma that had been purchased on June 22 and kept in a plastic bag inside one family's refrigerator was recovered. From it, the Riyadh Public Health Laboratory isolated *Salmonella* (group D), *Escherichia coli* and *Vibrio cholerae* non-O1.

Food handlers reported that 22-23 frozen chickens were purchased daily. The chickens were left in a large container of tap water for three hours to thaw. They were then skinned, cut, deboned and immersed all together in a marinade of garlic, spices and yogurt. This preparation process, beginning with the frozen chickens, re-

quired seven hours at room temperature. The chicken marinade mixture was put in a single large container in the refrigerator for 24 hours. The following day the chicken was built on the spit just before grilling. Grilling began at 1600 and ended at about 2230, when all the chicken from the spit had been consumed.

Three cooks prepared the hamburgers and the chicken sandwiches. None was sick. All were screened for asymptomatic carriage of pathogens (stool culture and rectal, nose and throat swabs), but no pathogens were recovered. The restaurant could not be inspected because the police closed it when the cases were first reported.

— Reported by Dr. Abdullah M. Al Saigul, Mr. Sulaiman G. Al Faify and Dr. R.E. Fontaine (Field Epidemiology Training Program), Dr. Eatedal A. Bohlega (Infection Control, Prince Salman Hospital) and Dr. Tomader Kurdy (Department of Environmental Health, MOH)

**Editorial Note:** Both the epidemiology and the microbiologic evidence indicate that chicken shawarma sandwiches were responsible for this explosive outbreak of salmonellosis. Although the shawarmas also contained mayonnaise, salad, pickles and fried potato, the investigation indicates

Table 1: Food-specific attack rates among cases and controls from a chicken shawarma outbreak, western Riyadh, June 1997.

Food item	Ate		Did not eat		RR**	P-value
	AR*	Ill/total	AR*	Ill/total		
Shawarma	88%	80/91	0%	0/3	$\infty$	0.003
Any shawarma contents	98%	54/55	67%	26/39	1.47	<0.01
Hamburger	40%	2/5	88%	78/89	0.57	0.04
Chicken	88%	77/88	50%	3/6	1.75	0.04
Mayonnaise	85%	72/85	88%	8/9	0.95	1
Potato	88%	74/84	83%	5/6	1.06	0.55
Salads	85%	72/85	89%	8/9	0.95	1
Pickles	96%	58/59	67%	22/33	1.43	<0.01

\*AR - Attack rate

\*\*RR - Relative risk

that infection and illness resulted from the chicken. Mayonnaise is made of raw eggs, which, like chicken, may be naturally infected with *Salmonella*. A recent outbreak in Abha was traced to mayonnaise. In the current outbreak, the same mayonnaise and salad were also used on hamburgers but did not cause illness. Furthermore, salad is unlikely as a source of the infection as it is not a good media for growth of *Salmonella*. Pickles and fried potatoes were only in the shawarma; however, *Salmonella* would not survive the pickling process or the frying (immersed in hot oil >100°C).

The high attack rates and short incubation point to heavy contamination of the implicated food. Only the chicken was exposed to ambient temperature (35-40°C) for sufficient time (seven hours) that would lead to heavy microbial growth. The correct preparation is to thaw chickens in the refrigerator at 4°C and immediately after deboning place the chicken back in the refrigerator and keep the marinade in the refrigerator. Refrigeration after marinating was also incorrect, since meat from 22 chickens placed in one container would require hours to reach refrigerator temperature. Warm foods must be refrigerated in small containers for rapid cooling.

Only the surface of the meat on a shawarma spit reaches temperatures sufficient to kill *Salmonella*. *Salmonella* could survive if the mass of meat extended above or below the heat source, if juices from the interior of the meat ran out onto the cooked meat, or if meat was cut too deeply from the cooked surface. Since the interior of the meat on the shawarma spit remained uncooked for several hours, *Salmonella* could continue to multiply during the grilling process.

During 1997 the Riyadh region received 38 reports of food poisoning, of which 10 were attributed to chicken shawarmas. Many more sporadic cases and unrecognized outbreaks may be occurring. Unsafe preparation and cooking of chicken shawarmas may be very common in Saudi Arabia. Accordingly, a safe method of preparation needs to be identified and instituted in all restaurants that prepare shawarmas.

## Hepatitis A from unsafe water

In January and February 1997, the Riyadh region surveillance identified an unusual increase of hepatitis A cases from Afif district. An epidemiologic investigation was initiated to estimate the extent and size of outbreak, and to identify its source and mode of transmission.

We defined a hepatitis A case as onset of jaundice between Jan. 1 and April 30, 1997, in a resident of Afif district. We interviewed affected families about contact with and food exposures common to other families with hepatitis A. We compared the water source of 19 families with one or more cases to the water source of 41 families without a case (control-families) selected from the same neighborhoods of Afif town.

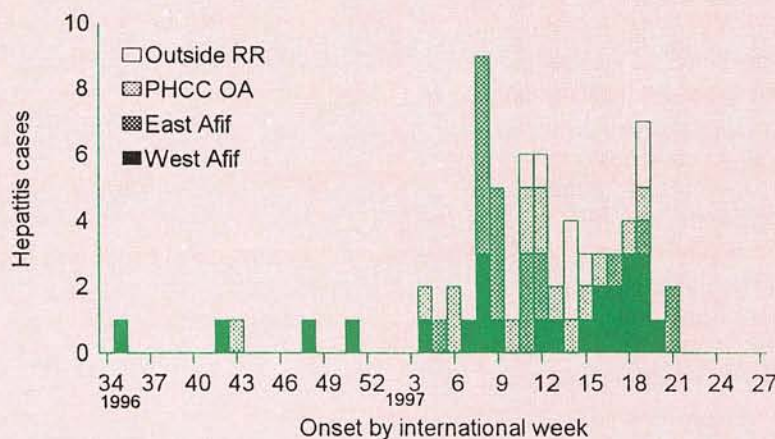
Seventy-two cases of hepatitis A occurred during the outbreak period: 47 in Afif town (attack rate [AR] = 18.5/10,000), 17 from rural villages (AR = 14.5/10,000) and eight from neighboring districts. Over two weeks in late February 1997, hepatitis A cases increased from a baseline of under one case per month to 14 cases and averaged four cases per week for the next 10 weeks (Figure 1). The 5- to-14-year age group had the highest AR (43/10,000). Interviews revealed no common exposure of affected families to other hepatitis A cases or to

common meals or eating places.

Afif water was trucked in from surface rainwater collection and wells up to 250 kilometers distant. This water was sold directly from trucks or through 10 commercial stations. Six stations sold only untreated water (no chlorination), three sold both treated (filtered and chlorinated) and untreated water, and one sold only treated water. All 19 case-families used untreated drinking water, compared with 24 (58%) control-families ( $p < 0.01$ , Fisher's exact test). Seven (37%) case-families bought untreated water directly from trucks, compared with only 2 (5%) control-families ( $p < 0.01$ , Fisher's exact test), and three (16%) case-families bought water from trucks originating from the Dahlah well in the Qassim region, compared with none of the control families ( $p < 0.05$ , Fisher's exact test). Water from this well had been declared unfit for human consumption by the Qassim authorities after several hepatitis A cases had occurred in a nearby village. The original water source for many commercial water stations included this suspect well; however, station records were insufficient to verify the actual sources during the outbreak. Hepatitis A was not associated with any one water station

(Continued on page 28)

Figure 1. An outbreak of hepatitis A by week of onset. Afif town, Riyadh Region, Jan. 1-April 30, 1997



Outside RR - Outside Riyadh Region (Madinah, Taif, Qassim Regions)  
PHCC OA - Primary Health Care Center outside Afif

# Leishmaniasis

Continued from page 17

tained their rank as among the higher CL-infested districts throughout the period of CL control. Control measures were relaxed in 1995, and in 1996 CL cases increased by 25%.

— Reported by Dr. Zaki Al Abdulatif, Dr. R.E. Fontaine and Dr. Nasser Al Hamdan (Field Epidemiology Training Program)

**Editorial note:** The wide variability in CL incidence rates within the relatively small geographic area of Hofuf suggests that CL transmission is highly focal. This pattern is consistent with short flight range of the vector and localization of the rodent hosts of this zoonotic disease. CL in humans does not fully reflect this localization because humans are far more mobile. Although many human probably become infected with CL in or around their home, others may become infected when visiting other districts for social or occupational activities. Inside districts of Hofuf the vector and rodent may also have limited distributions. We suspect that each district has a mix of highly localized environmental characteristics that determine CL incidence rates. Better clarification of this picture from CL surveillance will depend upon accurate localization of the homes and workplaces of persons with CL and careful histories of exposure in other districts.

Although CL surveillance data showed some impressive decreases in disease in the entire Al Hasa region, close inspection of the data showed no consistent effect. Districts that had control measures applied still maintained the highest incidence rates when compared with districts without control, and decreases in uncontrolled areas were no different from those in control areas. The rate of decrease in CL incidence was much lower from 1990 to 1995 than from 1989 to 1990 despite wider application of control measures. It is possible that there are complicated explanations for these inconsistencies with the hypothesis that the control measures reduce CL rates. However, the current surveillance data are insufficient to explore these possibilities. Improving the

Figure 1: Median cutaneous leishmaniasis (CL) incidence rates per 10,000 per year by district, Al Hasa region, 1989-96

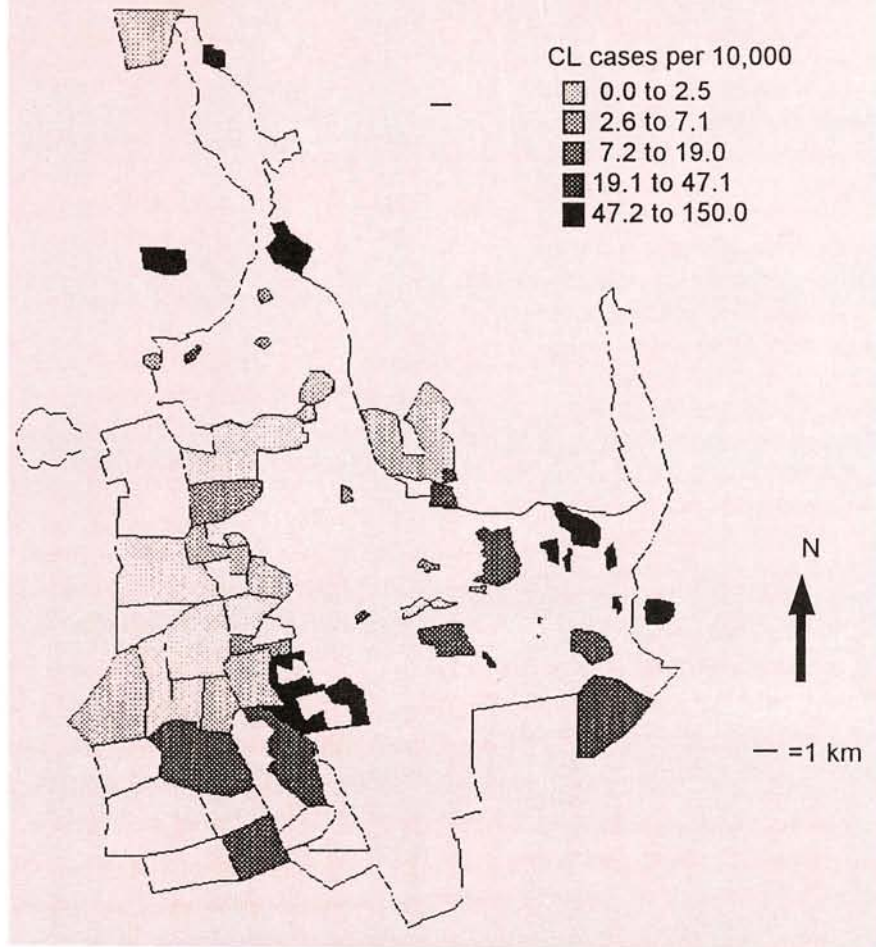
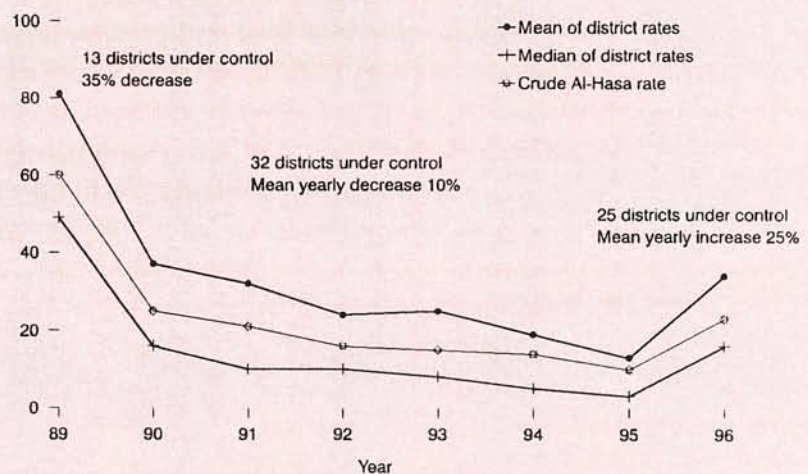


Figure 2: Cutaneous leishmaniasis (CL) incidence rates per 10,000 per year, Al Hasa region, 1989-96



surveillance system is required to better identify CL transmission foci and to better assess the effect of control measures.

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# Survey on infection control in MOH dental clinics, Riyadh

No standard instruction or procedures for infection control are currently available for Ministry of Health (MOH) dental clinics. To discover the current level of infection control, set standards and procedures for infection control and advise dentists in correct universal precautions and sterilization techniques, a cross-sectional probability sample from 32 MOH dental clinics within 24 primary health care centers in Riyadh City was conducted between May 22 and June 20, 1997. All dentists except one (Syrian) were Saudi; 67% were females and 33% were males. The majority (91%) had graduated from King Saud University.

Dentists and assistants were questioned about universal precautions, procedures used for infection control in dental clinics, attitudes of dentists and assistants about universal precautions, knowledge of infection control, and available facilities for infection control in dental clinics.

Only 78% (95% CI=67-89) of dentists said they had been vaccinated against hepatitis B, and 58% (95% CI=45-70) had been vaccinated against meningococcal meningitis. Vaccination against other diseases ranged from 0% (BCG, DT, poliomyelitis, and chickenpox) to 3% (influenza Td) to 6% (MMR and hepatitis A).

All (95% CI=87-100) dentists reported that they practiced universal precautions (handwashing, gloving, wearing masks, wearing lab coats) with all patients. However, only 76% (95% CI= 64-87) reported that they wore protective eyewear. We observed directly in the clinic that 97% (95% CI=82-100) of dentists and 84% (95% CI=71-97) of assistants wore gloves, 94% (95% CI=70-92) of dentists and 81% (95% CI=87-92) of assistants wore masks, and 87% (95% CI=79-96) of dentists and 90% (95% CI=83-98) of assistants wore lab coats. Only 50% (95% CI=37-63) of dentists wore eye protectors during treatment. Because protective eyewear is an essential component of universal precautions, only 76% of

dentists reported practicing complete universal precautions and only 50% were actually observed doing so. Seventy-two percent of clinics (95% CI=60-84) had containers for disposable needles and sharp instruments. Of those, only 72% used hard plastic sharp containers. The remaining 28% used plastic bags, thus risking injury and transmission of infectious agents to those handling the bags.

To protect patient against aerosols and spatter, 76% (95% CI=64-87) of dentists used saliva ejectors, 21% (95% CI=10-32) used rubber dams and 3% (95% CI=0.2-18) used both.

Only 60% (95% CI=45-70) of dentists sterilized all instruments after each patient. We found that only 16% (95% CI=33-60) of clinics had complete sets of instruments. Only 30% (95% CI=18-43) of dentists autoclaved handpieces; 90% (95% CI=54-99) of those dentists autoclaved at the end of the day. Of dentists, 94% (95% CI=78-99) practiced the correct sequence of sterilization for instruments (presoaking, cleaning, packing, sterilization).

Of assistants, 58% (95% CI=44-72) practiced the correct sequence of sterilization steps, 71% (95% CI=54-84) sterilized instruments after each patient and 35% (95% CI=23-49) sterilized at the end of the session. Of assistants, 77% (95% CI=57-89) soaked instruments before cleaning. Only 32% (95% CI=19-45) knew the correct time and temperature required by the autoclave for sterilization (20-30 minutes at 121°C and 2-10 minutes at 134°C), and 45% (95% CI=32-59) knew the correct time and temperature required by dry heat for sterilization (1-2 hours at 60°C). We observed that 47% (95% CI=33-60) of dental clinics had autoclaves, 47% (95% CI=33-60) had dry heat ovens and the remaining 6% had no device for sterilization so had to sterilize instruments in the autoclave in the dressing room. Only 50% (95% CI=35-65) had sterilization packages and so could monitor sterilization. To clean contaminated surfaces 81% (95% CI=70-92) of assistants used

disinfectants. When we asked about radiographic asepsis, only 23% (95% CI=11-34) of assistants disinfected the machine daily and 26% (95% CI=13-39) felt that radiographic asepsis was not necessary. All clinics (95% CI=87-100) had saliva ejectors; however, only 16% (95% CI=26-51) had rubber dams.

— Reported by Dr. Samia Kurdy and Dr. R.E. Fontaine (Field Epidemiology Training Program)

**Editorial note:** This study identified a number of deficiencies in infection control involving personal protection for dentists and assistants, knowledge of dentists and assistants, equipment, and protection of patients. Dentists have frequent exposure to saliva and blood of patients. Accordingly, vaccination against hepatitis B should be 100% among dentists. Other vaccines are of lower importance in the dental setting but are available, and dentists should be encouraged to receive them.

Under universal precautions, dental staff must assume that every patient could be infected with a transmissible agent. All dentists and assistants should have complete knowledge of universal precautions, and they should practice them. Universal precautions require dentists to wear gloves, masks and eye protectors with patients during dental procedures. The lack of eye protection resulted in a low rate of full compliance with universal precautions.

Sterilization and disinfection prevent transmission of organisms through contaminated instruments or contaminated surfaces. A deficiency in the number of instruments and equipment available interfered with full compliance with sterilization and disinfection practices. This was compounded by a lack of supplies such as sterilization packages and disinfectants. Finally, assistants were found to be deficient in knowledge of correct sterilization practices, indicating that retraining is needed. Patients must be protected from aerosols and spatter. Rubber dams are not available in most clinics and dentists do not like to apply them as doing so takes time and patient load is heavy. A decrease in the number of the pa-

(Continued on page 28)

# Doctors' knowledge of and attitudes toward NIDs for oral poliovirus vaccine in Riyadh, 1997

National Immunization Days (NIDs) are mass vaccination campaigns in which supplemental doses of oral poliovirus vaccine (OPV) are given to all children under 5 years of age, regardless of immunization status, two rounds of door-to-door OPV delivery, 4-6 weeks apart over a short time period as possible, during low poliovirus transmission season, to interrupt the circulation of wild polioviruses. Effective implementation

of NIDs has led to the eradication of wild polioviruses in the Americas and progress toward its eradication from several countries of other regions [1]. NIDs, a critical strategy for global poliomyelitis eradication, has been implemented in Saudi Arabia, simultaneously with other Gulf states [2].

The objectives of this study are to find out the level of awareness of doctors working in Riyadh city, Kingdom of Saudi Arabia (KSA), about the ob-

jective of conducting NIDs, and to find out their knowledge, attitudes and practices toward NIDs.

The doctors' community was divided into three strata according to their place of work: hospitals, primary health centers and private polyclinics. From each stratum a probability sample was selected. Using a self-administered questionnaire, 175 doctors working in 23 health facilities

(Continued on page 24)

**Table 1: Physicians' attitude toward and knowledge of various aspects of NIDs for polio, Riyadh, 1997.**

Doctors thought that:	Peds (N=35) No. (%)	GPs (N=82) No. (%)	OS (N=58) No. (%)
NIDs are a global activity	15 (42.9)	51 (62.2)	30 (51.7)
The target year for global poliomyelitis eradication is 2000	34 (97.1)	74 (90.2)	43 (74.1)
NIDs in KSA targeted children < 5 years	34 (97.1)	80 (97.5)	56 (96.6)
NIDs for polio in KSA are expected to continue for a total of three years	21 (60.0)	55 (67.1)	23 (39.7)
NIDs are recommended regardless to current OPV coverage rate	29 (82.9)	68 (82.9)	44 (75.9)
OPV used during NIDs is safe	35 (100.0)	78 (95.1)	51 (87.9)
Mass vaccination in NIDs is by one dose of OPV	2 (5.7)	5 (6.1)	11(19.0)
The main objective of NIDs was to:			
Eradicate wild poliovirus	23 (65.7)	58 (70.7)	38 (65.5)
Increase community awareness	4 (11.4)	6 (7.3)	4 (6.9)
Eradication of poliomyelitis is everybody's responsibility	17 (48.6)	45 (54.9)	28 (48.3)
An outbreak of poliomyelitis could strike KSA	7 (20.0)	22 (26.8)	16 (27.6)
Poliomyelitis affects children <5 only	5 (14.3)	34 (41.5)	32 (55.2)
Contraindications for OPV (especially during NIDs) include:			
Child <1 month old	14 (40.0)	21 (25.6)	22 (37.9)
Teething	0 (0.0)	4 (4.9)	15 (25.9)

Continued from page 23

were interviewed. In analysis, doctors were further stratified according to their nationalities and specialization. Tests between two proportions were used to examine the difference between different groups of doctors as indicated, using a level of significance ( $\alpha$ ) of 0.05 for one-tailed test.

A total of 175 physicians participated in this survey: 35 (20% of sample size) pediatricians (Peds), 82 (47%) general practitioners (GPs), and 58 (33%) physicians of other specialties (OS). Forty-eight doctors (27.4 %) were working in hospitals, 38 (21.7%) in primary health care centers (PHCCs) and 89 (50.8%) in private polyclinics (PCs). Of all doctors interviewed, 149 (85%) were from Arab countries and 106 (61%) were males. About 51% of Peds, 27% of GPs and 36% of OS thought NIDs were for developing countries only. Between 9% to 23% of Peds, 15%-28% of GPs and 22%-29% of OS were unaware of the main objective of NIDs, considered NIDs a simple booster dose for an already vaccinated child, and would not advise vaccinated children to receive additional oral polio vaccine (OPV) doses during NIDs scheduled for 1997. Five percent of doctors did not vaccinate their children during the NIDs of 1996. Five doctors (3%) stated that eradication of wild poliovirus in KSA was impossible due to the dynamic and continuous flow of religious visitors and expatriate workers. Peds, GPs and OS thought breast-feeding (9%), current routine childhood immunization, having three doses of OPV in the first year of life, and/or protein-energy malnutrition (9%-11% of Peds, 15%-22% of GPs, 19%-26% of OS) were contraindications for OPV. Two Peds (6%) did not know that prompt reporting of cases of acute flaccid paralysis was required.

Reading MOH circulars was associated with awareness about NIDs ( $p < 0.05$ , chi-square test). Non-Arab doctors read MOH circulars more regularly than Arab doctors, and 45% of doctors preferred reading circulars from MOH written in English. Doctors working in PHCCs and private polyclinics, regardless of their spe-

cialty, were more aware about and familiar with activities related to NIDs. Conversely, doctors working in governmental hospitals were less informed about NIDs. Table 1 summarizes some of most important findings of the survey.

– Reported by Dr. Haya S. Al-Eid, Dr. Hassan E. El Bushra, Dr. Nasser A. Al-Hamdan (Field Epidemiology Training Program) and Dr. Abdulrahman M. Al-Mazrou (King Saud University).

**Editorial note:** The results of this survey showed that there were some deficiencies in knowledge regarding NIDs among physicians working in Riyadh. Although all doctors knew that poliomyelitis is currently targeted for eradication, some doctors, including Peds, were largely misinformed or had misconceptions about NIDs that potentially could have reduced the impact of such nationwide community-based health intervention programs. The response of doctors could be due to inability of some doctors to understand the ultimate objective of NIDs, which is to interrupt the circulation of wild polioviruses through systematic and extensive mass immunization campaigns with OPV.

Failure to differentiate between the objectives of routine OPV vaccination and NIDs could be due to inadequate communications between MOH and doctors. Doctors, especially pediatricians, need to be more involved in planning, executing and evaluating any community outreach programs that relate to a child's health. During national intervention programs, circulars released by MOH must be written in both Arabic and English to all doctors, regardless of their specialty or their affiliation.

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أن الرضاعة الطبيعية من نواهي التطعيم بلقاح شلل الأطفال الفموي. كما أضاف (٩٪-١١٪ من أطباء الأطفال و١٥٪-٢٢٪ من الممارسين العاميين و١٩٪-٢٦٪ من الأخصائيين) أن الحصول على ثلاثة جرعات من اللقاح في السنة الأولى من العمر، والتحصين حديثاً بجرعة روتينية للقاح، بالإضافة لسوء التغذية، أيضاً من نواهي التطعيم. كما أن إثنين (٦٪) من أطباء الأطفال ليسوا على علم بأن أي حالة شلل فجائي رخو تستدعي التبليغ الفوري.

ترافقت قراءة التعميم الصادرة عن وزارة الصحة بمدى الوعي بالأيام الوطنية للتطعيم بدلالة إحصائية (>٠,٠٥). يطلع الأطباء غير العرب بانتظام على التعميم أكثر من زملاءهم العرب. الأطباء العاملين في مراكز الرعاية الصحية الأولية والمستوصفات الخاصة بغض النظر عن تخصصاتهم كانوا أكثر إدراكاً والفة بنشاطات الأيام الوطنية للتطعيم. وبالعكس كان الأطباء العاملين في المستشفيات الحكومية أقل إدراكاً. أوضحت الدراسة بأن هناك بعض القصور في معلومات الأطباء في مدينة الرياض تجاه الأيام الوطنية للتطعيم مما قد يؤثر على فعاليات هذا الحدث الصحي.

الفشل في التفريق بين الهدف من إعطاء لقاح شلل الأطفال الفموي الروتيني والمعطى خلال الأيام الوطنية للتطعيم، قد يكون بسبب التواصل غير الكافي بين الأطباء ووزارة الصحة. الأطباء وخصوصاً أطباء الأطفال في حاجة أن يكونوا أكثر مشاركة في تخطيط وتنفيذ وتقييم أي برنامج وطني صحي يتعلق بصحة الطفل. في أي برامج وطنية صحية يجب أن توزع التعميم باللغة العربية والإنكليزية معاً، لكل الأطباء بغض النظر عن تخصصاتهم أو أماكن عملهم.

إعداد: د. هيا العيد  
برنامج الوبائيات الحقلية

## ملخص باللغة العربية

إستئصال شلل الأطفال، كما أن دول عدة في أقاليم أخرى في طريقها لتحقيق هذا الهدف. وعلى هذا الأساس، شاركت المملكة العربية السعودية دول الخليج الأخرى الاستراتيجية الحاسمة لإستئصال شلل الأطفال عالميا بإقامة الأيام الوطنية للتطعيم. الهدف الأساسي لهذه الدراسة إكتشاف معلومات ومواقف وممارسات الأطباء تجاه الأيام الوطنية للتطعيم.

قسما الأطباء إلى ثلاثة فئات حسب أماكن أعمالهم أما مستشفيات أو مراكز رعاية صحية أولية أو مستوصفات خاصة. ثم من كل فئة إختارنا عينة عشوائية، وباستخدام إستبيان يعبأ ذاتيا تمت مقابلة ١٧٥ طبيبا يعملون في ٢٣ منشأة صحية وفي مرحلة تحليل البيانات تم تقسيم الأطباء حسب جنسياتهم وتخصصاتهم.

شارك ١٧٥ طبيبا في هذا المسح: ٣٥ أطباء أطفال، و ٨٢ أطباء عامين و ٥٨ أطباء أخصائيين. من بين الأطباء الذين تمت مقابلتهم كان ١٤٩ (٨٥٪) ينتمون لجنسيات عربية، و ١٠٦ (٦١٪) ذكور.

يعتقد ٥١٪ من أطباء الأطفال و ٢٧٪ من الممارسين العاميين و ٣٦٪ من الأخصائيين بأن الأيام الوطنية للتطعيم للدول النامية فقط. أيضا كان ٩٪-٢٣٪ من أطباء الأطفال و ١٥٪-٢٨٪ من الممارسين العاميين و ٢٢٪-٢٩٪ من الأخصائيين غير مدركين للهدف الأساسي للأيام الوطنية للتطعيم معتبرين أنها مجرد جرعات منشطة للطفل المحصن روتينيا، ولن ينصحوا الآباء للحصول على جرعات إضافية لأطفالهم خلال الأيام المزمع إقامتها عام ١٩٩٧م. أوضح ٥٪ من الأطباء بأنهم لم يحصنوا أطفالهم خلال حملة ١٩٩٦م، كما قال خمسة أطباء (٣٪) بأن إستئصال فيروسات شلل الأطفال من المملكة العربية السعودية مستحيل لطبيعة سكانها المتحركة والتدفق المستمر من زوار الأماكن المقدسة والعمال المغتربين. يرى (٩٪) من أطباء الأطفال والممارسين العاميين والأخصائيين

المحاطة بمناطق صحراوية في السنوات ٨٩-٩٠-٩٤-١٩٩٥م.

أبرز نظام المراقبة الوبائية إنخفاض في معدل الإصابة بالمرض في السنوات الأولى للمكافحة ثم حدث إرتفاع بعد ذلك في السنة الأخيرة.

كما أن هناك قرى وأحياء لازالت تحتفظ بمعدل إصابة عالية بالمرض رغم إستمرار المكافحة الكيماوية والميكانيكية للمرض ومن هذا المنطلق نعتقد أن كل حي أو قرية لديها مجموعة من العوامل البيئية المتمركزة داخلها تساعد أو تؤثر على معدل الإصابة بالمرض مثل التوسع العمراني والحركة السكانية والتي لم يتطرق لها في الدراسة.

وعلى ضوء هذه الدراسة فإننا نحث على تحسين نظام المراقبة الوبائية للمرض لمعرفة مدى تأثير إجراءات المكافحة على معدل الإصابة كما أن التقصي الوبائي لحالات اللشمانيا الحديثة سيساعد على معرفة مكان الإصابة ومن ثم تحديد المناطق الموبوءة لتكثيف إجراءات المكافحة بها.

كما أننا نحث على تكاتف الجهود بين الشئون الصحية وصحة البيئة في بلدية الاحساء وقسم وزارة الزراعة للتعاون من أجل تطبيق إجراءات المكافحة فاعلية في المناطق الموبوءة بالمرض.

إعداد: د. زكي العبد اللطيف  
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معلومات ومواقف وممارسات الأطباء تجاه الأيام الوطنية للتطعيم في مدينة الرياض - ١٩٩٧م.

الأيام الوطنية للتطعيم هي حملات منظمة يتم فيها إعطاء جرعات إضافية من لقاح الشلل الفسوي لكل الأطفال تحت سن الخامسة من العمر بغض النظر عن سابقة التطعيم. وتستغرق الحملة أياما معدودة، ثم تكرر الحملة والتطعيم مرة أخرى بفواصل أربعة إلى ستة أسابيع خلال الفصول الباردة والجافة من السنة عندما يكون انتشار فيروسات الشلل في أدنى نقطة مما يساهم في إيقاف انتشارها.

كان التطبيق الفعال للأيام الوطنية للتطعيم في الأمريكتين أثره الكبير في

للشمانيا في الاحساء (١٩٨٩م-١٩٩٦م) تم التعرف على مرض اللشمانيا الجلدية بمحافظة الاحساء لأول مرة عام ١٩٤٨م بواسطة فريق صحي من شركة أرامكو.

ولقد بدأت إجراءات مكافحة الخازن والناقل لمرض اللشمانيا الجلدية عام ١٩٨٥م في الأحياء والقرى ذات الإصابة العالية وذلك بإستخدام المبيدات الحشرية وكذلك المكافحة الميكانيكية مثل إزالة نباتات الرمث. ولتقييم تأثير إجراءات المكافحة الكيماوية والميكانيكية والعوامل البيئية المؤثرة على معدل الإصابة باللشمانيا الجلدية، وإستحداث خريطة وبائية للمرض في محافظة الاحساء تم عمل دراسة بيئية وذلك بإستخدام البيانات الموجودة في قسم مكافحة اللشمانيا في مديرية الشئون الصحية بمحافظة الاحساء الخاصة بحالات اللشمانيا المبلغه لقسم اللشمانيا من قبل المراكز الصحية داخل مدينتي الهفوف والمبرز والقرى التابعة لهما وعددها (٤٤) مركزا صحيا للفترة من ١٩٨٩ - ١٩٩٦م.

ولقد تم حساب معدل الإصابة بالمرض لكل مركز صحي ومقارنة معدل الإصابة مع العوامل البيئية المحيطة بالمركز مثل المزارع - المناطق الصحراوية - المناطق الخالية من السكان داخل الأحياء السكنية والقرى.

كما تم مقارنة نسبة التغير السنوي في معدل الإصابة بالمرض مع عدد مرات تطبيق المكافحة الكيماوية والميكانيكية في منطقة تغطية المركز الصحي.

وجدنا من الدراسة أن هناك ٨ مراكز صحية تمثل أعلى مناطق الإصابة باللشمانيا (حي الملك فهد - الجرن - المراح - الفضول - الجفر - المركز - الرميله - الوزيه).

حدث إنخفاض في معدل الإصابة بالمرض من ١٩٨٩-١٩٩٥م بنسبة ٣٥٪ بعد تطبيق المكافحة لأول مرة ولكن في عام ١٩٩٦م ارتفع معدل الإصابة بنسبة ٢٥٪ بعد إنخفاض إجراءات المكافحة بشكل كبير.

كما وجد أن المزارع حول الأحياء أو القرى تتسبب في زيادة معدلات الإصابة بالمرض مقارنة بالأحياء أو القرى



## Selected notifiable diseases by region, July-Sept. 1997

	Gonfuda	Bisha	Hafr al Batin	Qassim	Hail	Arar	Goriat	Al Jouf	Tabuk	Al Ahsa	Eastern	Al Baha	Najran	Gizan	Asir	Taif	Madinah	Makkah	Jeddah	Riyadh	Total
Measles	9	0	6	75	7	2	0	6	11	26	101	24	9	39	120	86	82	74	123	83	883
Mumps	1	3	11	40	17	3	7	7	7	6	41	9	5	11	27	17	56	26	134	47	475
Rubella	0	0	1	12	0	2	1	0	0	3	7	0	0	0	5	2	3	4	17	9	66
Varicella	16	65	147	367	164	58	42	69	183	400	1285	100	134	95	700	313	164	431	666	837	6236
Brucellosis	9	60	64	325	148	9	6	29	33	34	41	11	83	42	297	31	37	72	42	188	1561
Meningitis, mening.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
Meningitis, other	53	12	13	10	0	4	1	0	0	2	3	1	0	0	1	6	0	4	0	0	110
Hepatitis A	5	38	59	102	50	14	5	24	50	48	43	8	168	23	93	7	62	41	62	127	1029
Hepatitis B	4	15	6	33	10	0	2	0	12	30	171	47	8	12	32	29	27	72	178	120	808
Hepatitis, unspecified	2	0	0	0	56	0	0	0	13	24	8	0	8	48	107	2	15	8	44	34	369
Typhoid & paratyphoid	0	12	3	0	4	0	0	0	1	6	25	5	1	3	1	0	2	5	6	7	81
Amoebic dysentery	1	12	0	23	37	0	10	0	39	17	21	0	22	5	283	58	0	0	756	18	1302
Shigellosis	0	0	9	10	0	0	0	0	12	2	28	0	11	6	0	4	2	0	6	16	106
Salmonellosis	1	0	40	17	0	0	0	0	30	46	425	8	19	1	12	0	5	0	43	176	823
Syphilis	0	3	0	0	0	0	0	0	0	12	7	1	1	4	0	0	0	0	19	2	49
VD, other	0	4	2	2	0	0	5	0	0	69	18	0	2	4	1	0	0	0	80	6	193

## Comparisons of selected notifiable diseases, 1996-1997

	July-Sept 1997	July-Sept 1996	Change %	July-Sept 1997	Jan-Dec 1996		July-Sept 1997	July-Sept 1996	Change %	July-Sept 1997	Jan-Dec 1996
Diphtheria	0	0	0	0	0	Meningitis, other	110	157	-30	110	559
Pertussis	35	28	25	35	56	Hepatitis A	1029	886	19	1029	3796
Tetanus, neonatal	1	6	-83	1	28	Hepatitis B	808	824	-0.2	808	3076
Tetanus, other	4	4	0	4	12	Hepatitis, unspec.	369	286	29	369	1471
Poliomyelitis	0	0	0	0	0	Typhoid/paratyph.	81	135	-40	81	461
Measles	883	475	86	883	2407	Shigellosis	106	183	-42	106	925
Mumps	475	503	-6	475	2256	Salmonellosis	823	790	4	823	2349
Rubella	66	92	-28	66	447	Amoebic dysentery	1302	1947	-33	1302	8184
Varicella	6236	8475	-26	6236	47463	Syphilis	49	58	-16	49	294
Brucellosis	1561	1513	3	1561	5933	VD, other	193	246	-22	193	1118
Meningitis, mening.	2	3	-33	2	38						

## Diseases of low frequency, July-September 1997

Pertussis: 35 (Riyadh 10, Eastern 1, Taif 1, Madinah 1, Makkah 1, Hail 1, Bisha 1, Gizan 1, Asir 15))

Neonatal tetanus: 1 (Makkah 1)

Other tetanus: 4 (Riyadh 1, Makkah 3)

Guillain-Barré syndrome: 17 (Riyadh 3, Taif 1, Al Ahsa 1, Qassim 1, Hail 1, Tabuk 1, Al Baha 3, Jeddah 1, Asir 3, Gonfuda 2)

Echinococcosis: 2 (Hafr al Batin 2)

Yellow fever, plague, diphtheria, poliomyelitis, viral encephalitis, rabies: No cases

## Selected notifiable diseases by region, Oct.-Dec. 1997

	Gonfuda	Bisha	Hafr al Batin	Qassim	Hail	Arar	Goriat	Al Jouf	Tabuk	Al Ahsa	Eastern	Al Baha	Najran	Gizan	Asir	Taif	Madinah	Makkah	Jeddah	Riyadh	Total
Measles	2	11	2	20	4	3	0	0	7	8	24	3	4	1	74	102	32	67	110	37	511
Mumps	38	6	13	30	3	17	3	0	20	11	30	7	7	12	47	30	108	97	308	56	843
Rubella	2	0	0	3	1	0	0	0	3	1	18	0	1	3	14	10	8	18	18	10	110
Varicella	6	131	507	676	65	43	39	73	202	325	1204	101	71	108	718	388	320	261	470	684	6392
Brucellosis	9	55	38	361	41	11	2	16	9	25	45	39	65	64	335	38	20	49	26	112	1360
Meningitis, mening.	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	6
Meningitis, other	0	1	7	1	0	0	0	1	3	3	9	0	0	9	9	0	6	19	9	54	131
Hepatitis A	0	48	39	90	19	10	22	32	38	30	58	16	94	32	165	7	41	65	68	89	963
Hepatitis B	5	10	5	17	9	7	1	2	5	16	181	63	8	6	47	13	24	67	197	133	816
Hepatitis, unspecified	0	0	0	0	93	2	0	0	35	20	1	0	5	29	82	0	5	19	16	32	339
Typhoid & paratyphoid	0	7	1	1	6	0	1	0	2	1	14	1	4	8	5	1	3	8	5	7	75
Amoebic dysentery	0	69	1	54	53	0	5	0	59	9	11	0	14	0	476	33	6	0	368	66	1224
Shigellosis	0	0	25	24	2	0	0	0	24	5	47	10	67	20	1	20	3	0	20	37	305
Salmonellosis	0	0	27	15	0	0	1	0	25	16	375	9	32	0	4	0	2	12	36	151	705
Syphilis	0	6	1	0	1	0	2	0	0	14	15	1	0	1	2	0	0	0	20	5	68
VD, other	0	1	7	8	0	0	4	0	0	29	24	0	2	2	5	0	0	0	35	18	135

## Comparisons of selected notifiable diseases, 1996-1997

	Oct-Dec 1997	Oct-Dec 1996	Change %	Oct-Dec 1997	Jan-Dec 1996		Oct-Dec 1997	Oct-Dec 1996	Change %	Oct-Dec 1997	Jan-Dec 1996
Diphtheria	1	0	0	1	0	Meningitis, other	131	131	0	131	559
Pertussis	19	11	73	19	56	Hepatitis A	968	1044	-7.2	968	3796
Tetanus, neonatal	12	8	50	12	28	Hepatitis B	816	857	-1.7	816	3076
Tetanus, other	2	1	100	2	12	Hepatitis, unspec.	339	345	1.7	339	1471
Poliomyelitis	0	0	0	0	0	Typhoid/paratyph.	75	155	-52	75	461
Measles	511	297	72	511	2407	Shigellosis	305	186	64	305	925
Mumps	843	592	42	843	2256	Salmonellosis	705	539	31	705	2349
Rubella	110	84	31	110	447	Amoebic dysentery	1224	1950	-37	1224	8184
Varicella	6392	10,663	-40	6392	47463	Syphilis	68	71	-4	68	294
Brucellosis	1360	1057	29	1360	5933	VD, other	135	258	-48	135	1118
Meningitis, mening.	6	5	20	6	38						

## Diseases of low frequency, October-December 1997

Pertussis: 19 (Makkah 2, Tabuk 1, Riyadh 1, Taif 2, Jeddah 5, Asir 8)

Neonatal tetanus: 12 (Jeddah 6, Taif 1, Makkah 4, Bisha 1)

Other tetanus: 2 (Jeddah 1, Najran 1)

Guillain-Barré Syndrome: 14 (Jeddah 3, Gizan 1, Riyadh 3, Taif 2, Madinah 2, Qassim 1, Hail 1, Al Baha 1)

Echinococcosis: 2 (Riyadh 2)

Yellow fever, plague, poliomyelitis, viral encephalitis, rabies, hemolytic uremic syndrome: No cases

## Dental clinics

Continued from page 21

tients during each session would give dentists and assistants more time to practice correct infection control techniques.

To ensure correct infection control techniques, dentists and dental assistants must have recommended vaccinations. In addition, both dental assistants and dentists should attend lectures both on infection control and on dental treatment of highly infectious patients. An adequate supply of instruments per patient is required for each session as well as a qualified dental assistant for each clinic. Facilities for sterilization, disinfection and universal precautions must be maintained in all dental clinics.

## Hepatitis A

Continued from page 19

in Afif. Smaller concurrent outbreaks had occurred in Dwadmi along the road from Dahlah to Afif.

— Reported by Abdullah Abu Dahish and Dr. R.E. Fontaine (Field Epidemiology Training Program)

**Editorial note:** Although hepatitis A is normally transmitted person-to-person and appears as a propagated pattern, point or common-source outbreaks have been associated with food, water and milk. This outbreak of hepatitis A occurred suddenly with a rapid rise in cases to a peak, thus suggesting a point or common-source outbreak. Interviews indicated that person-to-person spread was not responsible for transmission within the town.

This investigation was complicated by poor or non-existent records at the water stations showing the actual

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### Inside the Kingdom

**Oct. 20-21, 1998:** "Primary Health Care: The Way Forward." International symposium sponsored by Department of Family Medicine, King Fahad National Guard Hospital, Riyadh. Contact: Academic Affairs Department, King Fahad Hospital, National Guard – Health Affairs, PO Box 22490, Riyadh 11426. Tel: 01-252-0088 ext. 2329/2340; fax: 01-252-0040.

**Feb. 8-10, 1999:** "Early Detection and Periodic Health Assessment." Fourth scientific conference sponsored by the Saudi Society of Family and Community Medicine, Makkah. Contact: Makkah office, Saudi Society of Family and Community Medicine, PO Box 9195, Makkah. Tel: 02-548-0853 or 02-542-1564; tel/fax: 02-542-0542.

### Outside the Kingdom

**Nov. 18-21, 1998:** 4th International Epidemiological Association Eastern Mediterranean Region Scientific Meeting, Tunis, Tunisia. Contact: Prof. Nouredine Achour, National Institute of Public Health, 5-7 Bloc IV, Rue Khartoum (10eme etage) Diplomat, 1002 Le Belvedere, Tunis, Tunisia. Tel: +2161-800-506 or +2161-787-414; fax +2161-795-889.

**Aug. 31-Sept. 4, 1999:** The XV International Scientific Meeting of the International Epidemiological Association, Epidemiology for Sustainable Health, Florence, Italy. Contact: Organising Secretariat, IEA Florence 99, c/o SINEDRION, Via G. Marconi, 27, 50131 Firenze, Italy.

source of the water purchased from the trucks. Accordingly, the true source of the water for some of the stations may not have been correct. Individuals who bought water directly from tanker trucks did not know the actual source of the water. Only the truck driver knew for sure.

People need an adequate supply of safe drinking water. There are major problems in the water system in Afif town. It is a multi-source system and is not controlled or inspected by the government. Moreover, the drinking water supply systems in surrounding villages and towns could also be unsafe, providing water that is unfit for drinking.

The water system in Afif needs to be evaluated for adequacy, and the water treatment and monitoring of water quality needs to be regulated and inspected. Uncontrolled, non-chlorinated and unfiltered drinking water generalized the extent and the size of the problem in the surrounding areas, which have similar water

supplies.

Many other microorganisms besides hepatitis A (cholera, *Cryptosporidium*, *Campylobacter* spp, hepatitis E, viral gastroenteritis, *Cyanobacteria*, enterotoxigenic *E. coli*, enteroinvasive *E. coli*, *Shigella*, *Salmonella*, *Giardia lamblia*, *Entamoeba histolytica*) may be transmitted by unsafe water. Health officials throughout Saudi Arabia need to be aware of the quality of their local drinking water supplies and to alert health authorities to possible deficiencies.

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