

## النشرة الوبائية السعودية تصدرها وزارة الصحة

الوكالة المساعدة للطب الوقائي وبرنامج الوبائيات الحقلية  
المجلد الحادي عشر - العدد الثالث - يوليو - سبتمبر ٢٠٠٤

### Injection practices and medical waste disposal in EPI program in Riyadh and Eastern region, Saudi Arabia.

In the kingdom of Saudi Arabia, vaccination of children began in 1964, with introduction of the BCG vaccine. The World Health Organization (WHO) launched the Expanded Program on Immunization (EPI) in 1974.<sup>1</sup> This study was conducted by the Field Epidemiology Training Program to validate whether sterilizable injection equipment are still being used in EPI program in Saudi Arabia, and to evaluate injection practices of health workers and safe disposal of vaccination waste, by a cross sectional approach, in a sample of both governmental and private health facilities in Riyadh and Eastern province, limited to those providing vaccination services. Using multistage stratified random sampling technique we obtained a sample size of 60 health facilities.

In Riyadh, the study involved 22 governmental health workers (GHW) and 15 private (PHW). The median age of GHW was 29.5 years (IQR 25-36) and 38 years (IQR 34-39) for PHW. Saudis constituted 72.7% of GHW and non-Saudis represented 86.7% of PHW. All were females. A separate room designated for vaccination was found in 100% of governmental health facilities (GHF) compared to only 26.7% of private health facilities (PHF) where vaccination was provided along with other services. Two nurses or more were assigned to the vaccination clinic in 72.7% of GHF compared to 26.7% of PHF. Almost half the health workers had a work experience in vaccination between 1-5 years (45.5% of GHW and 53.3% of PHW). Vaccination practices are shown in Table 1.

MSF (Médecins Sans Frontières) needle-remover sharp boxes were available in 54.5% of GHF and 53.3% of PHF. Needles only were discarded in the sharp boxes in 22.7% of GHF compared to 6.7% of PHF. In the rest, different materials were discarded along with the needles, such as used syringes, empty vials, cotton pads, needle packages, alcohol swabs and discarded gloves. Medical waste was segregated into two different boxes only in all the health institutes observed.

Cleaners were responsible for taking the closed sharp boxes outside the room in

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# Injection practices and medical waste disposal in EPI program in Riyadh and Eastern region, cont...

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100% of PHF, all manually removed (100%). In GHF, cleaners took the closed sharp box outside the room 95.5% of times, either manually (68.2%), or inside cardboard boxes (18.2%), or on a trolley (13.6%). The sharp boxes were kept for collection inside the health institute in 40.9% of GHF and 73.3% of PHF, then were taken away by municipality medical waste transportation from all GHF and by medical waste companies transportation from all PHF.

When asked about the correct procedure of final disposal of sharp waste, only 9.1% responded correctly "incineration", 31.8% burning, 27.3% burying, and 31.8% did not know. In PHF, 66.7% responded burning, 6.7% burying, and 26.6% did not know.

In the Eastern region, the study covered 15 GHW and 8 PHW. Median age of GHWs was 31 years (IQR 30-35) and PHWs 30.5 years (IQR 28.5-33.5). Saudis accounted for 93.3% of GHW, and non-Saudis accounted for 100% of PHW. All were females.

All GHF had a designated room for vaccination compared to only 50% of PHF. Two nurses or more were assigned to vaccination clinic in 86.7% of GHF and 75% of PHF. Work experience varied among GHW, but 75% of PHW had experience between 1-5 years.

The MSF needle-remover sharp boxes were available in all GHF compared to only 62.5% of PHF. Needles only were discarded in the sharp boxes in 20% of GHF. Medical waste were segregated into 4 boxes in 40% of GHF, 3 boxes in 6.7% and only two in 53.3%. All PHF segregated medical waste into two boxes only.

Cleaners were responsible for taking the closed sharp box outside the room in 66.7% of GHF and 100% of PHF; manually in 100% of GHF and 62.5% of PHF, or placed inside large cardboard boxes in 25% of PHF. All the health institutes kept the sharp boxes for collection inside, after which they were taken away from all GHF by municipality medical waste transportation, and from all PHF by medical waste companies transportation.

When asked about the correct pro-

cedure of final disposal of sharp waste, GHW responded "incineration" 26.7%, followed by burying 20%, and 53.3% did not know. PHW responded "incineration" 25%, burying 12.5%, and 37.5% did not know.

It was seen that Riyadh HW used a clean barrier to break the ampoule significantly more often than Eastern HW (OR=12.4, 95%CI=2.52-60.46; aOR=39.7, 95%CI= 4.78-333.3).

GHW kept a needle on top of multi-dose vials significantly more often than PHW (OR=18.7, 95%CI=2.28-153.6; aOR = 22.7, 95% CI = 1.77-294.12).

GHW recapped needles after injection significantly less often than PHW (OR=0.16, 95%CI=0.05-0.51), but the adjusted OR was not significant (aOR=0.21, 95%CI=0.03-1.36). Saudi health workers were less likely to practice needle recapping than non-Saudis (OR=0.13, 95%CI=0.04-0.42; aOR=0.36, 95%CI=0.06-2.21).

MSF needle-remover sharp boxes were significantly less available at Riyadh health institutes than Eastern (OR = 0.2, 95%CI = 0.04-0.69; aOR=0.2, 95%CI=0.04-0.71). These boxes were found more often in GHF than PHF (OR = 2.1, 95%CI=0.69-6.23), but this was not significant.

- Reported by: Dr. Haleema AlJohar, Dr. Munira AlZamil, Dr. Suheir Al Saleh, Dr. Randa Nooh, Dr. Abdul Jamil Choudhry (Field Epidemiology

Training Program).

**Editorial notes:** The WHO defines a "safe injection" as one that does not harm the recipient, does not expose the provider to any avoidable risk, and does not result in any dangerous waste to the community.<sup>2</sup> Unsafe use and disposal of injection equipment puts the health of patients, health care workers and the community at risk.<sup>3</sup>

Injections should be prepared in a clean designated area; the needle should not be left in the top of the multi-dose vaccine vial; safe procedures should be followed to reconstitute vaccines; and a new syringe and needle should be used for each child.<sup>2</sup>

In this study, while most practices were satisfied, some deviated from safe injection definition. Keeping a needle on top of a multi-dose vial could lead to contamination of the vaccine. Bacteria could survive in and have been transmitted to patients through contaminated multi-dose vials.<sup>4</sup> Using the same needle to draw the dose and then giving it to the child affects its sharpness after it has come in contact with the rubber material covering the vial, and can lead to local abscesses. In 1997-98, injection-associated abscesses were reported from 40% of health centers in Swaziland and 55% of health centers in Chad.<sup>5</sup> This could be avoided by using two separate needles, one to draw

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**Table 1: Vaccination practices of health workers in Riyadh and Eastern region.**

Vaccination practices	Riyadh		Eastern	
	GHF (22)	PHF (15)	GHF (15)	PHF (8)
Used new needle for each reconstitution	100%	100%	100%	100%
Used new syringe for each reconstitution	100%	100%	100%	100%
Kept powder between 2-8°C before use	95.5%	100%	100%	100%
Kept diluent between 2-8°C before use	100%	100%	100%	100%
Shook multi-dose vial before withdrawing content	91%	93.3%	93.3%	100%
Kept a needle on top of multi-dose vial	45.5%	6.7%	46.7%	0



# Evaluation of the satisfaction of Ministry of Health workers in the sacred places during Hajj season, 1424 H.

The Saudi Ministry of Health (MOH) is continuously aspiring to improve health services during hajj. However, each year MOH staff posted for hajj assignment face uncertain demands and expectations, passing through many stages, beginning with selection, on to reception at Makkah, transportation, residence, work environment and finally reward. This study was conducted to evaluate the satisfaction of healthcare workers (HCW) throughout the hajj assignment stages.

A cross-sectional study design was used. The study population was all the MOH workers posted for hajj duty at the sacred places. A stratified random cluster sampling technique was used, whereby healthcare facilities were considered the primary sampling unit and healthcare workers were the secondary sampling unit. For data collection, a bilingual (Arabic-English) self-administered questionnaire was designed, after modifying some international job satisfaction questionnaires.

The study sample was 717 HCW. Their mean age was 36.8 years (Standard Deviation  $\pm$  9.01). Males represented 75.3%; Saudis represented 55.5% followed by Arabs 23.2% and non-Arabs 21.3%. Nurses constituted the most common category 280 (39.1%), followed by doctors 202 (28.2%), and the rest constituted technicians, administrators, pharmacists, and health inspectors. 37.4% were allocated to work at Arafat, 40.3% at Mina, and 22.3% at Makkah; 58.3% were in Hospitals, 30% at Primary health care centers, 6.4% at Preventive medicine (Mina), and 5.3% at Emergency department (Mina). Regarding the number of participations in hajj duty 32.4% 1st time, 18.1% 2nd, 12.2% 3rd, 8.5% 4th, 8.1% 5th, and 21.6% more than 5. Regarding original work base, 33.4% were from the Western region, 30.3% from Riyadh, 15.1% from the South, 10.3% from Qaseem, 8.9% from Eastern region, and 2.1% from Northern region.

Those reporting overall satisfaction "fully satisfied and satisfied" consti-

tuted 91.1% of HCW (See figure 1).

Satisfaction of HCW by hajj assignment stages showed that 86.2% were satisfied by the selection process, 84.5% by work environment, 67.8% by reception and transportation, 55.9% by residence, and the lowest was financial compensation 31.6%. Overall satisfaction demonstrated by willingness to participate in future hajj seasons was highly significantly associated with selection, reception, residence, work environment and financial compensation (all p-values  $<$ 0.001). The highest percentage of dissatisfaction was detected for the work environment (37.8%), followed by the selection process (36.4%), and the lowest percentage of overall dissatisfaction was for financial compensation (13.1%).

The overall dissatisfaction level was remarkably low (9%). Identifying the dissatisfactory factors for each stage was thought to be helpful in increasing the satisfaction level in the future or at least maintaining it. Regarding dissatisfactory factors for each stage, the highest dissatisfaction percentage for workers at the selection stage was with those who reported insufficient

time to prepare themselves before going to hajj (43.1%). For reception stage, those who were not satisfied about the personnel treatment at reception reported the highest dissatisfaction percentage (77.9%). The most dissatisfactory factor about the residence stage was reported by those who were not satisfied about the cleanness of the residence (86.5%). Those who were not satisfied regarding work environment reported highest dissatisfaction with the relationships among each other and with their supervisors (55.1% and 50.0%, respectively,  $P <$ 0.001)

Individual factors in each hajj assignment stage in association to overall dissatisfaction are represented in table 1.

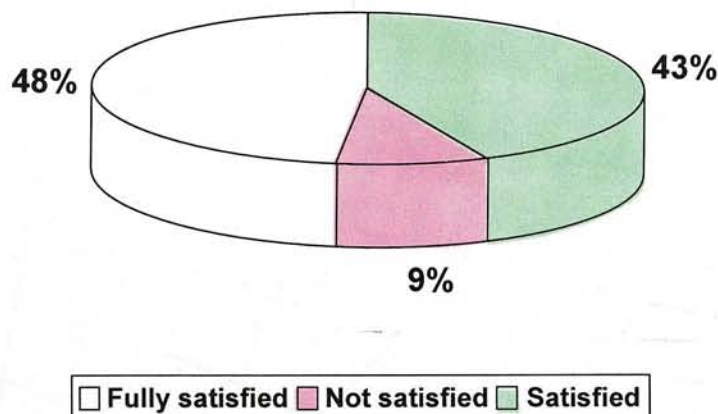
Workers who chose friendly treatment as their best reward following hajj assignment represented the highest percentage of overall satisfaction (95.7%,  $P = 0.016$ ).

— Reported by: Dr. Fahad Alswaidi, Dr. Abdul Jamil Choudhry (Field Epidemiology Training Program)

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Figure 1:

Over all satisfaction of MOH workers in Makkah during hajj season 1424 H.





# Evaluation of the satisfaction of Ministry of Health workers in the sacred places during Hajj season, 1424 H, cont....

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**Editorial note:** If 50% is assumed as the cutpoint between high and low levels of overall satisfaction, then (91%) is considered a very high percentage of satisfaction, which is against the general perception that most MOH workers are dissatisfied with their hajj assignments. Satisfaction levels were high for most of the hajj assignment stages. This high level of satisfaction may be attributed to improvement of the health care facilities provided to HCW during hajj duty in the form of new buildings and availability of necessary appliances at the accommodation areas.

The authors believe that the most important reason behind this high satisfaction rate may be Islamic spiritual drive, since many of the respondents stated by writing on the questionnaire (I participated to serve the guests of Al Rahman and I am seeking the reward from Allah). Unfortunately, no question about this spiritual aspect was included in the questionnaire.

It was clear that the majority of HCW assigned to hajj duty were young and male to cope with the stressful work demand. The distribution of the job categories and numbers of workers in each type of facility was rational with the goals of MOH in providing health services during hajj, where nurses and doctors represent the highest categories of HCW consecutively, and hospitals were allocated the highest number of workers.

The statistical associations between the factors of each stage namely selection, reception, transportation, residence, work environment and financial compensation and the overall satisfaction, significantly reveal that the highest level of overall dissatisfaction was among those dissatisfied with the work environment, whereas the financial compensation had the lowest overall dissatisfaction level. Also, when the associations between the same factors and the indirect satisfaction measures (will you participate in the next hajj season? And will you recommend for your colleagues to participate in hajj?) were investigated,

the same result was detected, in which, those who were not satisfied with the work environment reported the highest percentages of not recommending for their colleagues participation in hajj duty and also in unwillingness to participate in future Hajj seasons. Also, results of this study reveal that, in spite of the importance of financial compensation, however, in case of hajj duty, the Islamic spiritual motivation and seeking the reward from Allah carries the highest priority.

The findings of this study support McCaslin's findings regarding the importance of a good work environment, accommodation and transportation with job satisfaction, whereby financial compensation was among the least factors associated with job satisfaction.<sup>1</sup> Unpleasant relationships with supervisors and colleagues showed the highest significant dissatisfaction factors in relation to the work environment, which is concordant to several other job satisfaction studies.<sup>2,3</sup>

This study significantly proved that the work environment dissatisfaction factors especially uncomfortable relationships among the workers as well

as with their supervisors are the main determinants in increasing overall dissatisfaction. The high percentage of HCW who choose friendly treatment as the best reward following hajj assignment points to the importance of good relationships among workers in increasing job satisfaction level.

This study demonstrates the necessity of providing enough information for posted HCW about their duties during hajj, and the importance of having well-trained personnel at the reception station in Makkah. Attention should be given to the level of cleanliness of HCW residences.

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**Table 1. The highest dissatisfaction factor in each stage in association to overall dissatisfaction.**

Stage	Highest dissatisfaction factor	P-value
Selection	Time to prepare themselves before hajj assignment was not enough	<0.001
Reception	Treatment of the reception personnel was not satisfactory	<0.001
Residence	The residence was not clean	<0.001
Work Environment	Uncomfortable relationships among workers themselves and with their supervisors	<0.001



# Non-communicable Disease risk factor surveillance in Saudi Arabia.

Surveillance is often defined as the systematic collection, analysis and interpretation of health data and the timely dissemination of this data to policymakers and others. Good quality health information is essential for planning and implementing health policy in all countries. Surveillance provides health information in a timely manner so that countries have the information that they need to fight epidemics now or plan for the future. It is a fundamental tool of public health.

WHO is pursuing surveillance as part of a global strategy for preventing and controlling NCDs and the major risk factors that predict them. The WHO STEP-wise approach to surveillance of NCD risk factors uses a standard survey instrument and a methodology that can be adapted to different country resource settings and help to build country capacity.

The WHO STEP-wise approach to Surveillance of NCD Risk Factors (STEPS) was developed by the WHO

Cross Cluster Surveillance team as part of a global surveillance strategy in response to the growing need for country-level trends in non-communicable diseases. By using the same standardized questions and protocols, all countries can use STEPS information not only for monitoring within-country trends, but also for making between-country comparisons. The approach encourages the collection of small amounts of useful data information on a regular and continuing basis. It focuses on a minimum number of risk factors that predict the major NCDs diseases. This information can, in turn, be used to plan for disease prevention through population-level risk factor reduction

In Saudi Arabia the system for NCD risk factor Surveillance has been planned as a cooperative program between Ministry of Health (represented by General directorate of NCD, and Field Epidemiology Program), King Faisal Specialist Hospital & Research Center and WHO. The

system consists of three major parts: community based data collection on major risk factors, data base infrastructure and data analysis work force. The system is now well in place and data collection and data entry is almost finished. Data analysis will be carried out within a few months and data can be fed into the WHO global InfoBase in the near future.

The NCD InfoBase collects all country-level data on important NCD risk factors for all WHO Member States. There are many different survey instruments available for collecting data on health behaviors and physical measurements of risk exposure. Each instrument has advantages and limitations. The NCD InfoBase acts as a repository for all survey information relevant to 7 risk factors: tobacco use, fruit and vegetable intake, overweight and obesity, raised blood pressure, raised cholesterol, physical inactivity and diabetes.

— Reported by: Dr. Abdul-Ilah I. Kutbi. *MbB.ch, DPH, ABFM.*

## Injection practices and medical waste disposal, cont...

the dose and one to administer the injection to the child.

Recapping needles carries the risk of personal injury. The EPI manual clearly states not to recap needles after injection. Classically, injuries occur as the user either misses the sheath, or if the needle pierces the side and/or end of the cap.<sup>4,6</sup>

Removing needles from syringes after use should not be done manually but by needle cutter sharp boxes. All used injection equipment should be placed in a safety box immediately after use, which should be puncture-proof, water-proof, tamper-proof and fitted with covers. They should be rigid and impermeable to safely retain both the sharps and any residual liquids. They should be color-coded and marked "sharps only".<sup>7</sup> If a safety box is not available, a locally available material can be used to create a functional and safe sharps container, placed within reach of the health worker. Using needle cutter boxes is cost-effective, as only needles are

discarded in the box.

Regulations of WHO on waste segregation and coding recommend that waste be segregated into four different color coded boxes. Only 40% of Eastern GHF segregated the medical waste into the recommended 4 boxes.

This study points to the need for more training on correct injection practices and 'safe injection' techniques. An effective needle stick injury prevention campaign is required. Special attention should be given to medical waste segregation, labeling of waste containers and proper disposal.

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## ملخص باللغة العربية

ومقترحاتهم وتلمس احتياجاتهم سيمكن الوزارة من العمل على تحسين ظروف العمل لهم في المشاعر المقدسة أثناء فترة الحج التي تعد فترة غير اعتيادية للكثير من المكلفين من حيث الزيادة في ضغط العمل والتغير المفاجئ في بيئة العمل عموماً والسكن والإعاشة والمواصلات. لذلك فقد كان من المهم القيام بدراسة علمية تبحث عن مدى رضا العاملين من وزارة الصحة أثناء موسم الحج في المشاعر المقدسة لعام ١٤٢٤ هـ. بعد استخدام المعادلات الإحصائية المناسبة لنوع الدراسة حصلنا في النهاية على العدد ١٠٠٠ كحجم تقديري للعينة. ثم تم توزيع استبيان يعاً من قبل المشاركين في الدراسة بعد أخذ الموافقات اللازمة.

كان حصيلته جمع الاستبيانات المعبأة ٧١٧ استبيان فقط. بلغت نسبة الرضا الإجمالي عن التكليف بالعمل في موسم الحج للعاملين من وزارة الصحة لعام ١٤٢٤ هـ كالتالي: الراضون جداً ٤٣%، الراضون فقط ٤٨%، عدم الرضا ٩%. كان المتوسط العمري للمكلفين المشاركين في الدراسة ٣٦ سنة. بلغ نسبة الذكور ٧٥,٣% ونسبة الإناث ٢٤,٧%. نسبة السعوديين ٥٥,٥% بينما مثل العرب ٢٣,٢% وغير العرب ٢١,٣%. مثل الأطباء ٢٨,٢% والتمريض ٣٩,١% والباقي الفنيين والصيادلة والإداريين والمراقبين الصحيين وآخرون.

من خلال كل المراحل التي يمر بها المنتدبون في موسم الحج الراضون إجمالاً عن طريقة اختيارهم للعمل في الحج بلغت نسبتهم ٨٦,٢% أما الراضون عن الاستقبال والمواصلات ٦٧,٩% والراضون عن السكن ٥٥,٩% والراضون عن بيئة العمل ٨٤,٥% وكان نسبة الراضين عن المكافأة المالية التي تقدمها الوزارة بعد انتهاء موسم الحج نسبتهم ٣١,٧%.

أعلى نسبة عدم رضا كانت عن بيئة العمل إجمالاً ٧٧,٩%. عدم الرضا عن طريقة الاختيار وفترة التحضير للتكليف ٤٣,١%. بالنسبة للسكن الذين كانوا غير راضين عن النظافة ٨٦,٥%. رأى ٩٥,٧% أن المعاملة الحسنة وكلمات الإطراء قد تكون كافية من المسؤولين المباشرين كمكافأة. بدأ واضحاً من خلال نتائج الدراسة بأن المنتدبين من وزارة الصحة للعمل في موسم حج ١٤٢٤ هـ كانوا راضين إجمالاً عن التكليف.

اعداد: د. فهد السويدي، د. عبدالجميل شودي (برنامج الوبائيات الحقلية).

أدوات الحقن ذات الاستعمال الواحد وجميعهم استخدموا ابر وحقن جديدة لكل طفل. ١٣,٣% من ممرضات القطاع الحكومي قمن باستخدام قطعة شاش أو عازل عند كسر الأمبولة بينما لم تقم أي ممرضة من القطاع الخاص بذلك. ٤٦,٧% من ممرضات القطاع الحكومي قمن بالاحتفاظ بإبرة على سطح الزجاجاة واستخدامها لسحب كل جرعة من اللقاح. ٣٣,٣% من ممرضات القطاع الحكومي قمن بإعادة غطاء الإبرة إلى مكانه بعد الاستعمال في مقابل ٥٠,٠% من القطاع الخاص و ١٢,٥% منهن قمن بفصل الإبرة عن الحقنة يدوياً بعد الاستعمال في مقابل ٢٠,٠% من ممرضات القطاع الحكومي.

بينت الدراسة حاجة الممرضات عموماً لمزيد من التدريب على مفهوم السلامة أثناء إعطاء اللقاحات، كما بينت أيضاً عدم توفر الحاويات الخاصة في كثير من المنشآت الحكومية مع عدم إتباع القواعد في فصل النفايات خصوصاً في منطقة الرياض والقطاع الخاص، كما بينت الدراسة قصور معرفة جميع العاملات عن طرق التخلص النهائي من النفايات الطبية.

تمت التوصية بالتدريب على الطرق الصحيحة للتخلص من النفايات الطبية مع التأكيد على مبدأ سلامة الطفل والعامل والمجتمع، التأكيد على أهمية وسلامة الممرضة وعدم تعرضها لخطر الإصابة.

إعداد: د. حليلة الجوهر، د. منيرة الزامل، د. سهير الصالح، د. رانده نوح، د. عبد الجميل شودي (برنامج الوبائيات الحقلية).

**مدى رضا العاملين من وزارة الصحة عن العمل في المشاعر المقدسة في موسم حج ١٤٢٤ هـ.**

يعتبر الحج من أهم اولويات حكومة المملكة العربية السعودية التي لا تألوا جهداً في توفير كل ما يلزم لجعل الحج سهلاً ميسراً من خلال جميع الجهات ذات العلاقة بخدمة ضيوف الرحمن والتي من أهمها وزارة الصحة التي تعتبر المقدم الرئيسي للخدمات الصحية في المشاعر المقدسة والمدينة المنورة من خلال العديد من المنشآت الصحية الدائمة و الموسمية في منى ومزدلفة وعرفات، والتي يتم تشغيلها بما يقارب ١٠٠٠٠ موظف من جميع التخصصات الطبية والإدارية من الذين يتم تكليفهم سنوياً من جميع مديريات الشؤون الصحية بمختلف مناطق المملكة. هذه القوى العاملة هي الأساس في منظومة الخدمات الصحية في الحج، ومن هذا المنطلق فإن الاهتمام بأرائهم

**دراسة عن استعمال المحاقن و النفايات الطبية في برنامج التحصين الموسع بالمملكة العربية السعودية.**

تمت هذه الدراسة لتقييم مدى تطبيق العاملين في المجال الصحي لمبدأ السلامة أثناء إعطاء اللقاح للطفل و مدى تطبيق القواعد الأساسية في طرق التخلص من النفايات الطبية. قام فريق من برنامج الوبائيات الحقلية بدراسة مقطعية شملت مدينة الرياض والمنطقة الشرقية للقطاعين الحكومي والخاص، تم فيها أخذ عينة عشوائية لـ ٦٠ مركز صحي حكومي و خاص.

في منطقة الرياض تمت معاينة ٢٢ مركز صحي حكومي و ١٥ مستوصف خاص. وجد أن جميع العاملين من الإناث، وكانت أغليتهن من السعوديات في القطاع الحكومي (٧٢,٧%) و من غير السعوديات في القطاع الخاص (٨٦,٧%). جميع المراكز الحكومية قامت بتوفير عيادة خاصة للتطعيم في مقابل ٧٣,٣% من الخاصة. تم تخصيص أكثر من ممرضة لعيادة التطعيم في ٧٢,٧% مركز حكومي و ٢٦,٧% مستوصف خاص.

بمعاينة جميع الخطوات التي قامت الممرضة بها لإعطاء اللقاح لكل طفل، جميع الممرضات في كل من القطاعات الحكومية والخاصة استخدمن أدوات الحقن ذات الاستعمال الواحد وجميعهم استخدمن ابر وحقن جديدة لكل طفل. وجد أيضاً أن ٦٣,٦% من ممرضات القطاع الحكومي استخدمن قطعة شاش أو عازل عند كسر الأمبولة لتجنب الإصابات يقابلها ٤٠,٠% فقط من ممرضات القطاع الخاص. ٤٥,٥% من ممرضات القطاع الحكومي قمن بالاحتفاظ بإبرة على سطح الزجاجاة و استخدامها لسحب كل جرعة طوال فترة التطعيم يقابلها ٦٠,٧% من ممرضات القطاع الخاص.

وجد أن ٢٢,٧% من ممرضات القطاع الحكومي قمن بإعادة غطاء الإبرة إلى مكانه بعد الاستخدام، مقابل ٨٠,٠% من القطاع الخاص. ٣٦,٤% من ممرضات القطاع الحكومي قامت بفصل الإبرة عن الحقنة يدوياً بعد الاستعمال في مقابل ٢٦,٧% ممرضة قطاع خاص.

في المنطقة الشرقية قام الفريق بزيارة ١٥ مركز حكومي و ٨ مستوصفات خاصة. وجد أن جميع العاملات من الإناث، شكلت الجنسية السعودية ٩٣,٣% في القطاع الحكومي و الغير سعودية (١٠٠%) في القطاع الخاص.

جميع المراكز الحكومية و ٥٠,٠% من المستوصفات الخاصة قامت بتخصيص عيادة للتطعيم. جميع الممرضات قمن باستخدام

## Mark your calendar . . .

### Inside the Kingdom

#### Dec 01, 2004: AIDS Workshop

Location: Riyadh. Contact: King Faisal Specialist Hospital & Research Centre.

Phone: 011-96-61-442-7238, Fax: 011-96-61-442-4153,

Email: [web\\_symposia@kfshrc.edu.sa](mailto:web_symposia@kfshrc.edu.sa),

Website: [www.kfshrc.edu.sa/symposia](http://www.kfshrc.edu.sa/symposia)

### Outside the Kingdom

#### Nov. 11-14, 2004: Annual Conference On Patient Education (STFM)

Location: San Francisco, CA. Hyatt Regency San Francisco.

Contact: Ray Rosetta, Program Director. Address: PO Box 7370, Shawnee Mission, KS 66207-0370.

Phone: (913) 906-6000, Fax: (913) 906-6096

Email: [rrosetta@stfm.org](mailto:rrosetta@stfm.org)

Website: [www.stfm.org](http://www.stfm.org)

#### Dec. 1-4, 2004: Annual Conference On Care Of Women Over 40

Location: Maui, HI, Maui Prince

Address: 399 Taylor Blvd., Suite 201, Pleasant Hill, CA 94523.

Tel.: (800) 327-3161 or (925) 969-1789, Fax: (925) 969-1795

Email: [info@symposiamedicus.org](mailto:info@symposiamedicus.org)

Website: [www.symposiamedicus.org](http://www.symposiamedicus.org)

#### Dec. 8-10, 2004: Maternal and Child Health (MCH) Epidemiology Conference

Location: Atlanta, GA. Omni Hotel at CNN Center

Contact: CDC Division of Reproductive Health. Address: 1600 Clifton Road, Atlanta, GA. Phone: 770-488-5200

Email: [MCHEPI@cdc.gov](mailto:MCHEPI@cdc.gov)

Website: [www.cdc.gov](http://www.cdc.gov)

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The *Saudi Epidemiology Bulletin* welcomes reports from the regions. Please send your reports to the address shown. Thank you.

#### Department of Preventive Medicine:

Dr. Yagoub Al-Mazroa

Assistant Deputy Minister for Preventive Medicine, and SEB Supervisor

Dr. Mohammed Al-Jefri

General Director, Parasitic and Infectious Diseases Department

Dr. Amin Mishkhas

Director, Infectious Diseases Department

#### Field Epidemiology Training Program:

Dr. Nasser Al-Hamdan, FETP

Supervisor, SEB Editor-in-Chief

Dr. Randa Nooh

Consultant Epidemiologist, Bulletin Editor

Dr. Abdul Jamil Choudhry

Consultant Epidemiologist, Bulletin Editor.

Send correspondence, comments, calendar listings, or articles to:

#### **Saudi Epidemiology Bulletin**

Editor-in-Chief

P.O. Box 6344

Riyadh 11442, Saudi Arabia

☎ For epidemiological assistance,

call or fax the FETP at

01-496-0163

e-mail: [fetp@naseej.com.sa](mailto:fetp@naseej.com.sa)



## Selected notifiable diseases by region, Jul—Sept 2004

	Riyadh	Makkah	Jeddah	Taif	Madinah	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jizan	Najran	Baha	Al-Jouf	Gorlat	Gonfuda	Total
Measles	34	0	15	1	6	0	1	0	0	93	0	1	0	0	52	9	1	0	0	0	213
Mumps	5	0	9	5	6	6	2	1	5	0	0	1	1	0	2	1	0	0	0	0	44
Rubella	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Varicella	2035	348	1050	404	263	994	706	1164	322	1298	229	604	123	88	267	119	261	42	59	24	10400
Brucellosis	179	1	4	38	36	243	20	13	80	397	82	26	154	25	82	49	17	5	0	9	1460
Meningitis mening.	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
Meningitis other	46	6	27	3	17	9	2	4	3	4	2	7	0	0	0	0	0	0	0	0	130
Hepatitis A	111	13	26	21	2	35	30	26	47	53	13	62	21	12	93	98	3	12	25	2	705
Hepatitis B	276	13	341	93	21	86	174	13	1	54	17	97	9	2	16	2	54	1	0	46	1316
Hepatitis C	162	9	324	56	11	31	100	17	1	25	8	34	5	0	4	2	30	0	0	25	844
Hepatitis unspecified	70	2	9	0	0	0	3	12	0	40	0	30	2	0	123	0	0	0	0	0	291
Typhoid & paratyphoid	10	2	0	11	0	3	9	11	0	15	3	2	11	5	8	0	1	0	0	1	92
Amoebic dysentery	23	1	482	20	35	4	26	18	5	88	15	0	1	3	22	9	0	0	1	1	754
Shigellosis	17	0	4	1	0	9	13	1	0	0	0	4	0	0	3	1	1	0	0	1	55
Salmonellosis	178	1	39	2	3	0	254	34	11	10	6	24	0	14	2	23	13	0	0	1	615
Syphilis	12	0	21	0	0	3	14	0	0	2	1	0	0	0	0	0	0	0	0	2	55
VD, other	3	0	18	0	0	3	13	3	2	2	2	0	0	0	8	0	0	0	0	0	54

## Comparisons of selected notifiable diseases, Jul - Sept 2003-2004

DISEASE	Jul-Sept 2003	Jul-Sept 2004	Change %	Jan-Sept 2004	Jan-Dec 2003	DISEASE	Jul-Sept 2003	Jul-Sept 2004	Change %	Jan-Sept 2004	Jan-Dec 2003
Diphtheria	0	0	0	0	2	Meningitis other	98	130	33	403	494
Pertussis	54	30	-44	57	120	Hepatitis A	401	705	76	2329	2104
Tetanus, neonat	6	4	-33	29	31	Hepatitis B	1039	1316	27	3620	4329
Tetanus, other	3	2	-33	7	12	Hepatitis C	683	844	24	2327	2812
Poliomyelitis	0	0	0	0	0	Hepatitis unspecified	241	291	21	911	1101
Measles	49	213	335	1606	1208	Typhoid & paratyphoid	128	92	-28	297	403
Mumps	149	44	-70	308	749	Amoebic dysentery	561	754	34	2087	2328
Rubella	5	2	-60	13	22	Shigellosis	116	55	-53	72	490
Varicella	10979	10400	-5	57881	70884	Salmonellosis	770	615	-20	1411	2219
Brucellosis	1069	1460	37	4277	4534	Syphilis	40	58	45	201	166
Meningitis mening.	7	3	-57	8	44	VD, other	110	85	-23	262	382

## Diseases of low frequency, Jul - Sept 2004

Yellow fever, Plague, Poliomyelitis, Rabies, Haemolytic Uraemic Syndrome, Purperal Sepsis: No cases

Pertussis: 30 cases (Hasa 8, Riyadh 6, Qunfudah 5, Hail 4, Eastern 3, Makkah 2, Najran 2)

Tetanus neonatorum: 4 cases (Makkah 3, Jeddah 1)

Echinococcosis: 11 cases (Baha 6, Riyadh 2, Eastern 2, Hafr Al-Batin 1)

Guillain-Barre syndrome: 22 cases (Riyadh 4, Makkah 3, Eastern 3, Assir 3, Madinah 2, Jeddah 2, Qassim 1, Taif 1, Bisha 1, Baha 1)