



المملكة العربية السعودية
وزارة الصحة
وكالة الوزارة للصحة العامة
الوكالة المساعدة للصحة الوقائية
برنامج الوبائيات الحقلية



النشرة الوبائية السعودية

Saudi Epidemiology Bulletin

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Scabies outbreak in a Makkah city, Saudi Arabia, 2018.

Human scabies is a parasitic skin disease caused by the mite *Sarcoptes scabiei* var. *hominis*. It is characterized by intense itching and a pimple-like rash. The mites usually transmit person-to-person through close skin contact (e.g. living in the same residence) with an infested individual. The disease spreads rapidly under crowded conditions such as nursing homes and prisons (1). In persons without previous exposure, the incubation period is two to six weeks before the onset of itching (2).

This report is about a massive scabies outbreak in Makkah in March 2018 that involved many schools in different districts. We aimed to estimate the extent of the outbreak, to identify possible determinants for the spread, and to describe control measures to prevent further outbreaks.

We conducted a descriptive cross-sectional study. To identify cases, we used the Saudi Ministry of Health (MOH) case definition: "any individual who lives in Makkah, from any age group, who has a skin scraping with identified mites, mite eggs or mite feces (if not accessible, clinical diagnosis by a dermatologist or an experienced family physician is acceptable) in the first semester of 2018." We collected data from schools, healthcare centers, and the preventive medicine department.

Out of 4,178 of scabies cases, 2,118 (51%) were males. The mean age was 26 years (range: 6 months to 82 years). The overall attack rate in Makkah was 2 cases per 1,000 people, with no reported deaths. Most (82%) of the cases were non-Saudi living in slums (78% of them were Burmese). No cases were reported among religious pilgrims to Makkah.

During the investigation period, 2,272 (53%) of the cases were detected in schools; including 2,226 (98%) pupils and 45 (2%) teachers. The attack rate in schools was 6 cases per 1,000 persons. Laboratory and environmental investigations revealed positive cases (sample of 31 cases all positive) and poor hygiene and sanitation of the affected districts.

As control measures, field teams were formed for active surveillance, mass treatment campaigns, and health education campaigns. Mobile clinics visited affected districts. Primary healthcare centers were fortified by dermatologists and supplied with anti-scabies medications.

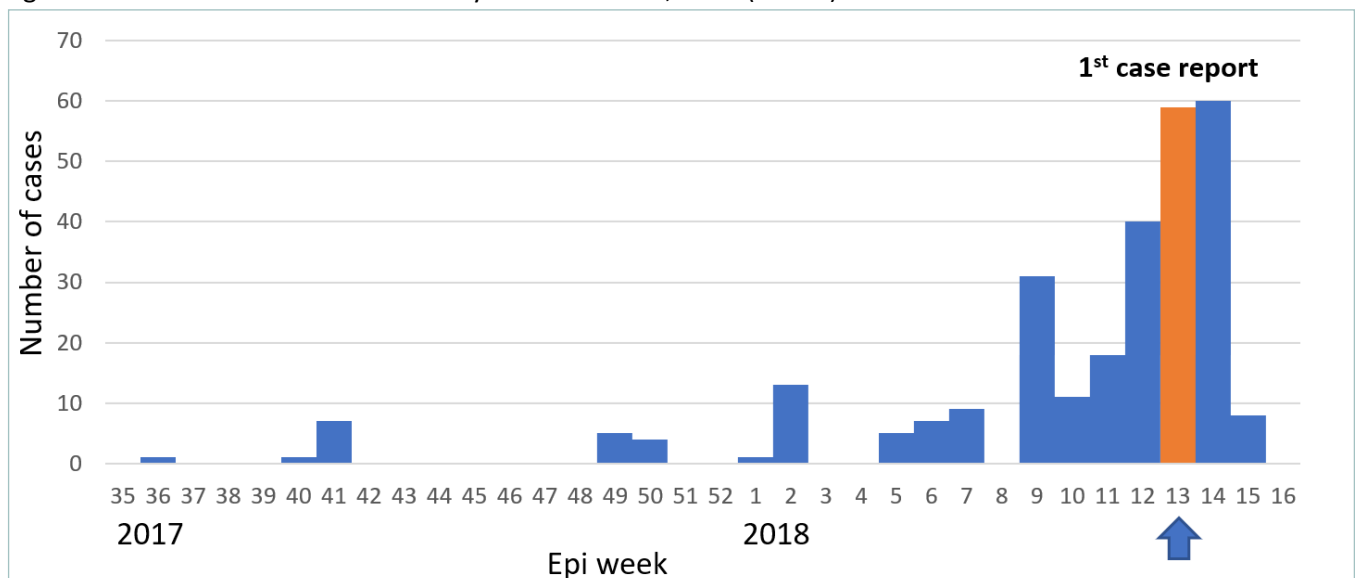
Reported by: Dr. Sultan Al-Dahash, Dr. Shady Kamel, Dr. Asmaa A. Al-Qusibri.

Editorial notes: Scabies is a common public health problem. Global scabies prevalence is estimated at more than 200 million people at any time (3). Further global efforts are needed to assess and address this burden. In 2017, WHO has added scabies as the neglected tropical diseases (NTDs) portfolio that requires intensified and integrated appropriate measures for effective control.

In Saudi Arabia, human scabies although has been present for long, but there is a scarcity of studies exploring spread risk and associated factors (4). This might be due to non-inclusion of the disease in notification systems. In the Western Region of the Kingdom, associations with crowding and lower socioeconomic status were reported (4). For the public, it is an issue of concern; especially when scabies occurs in a city such

(Continued on page 3)

Figure 1: : Cases of scabies in Makkah by week of illness; 2018 (n=283)



Scabies outbreak in a Makkah city, Saudi Arabia, 2018. cont...

as Makkah which is visited yearly by millions of Muslim pilgrims (2).

Similar large-scale scabies outbreaks showed the need for a high degree of motivation, robust active surveillance, treatment of all exposed individuals, and follow-up. Surveillance is a must with emphasis on standardised diagnosis and disease mapping (5).

References:

1. Centers for Disease Control and Prevention. CDC - Scabies - General Information - Frequently Asked Questions (FAQs) [Internet]. CDC. Available from: https://www.cdc.gov/parasites/scabies/gen_info/faqs.html
2. Ministry of Health Saudi Arabia. MOH News - Statement of Clarification on Scabies and How to Handle Reported Cases in Makkah [Internet]. Ministry of Health Saudi Arabia. 2018. Available from: <https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/news-2018-04-03-006.aspx>
3. World Health Organization. WHO | Scabies [Internet]. WHO. Available from: http://www.who.int/neglected_diseases/diseases/scabies/en/
4. Abou Zinada NY. Scabies in some workers living in crowded area, Jeddah, Saudi Arabia. *J Egypt Soc Parasitol.* 2000 Apr;30(1):325–8.
5. Stoevesandt J, Carle L, Leverkus M, Hamm H. Control of large institutional scabies outbreaks. *J Dtsch Dermatol Ges.* 2012 Sep;10(9):637–47.

Keywords: Scabies, Disease Outbreaks, Saudi Arabia

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Sociodemographic characteristics and smoking behaviors among visitors to smoking cessation clinics in Riyadh, 2018.

Tobacco kills more than 8 million people each year: 7 million deaths are among smokers and around 1.2 million are among individuals exposed to second-hand smoke (1). Smoking is a major health problem in Saudi Arabia. The prevalence of smoking in Saudi Arabia was 12.2% in 2013 according to a national survey, and 15% in 2017 according to WHO (2,3).

We conducted a descriptive cross-sectional study to describe the sociodemographic characteristics of smokers with the intent on quitting in Riyadh and to determine factors associated with consumption. We used stratified random sampling technique to select current smokers from the five functional smoking cessation clinics in the city in 2018. We recruited a total of 162 participants aged 18 to 61 years and interviewed them using a structured questionnaire.

Participants ranged in age from 18 to 61 years (mean=36 years). All were males. Around 45% were married, 42% were singles, and the remaining 13% were divorced. Most (78%) were educated at the university level or higher. Similarly, most (89%) were employed. Most smokers (53%) earn 5,001-15,000 SAR per month. Only 15% earn less than 5,000 SAR and the remaining 34% earn above 15,000 SAR monthly.

The commonest reported reasons for initiating smoking were mitigating stress (46%) and imitating friends (28%) as presented in Figure 1. Reported triggering factors to initiate smoking included mitigating stress (46%), imitating friends (28%), depression (20%), and imitating family members (5%). Around 15% of them reported initiating smoking during their childhood (below 18 years). Over half (59%) had previously attempted quitting.

We found 28% of the smokers reported consuming 20 cigarettes per day or more, and therefore are considered heavy smokers (4). Heavy smoking was significantly associated with age, marital status, monthly income, and employment; however, not with educational level. The proportions of heavy smokers increased among higher age ($p<0.01$), married compared to single and divorced ($p<0.01$), and smokers with higher monthly income ($p<0.01$).

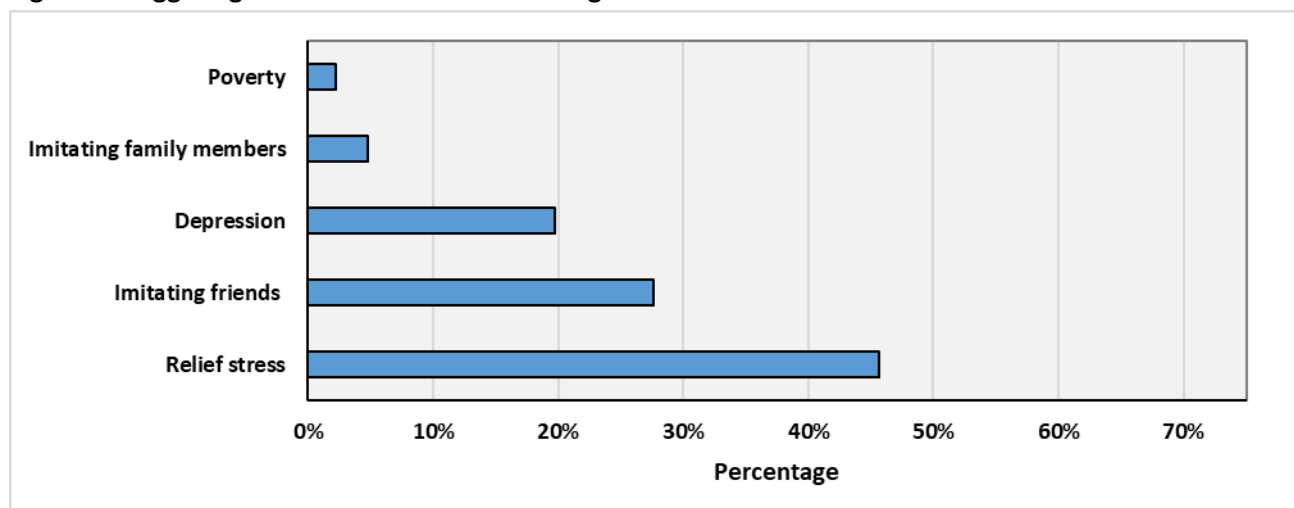
Most reported comorbidities included allergy (20%), and cardiovascular disease (11%). Only allergy and cardiovascular disease were significantly associated with heavy smoking ($p<0.01$). Around 46% of participants also complained of loss of appetite.

Reported by: Dr. Motaz Salem Al Yami, Dr. Bader Al Ibrahim.

Editorial notes: The Ministry of Health is strongly working to control tobacco use in Saudi Arabia. A lot of efforts are done to reduce smoking initiation and encourage quitting (anti-smoking awareness media campaigns, smoking cessation clinics, tobacco products taxes, etc.). Substantial scientific evidence shows that quitting smoking is one of the most important things a person can do for his or her health.

This study was done among smokers at cessation clinics in Riyadh, and its findings do not represent the characteristics of all smokers in Saudi Arabia i.e. those attempting and not attempting quitting. However, it is very useful to consider which groups might have barriers to access smoking cessation services. For example, all the sampled smokers were males, which could

Figure 1: Triggering factors for initiation smoking



Sociodemographic characteristics and smoking behaviors among visitors to smoking cessation clinics in Riyadh, 2018. cont...

mean very few women (or none at all) are using the service. This might be explained by the fear among women to declare that they are smokers. Qualitative or mixed methods studies could be useful to explore what are the barriers to accessing the services and what approaches might boost use of smoking cessation services such as female only clinics or integrating the service with routine healthcare.

New solutions and innovations need to be considered to increase the accessibility of women to these clinics. For example, a study in Korea found that females and younger aged preferred web and telephone-based cessation services (5). A large systematic review concluded that smoking cessation interventions using web-based and mobile health (mHealth) platform resulted in significantly greater smoking abstinence compared to usual care (6).

Reference:

1. World Health Organisation. Tobacco [Internet]. Available from: <https://www.who.int/news-room/fact-sheets/detail/tobacco>.
2. Moradi-Lakeh M, El Bcheraoui C, Tuffaha M, Daoud F, Al Saeedi M, Basulaiman M, et al. Tobacco consumption in the Kingdom of Saudi Arabia, 2013: Findings from a national survey Health promotion and society. BMC Public Health. 2015;15(1).
3. Tobacco consumption in the Kingdom of Saudi Arabia, 2013: findings from a national survey | BMC Public Health | Full Text [Internet]. [cited 2019 Oct 1]. Available from: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-015-1902-3>.
4. Action on smoking and health. Smoking statistics-who smokes and how much. ASH Fact Sheet [Internet]. 2016. Available from: <http://ash.org.uk/wp-content/uploads/2016/06/Smoking-Statistics-Who-Smokes-and-How-Much.pdf>
5. Jeong BY, Lim MK, Yun EH, Oh J-K. User characteristics of national smoking cessation services in Korea: who chooses each type of tobacco cessation program? BMC Health Serv Res. 2019 Jan;19(1):14.
6. Do HP, Tran BX, Pham QL, Nguyen LH, Tran TT, Latkin CA, et al. Which eHealth interventions are most effective for smoking cessation? A systematic review [Internet]. Patient Preference and Adherence. 2018 [cited 2019 Oct 3]. Available from: <https://www.dovepress.com/which-ehealth-interventions-are-most-effective-for-smoking-cessation-a-peer-reviewed-article-PPA>.

Keywords: Tobacco Smoking, Smoking Cessation, Socioeconomic Factors

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Foodborne disease outbreak among Sudanese pilgrims at a hotel in Jeddah, August 2017.

In August 2017, we investigated an outbreak of a foodborne disease among Hajj pilgrims staying at a hotel in Jeddah. A mission of pilgrims who had just arrived in Jeddah from Sudan on the afternoon of 23rd August. They were received in Norcom Hotel at 4:00 pm. The hotel served dinner to all of them between 7:00 pm and 11:00 pm.

Initially, a group of 10 pilgrims developed acute gastrointestinal (GI) symptoms starting at 8:00 PM and presented to the Emergency Room of King Abdelaziz Hospital. Other sick pilgrims were reported at the hotel. We interviewed patients using a standard foodborne outbreak questionnaire. All were Sudanese pilgrims, ate food served at the hotel, and, then, developed GI symptoms. The hotel was notified immediately and the food was retained.

Inspection of the hotel and the vending restaurant revealed below standard hygiene. The restaurant was found to be unlicensed and was closed by the municipality. The meal was prepared at 12:00 PM and was packed into 1,250 packets. Each packet contained chicken, okra, white beans and pickled salad. It was transported by an open truck, without temperature control, and delivered to the hotel at 4:30 pm. Food handlers did not have fresh wounds, and there were no pet animals at the restaurant.

We conducted a case-control study to determine the source of the GI illness. We defined a case as any pilgrim from Sudan, that stayed in the Norcom hotel and had any GI symptoms (nausea, vomiting, abdominal pain or diarrhea) between 8:00 pm on 23rd and

1:00 am on 24th August. Controls were asymptomatic individuals recruited from the same hotel. We identified 141 cases (69% female) with a mean age of 53 years. The first few cases started complaining of GI illness at 8:00 pm on 23rd August and the last cases at 1:00 am on the following day with a peak at 11:00 pm (Figure 1).

Reported symptoms included nausea (83%), vomiting (75%), diarrhea (61%), abdominal pain (60%), headache (45%), and fever (10%). The mean incubation period (time between food consumption and the onset of illness) was 2.2 hours (range: 1-5 hours). All cases recovered in less than 24 hours. None of the hotel staff or guests had reported GI illness in the previous two days. Only chicken (consumed by 96% of cases) had a significant odds ratio (OR=3.0, 95%CI 1.0-8.6; $p=0.03$).

Laboratory tests were ordered for samples from the stool of the first 10 patients, food packets, and nasal and throat swabs from all the food handlers. However, no pathogen (*Shigella*, *Salmonella*, *V. cholerae*, *S. aureus*, *Bacillus cereus*, and *Clostridium* species) was found in all samples; however, fecal flora was isolated indicating fecal contamination. Unfortunately, toxicology testing kits were not available. We concluded the outbreak was most likely caused by eating contaminated chicken served at the dinner meal on 23rd August 2017, although the exact type of contamination is unknown.

Reported by: Dr. Ali Ahmed Theban, Dr. Sami Almudarra, Dr. Ahmad M Al-Asmari

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Figure 1: Cases of GI illness among Sudanese pilgrims at a hotel in Jeddah by the time of onset of symptoms on 23-24 August 2017 (n=141)



Foodborne disease outbreak among Sudanese pilgrims at a hotel in Jeddah, August 2017. cont...

Editorial notes: Foodborne diseases (FBDs) are a very important public health issue in the Kingdom. FBDs outbreaks are not infrequent especially during the summer months and Hajj season. FBDs outbreaks have occurred among pilgrims as well as Hajj workers (1,2). Meat and chicken are the main items incriminated in these outbreaks(1).

In this outbreak, all cases reported eating the provided meal. The clinical picture of the rapid onset of acute GI symptoms with little fever and the short incubation period (1-5 hours) point to a preformed enterotoxin. The epidemic curve (Figure 1) is typical of a common source (point) outbreak. These suggest that a food item (most probably chicken) was contaminated with *Staphylococcus aureus* enterotoxin.

Food preparation in an unhygienic environment, and storage of prepared foods at an uncontrolled temperature were most likely contributing factors in this outbreak. Toxicology testing could have provided confirmation. Lack of testing kits represents a critical gap in resolving foodborne disease outbreaks.

Training and monitoring on food safety in the food preparation process are needed to raise the awareness of food handlers as well as the public in general (1). The MOH needs to coordinate with other authorities to intensify supervision of restaurants and food handlers, especially during Hajj.

Reference:

1. Al-Mazrou YY. Food poisoning in Saudi Arabia. Potential for prevention? Saudi Med J. 2004 Jan;25(1):11-4.
2. Al-Joudi AS. An outbreak of foodborne diarrheal illness among soldiers in mina during hajj: the role of consumer food handling behaviors. J Fam Community Med. 2007;14(1):29-33.

Keywords: Foodborne Diseases, Disease Outbreaks, Saudi Arabia

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Evaluating the usability and perceived impact of HESN in infection control bundles.

In Saudi Arabia, the Health Electronic Surveillance Network (HESN) is a web-based integrated public health information system launched in 2012 to accommodate all Saudi public health programs (1). In March 2016, infection control (IC) bundles were introduced in HESN to address factors related to the spread of infections within the healthcare setting. A bundle is a set of evidence-based interventions that, when applied collectively, ensure reliable and consistent application for all patients thereby improving outcomes (2). Surveillance of IC bundles aims to improvements in storage and retrieval of patient information, improving quality of services, and reducing errors (2).

We sought to assess the satisfaction of infection prevention practitioners using HESN, identifying the barriers and weaknesses these practitioners face, and finally suggest recommendations to improve use of HESN in infection control. At the time of our study, HESN has only been applied at intensive care units (ICUs) in MOH hospitals with 500 beds or more.

We conducted a cross-sectional study of health care workers registered as IC bundle users in HESN in the ICUs of 82 hospitals around Saudi Arabia. We invited all of them (220 users) in January-February 2017 (almost one year after launching of HESN for IC) to complete an online survey. We obtained 151 responses giving a response rate of 69%. We collected information on demographics, technical knowledge and experience, use of HESN, their opinions on usage and design of HESN, and their ideas to improve the system.

The majority (93%) of participants reported received training on HESN, however, 62% reported that they needed more training on HESN. More than half of the participants (57%) reported using HESN several times a day.

Regarding performance of HESN platform, most (61%) agreed that it was easy to log in and log out, and 50% believed that it was easy to open/close all the options and menus; however, 30% disagreed that HESN rarely froze or stopped working. Regarding the interface, 66% participants believed it was well-organized, 65% agreed that the key functions or buttons had a clear format and specific order and 65% agreed that the browser fit the screen properly.

For day-to-day work in HESN, 64% agreed that HESN is easy to save work to, 60% agreed that HESN could automatically detect wrongly recorded dates, 62% reported that they could easily move between the different icons/options, present data in an easy and clear format (66%), and could easily produce tables and graphs (58%). Regarding errors, 26% of participants disagreed that unjustified errors were rare, however, 53% of them reported that they always received instant help by IT people or seniors.

For logistics support, half of the participants (50%) agreed that there were enough computers; however, almost half of the participants believed that the number of staff was not sufficient (49%) or not enough time to enter or extract the data (49%). More than three-quarters of participants (79%) realize the role and importance of HESN in infection prevention and control and two-thirds (65%) were overall satisfied with HESN in IC.

Above half of the participants were satisfied with HESN in relation to IC bundles applications such as IC icons compatibility with national health surveillance network (NHSN) definitions, manuals and guidelines, completeness and quality of laboratory data, organisms and their categories (Table 1). Most of them also

(Continued on page 9)

Table 1: Perceptions of participants on some aspects of HESN for IC bundles

Perceptions on IC aspects of HESN	Disagree	Neutral	Agree
IC icons are compatible HESN definitions	24%	17%	58%
IC manuals & Guidelines help in data entry	31%	23%	46%
Suggestion to introduce hand hygiene to HESN	13%	27%	60%
Complete and quality laboratory data	13%	23%	63%
Clear icons of organisms, categories & sensitivity	13%	26%	60%
The system of notification is useful	19%	21%	59%
Printing of important information is easy	14%	25%	61%
Tracking entered data & progress are easy	9%	22%	68%

Evaluating the usability and perceived impact of HESN in infection control bundles. cont...

suggested the addition of hand hygiene to the system. However, about a quarter of the participants are not satisfied with tracking entered cases and follow-up of their progression in HESN (Table 1).

The satisfaction level of HESN was found to be significantly higher among participants aged above 35 years (90% vs. 74%, $p=0.02$), female health care workers (86% vs. 60%, $p<0.01$), and lower among masters and PhD holders (63%) compared to diploma (86%) and bachelor (85%) holders ($p<0.05$). There were no significant associations with being a nurse or a doctor, years of experience in IC, or self-perception of computer skills level. The satisfaction of HESN was also significantly associated with frequency of daily use; daily use of HESN was associated with greater satisfaction level ($p<0.01$). Slower internet was also associated with decreased satisfaction ($p<0.05$).

Belief that HESN requires further design improvements was found to be significantly higher among participants who were female health care workers (84% vs. 40%, $p<0.01$), masters and PhD holders (82%) compared to diploma (44%) and bachelor (40%) holders ($p<0.01$), and doctors (81%) compared to nurses (42%, $p<0.01$). There were no significant associations with age or years of experience in IC.

Reported by: Dr. Haifa Al-Kheledan, Randa Nooh

Editorial notes: WHO defines public health surveillance as the continuous systematic collection, analysis and interpretation of health-related data for the planning, implementation, and evaluation of public health practice (3). The purpose has remained the same while developing drivers of health information from traditional paper-based records to electronic records (4). Effective IC surveillance is necessary to measure the success of IC programs and to identify areas for improvement.

The study above represents IC practitioners working in ICUs using HESN for IC surveillance in ICUs of in Saudi MOH hospitals, however, the identified high level of satisfaction among them is comparable to the

findings of another study of immunization or communicable diseases users of HESN who were also mostly satisfied (5).

The practitioners recommended some improvement to ensure achieving objectives, such as the introduction of hand hygiene as suggested by 59% of them. This is very important as it is the most important single preventive measure for IC (6). Further research to evaluate the success and impact of HESN in Saudi Arabia is encouraged.

Reference:

1. What is HESN? - HESN Portal [Internet]. [cited 2019 Jun 25]. Available from: <https://hesn.moh.gov.sa/webportal/what-is-hesn->
2. Khalid I, Al Salmi H, Qushmaq I, Al Hroub M, Kadri M, Qabajah MR. Itemizing the bundle: achieving and maintaining 'zero' central line-associated bloodstream infection for over a year in a tertiary care hospital in Saudi Arabia. *Am J Infect Control*. 2013 Dec;41(12):1209–13.
3. World Health Organization. WHO | Public health surveillance [Internet]. WHO. [cited 2019 Jul 2]. Available from: http://www.who.int/topics/public_health_surveillance/en/
4. Lee LM, Thacker SB. Public Health Surveillance and Knowing About Health in the Context of Growing Sources of Health Data. *Am J Prev Med*. 2011 Dec 1;41(6):636–40.
5. Mayahi ZA, Alswaidi F, Alzahrani A. Perception of the Health Surveillance Users on the Health Electronic Surveillance Network (HESN) of Saudi Ministry of Health. *Iproceedings*. 2018;4(1):e10551.
6. Stahmeyer JT, Lutze B, von Lengerke T, Chaberny IF, Krauth C. Hand hygiene in intensive care units: a matter of time? *J Hosp Infect*. 2017 Apr 1;95(4):338–43.

Keywords: Surveillance, Infection Control, Saudi Arabia

ملخص باللغة العربية

تفشي الجرب في مدينة مكة المكرمة، المملكة العربية السعودية، عام ٢٠١٨ م

٩٨٪ تلاميذ و٢٪ معلمين. وقد كشفت الزيارات عن قلة النظافة وسوء الصرف الصحي في المناطق المتضررة. لاحتواء تفشي المرض، تم تشكيل فرق ميدانية للبحث النشط عن الحالات، وحملات العلاج لكل المصابين، وحملات التثقيف الصحي.

إعداد: د.سلطان الدهش، د.شادي كامل، د.أسماء عبد الله الكسيبي

الجرب البشري هو مرض جلدي يتميز بحكة شديدة وطفح يشبه البثور. وعادة ما ينتقل عث الجرب من شخص لآخر من خلال التعايش مع شخص مصاب. ينتشر المرض بسرعة تحت ظروف الاكتظاظ مثل دور الرعاية والسجون. وتتراوح فترة الحضانه بين أسبوعين إلى ستة أسابيع. يتناول هذا التقرير تفشي مرض الجرب في مكة المكرمة في مارس ٢٠١٨م والذي شمل العديد من المدارس في أماكن مختلفة من منطقة مكة. وقد كان الهدف من الدراسة أن يتم تقدير مدى تفشي المرض، وتحديد عوامل الانتشار، ووصف تدابير مكافحة. تم تعريف الحالات والبحث عنها بأنه "أي شخص يعيش في مكة المكرمة، من أي فئة عمرية، لديه قشط للجلد مع وجود العث، أو بيضها أو برازها وذلك خلال الربع الأول من عام ٢٠١٨م. وقد تم جمع البيانات من المدارس ومراكز الرعاية الصحية وقسم الطب الوقائي.

من بين ٤,١٧٨ حالة الجرب تراوح العمر بين ٦ أشهر و ٨٢ عاماً بمتوسط ٢٦ عاماً ونسبة ٥١٪ منهم ذكور مع عدم وجود وفيات. معظم الحالات كانت بين الجالية البورمية (٧٨٪) خاصة الذين يعيشون في أحياء فقيرة. لم يتم الإبلاغ عن أي حالات بين الحجاج. أكثر من نصف الحالات (٥٣٪) اكتشفت في المدارس؛

ملخص باللغة العربية

العوامل الاجتماعية وسلوكيات التدخين لدى زوار عيادات الإقلاع عن التدخين في الرياض، ٢٠١٨م

في اليوم أو أكثر، وبالتالي كانوا يعتبرون مدخنين شريين. وجدنا أن الشراهة للتدخين ترتبط بشكل كبير بزيادة العمر وبكون المدخن متزوجاً، وارتفاع الدخل الشهري. وقد ارتبط فرط استهلاك التبغ بالحساسية وأمراض القلب والأوعية الدموية. تقوم وزارة الصحة بجهود كبيرة لتقليل انتشار التبغ ولمساعدة المدخنين الحاليين على الإقلاع يتوجب عليها فهم خصائصهم وسلوكياتهم وإيجاد مبادرات تساعد في وصولهم وتلقيهم للخدمات المقدمة في هذا المجال خصوصاً لفئات النساء والشباب.

إعداد: د. معنر سالم اليامي، د. بدر الإبراهيم

وفقاً لمنظمة الصحة العالمية، يقتل التبغ أكثر من ٨ ملايين شخص كل عام، منهم أكثر من ٧ ملايين بالتدخين المباشر وحوالي ١,٢ مليون بالتدخين السلبي. هناك قلق بشأن الاستخدام المتزايد لتدخين التبغ في المملكة العربية السعودية. وبلغ معدل انتشار التدخين في المملكة ١٢,٢٪ في عام ٢٠١٣م وفقاً لمسح وطني و ١٥٪ في عام ٢٠١٧م وفقاً لمنظمة الصحة العالمية. أجرينا دراسة وصفية لكشف الخصائص الاجتماعية والديموغرافية واستهلاك التبغ بين المراجعين لعيادات الإقلاع عن التدخين في الرياض. اخترنا ١٦٢ مدخناً حالياً بشكل عشوائي وتم إجراء المقابلات معهم لأخذ المعلومات.

تراوحت أعمار المدخنين بين ١٨ إلى ٦١ عاماً بمتوسط ٣٦ عاماً. وقد كانوا جميعاً من الرجال. حوالي ٤٥٪ منهم كانوا متزوجين، ٤٢٪ عازبين، و ١٣٪ مطلقين. معظمهم (٧٨٪) تلقوا تعليماً من المستوى الجامعي وما فوق، بينما حصل البقية على تعليم حتى المستوى المدرسي. بالمثل، كان معظمهم (٨٩٪) لديهم وظائف والباقي (١١٪) عاطلين عن العمل. فيما يتعلق بالدخل الشهري، أكثر من النصف (٥٣٪) لديه دخل شهري بين ١٥٠-٥ الف ريال سعودي. ، و ١٥٪ فقط دخلهم أقل من ٥ الف ريال، أما البقية فتجاوز دخلهم ١٥ الف ريال شهرياً.

تضمنت العوامل المسببة لبدء التدخين تخفيف الضغط (٤٦٪) وتقليد الأصدقاء (٢٨٪) والاكتماب (٢٠٪) وتقليد أحد أفراد الأسرة (٥٪). وقد أفاد حوالي ١٥٪ منهم أنهم بدأوا التدخين في طفولتهم. وأكثر من نصفهم (٥٩٪) سبق لهم أن حاولوا الإقلاع عن التدخين. كذلك وجدنا أن حوالي ٢٨٪ من المدخنين يستهلكون 20 سيجارة

ملخص باللغة العربية

فاشية تسمم غذائي بين حجاج من السودان في أحد فنادق مدينة جدة، أغسطس ٢٠١٧م

والحنجرة من جميع محضري الطعام عن أي جرثومة بعينها ولكن تم عزل بكتريا قولونية مما يدل على التلوث البرازي. لسوء الحظ، لم تتوفر حزم اختبارات السموم. بناءً على كل ذلك، تعزى هذه الفاشية للتناول الدجاج الملوث بسبب ضعف مستوى النظافة وسوء حفظ الطعام. هناك حاجة إلى التدريب والرصد على سلامة الأغذية في عملية إعداد الطعام لرفع مستوى الوعي لدى محضري الأطعمة وكذلك عامة الناس. تحتاج وزارة الصحة إلى التنسيق مع السلطات الأخرى لتكثيف الإشراف على المطاعم، وخاصة أثناء الحج.

إعداد: د.علي ثيبان، د.سامي المدرع، د.أحمد الأسري

في ظهيرة يوم ٢٣ أغسطس ٢٠١٧م، وصل ١٢٤٦ حاجاً من السودان الى فندق في مدينة جدة وقدمت لهم وجبة العشاء بين الساعة السابعة والحادية عشرة مساءً. بعد حوالي ساعة بدأت تظهر أعراض الغثيان، والتقيؤ، والإسهال، وآلام البطن على مجموعة من الحجاج تباعاً وتم نقل ١٠ منهم إلى مستشفى الملك عبد العزيز. بعد التقصي، وجد أن جميعهم من الحجاج السودانيين، كانوا قد تناولوا طعاماً تم تقديمه لهم في الفندق، ثم ظهرت عليهم الأعراض. تم إخطار الفندق على الفور، والتحفظ على الطعام.

عند تفتيش الفندق والمطعم المورد للوجبة، لم يكن لدى المطعم ترخيصاً وتم الكشف عن تدني مستوى النظافة وتم أغلقه فوراً بواسطة البلدية. تم إعداد الوجبة في الساعة 12:00 ظهراً. وتم تعبئتها في عيواف فرية لكل شخص. تحتوي كل واحدة منها على دجاج، بامية، فاصوليا بيضاء، وسلطة مخلل. وقد تم نقلها بشاحنة مفتوحة، بدون مراعات درجة الحرارة الملائمة. بلغ عدد الحالات ١٤١ حالة (٦٩ ٪ نساء) مع متوسط عمر ٥٣ سنة. وقد كان متوسط فترة الحضانة (الوقت بين استهلاك الغذاء وبداية المرض) حوالي ساعتين (١-٥ ساعات).

وعند دراسة الحالات ومقارنتها مع شواهد غير مصابين من بين الحجاج وجد أن معدل تناول الدجاج هو الأعلى من بين كل الأطعمة الأخرى (٣ أضعاف). لم تسفر الفحوص المخبرية على عينات من البراز من المرضى، بقايا الطعام، مسحات الأنف

ملخص باللغة العربية

تقييم سهولة استخدام وأثر نظام حصن الإلكتروني في حزم مكافحة العدوى

الماجستير والدكتوراه، وتيرة الاستخدام اليومي للنظام، وسرعة الإنترنت.

ارتبط مستوى الرضى. وكذلك كان الاعتقاد بأن حصن يحتاج إلى مزيد من التحسينات أعلى بين العاملات من النساء، وحاملي الماجستير والدكتوراه، والأطباء مقارنة بالمرضى.

إعداد: د. هيفاء الخالدان، د. رندة نوح

أجرينا دراسة مقطعية بين عاملي الرعاية الصحية الذين يستخدمون نظام حصن في حزم مكافحة العدوى، وذلك في ٨٢ مستشفى حول المملكة. هدفت الدراسة لتقييم مستوى الرضى لدى هؤلاء العاملين حول النظام وكذلك تحديد نقاط الضعف التي يواجهونها واقتراح توصيات تزيد من سهولة استخدام النظام في مكافحة العدوى. شارك في الدراسة ١٥١ من العاملين (من أصل ٢٢٠ تم دعوتهم) في الفترة من يناير إلى فبراير ٢٠١٧م بتعبئة استبيان عن معلوماتهم الديموغرافية، والمعرفة التقنية، والخبرة، واستخدام وتصميم حصن. ولقد سألنا المشاركين عن انطباعهم العام، ورضاهم عن الاستخدام، ومقترحاتهم لتحسين النظام.

أظهرت النتائج أن 69% من مستخدمي حصن راضين عن النظام ككل. حوالي 79% منهم أدركوا أهمية حصن في مكافحة العدوى حيث 70% منهم يفضلون استخدامه مقارنة بالنظام الورقي التقليدي. ارتبط مستوى الرضى بين العاملين بعوامل مثل سرعة الإنترنت والدعم اللوجستي والفني وتكرار الاستخدام اليومي. فيما يتعلق بأداء وواجهة النظام، اعتقد أكثر من نصف المشاركين على أنه من السهل تسجيل الدخول والخروج (61 %)، أنه منظم جيداً (66 %)، يسهل حفظ العمل به (64%)، يمكنه الكشف تلقائياً عن المعلومات المدخلة بشكل خاطئ (60%). في المقابل لم يوافق 30% من المشاركين على أن حصن نادراً ما يتجمد أو يتوقف عن العمل. كذلك حوالي ربع المشاركين غير راضين عن تتبع الحالات التي تم إدخالها ومتابعة تقدمها في حصن. وقد اقترح غالب المشاركين (60 %) إضافة تتبع نظافة اليدين إلى النظام.

كان مستوى الرضى عن نظام حصن في تقصي حزم مكافحة العدوى أعلى بين العاملين الذين تزيد أعمارهم عن 35 سنة، العاملات النساء، حاملي البكالوريوس والدبلوم مقارنة بحاملي

Selected notifiable diseases by region, Jan-Mar 2018

Disease	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shammal	Jizan	Najran	Al-Jouf	Baha	Goriat	Gonfuda	Total	
Measles	105	14	132	8	28	0	20	2	0	17	16	0	0	0	12	1	0	0	0	0	0	355
Mumps	0	0	6	0	1	0	6	2	2	0	0	0	0	0	1	2	2	0	0	0	0	22
Rubella	4	0	0	0	2	0	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	10
Varicella	42	19	129	105	169	91	546	54	31	56	28	49	7	21	45	160	1	10	5	15	1583	
Meningitis mening.	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Meningitis other	6	3	18	7	2	31	26	12	0	1	0	6	1	1	4	0	2	5	0	0	0	125
Hepatitis B	347	218	605	157	64	52	263	101	3	67	43	20	5	19	200	24	0	24	1	28	2241	
Hepatitis C	114	119	395	103	15	13	102	64	0	23	12	9	4	3	26	5	0	16	0	13	1036	
Hepatitis unspecified	2	6	1	3	0	0	1	0	0	7	0	0	0	0	1	0	0	0	0	0	0	21
Hepatitis A	11	2	9	6	0	0	11	4	1	1	0	0	0	0	4	2	0	2	0	1	54	
Typhoid & paratyphoid	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Amoebic dysentery	2	0	235	16	65	16	376	39	0	44	1	1	1	1	0	1	0	1	1	0	800	
Shigellosis	3	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Salmonellosis	17	14	66	10	4	0	131	28	0	0	3	1	0	0	2	9	0	1	0	2	288	
Brucellosis	44	40	22	44	52	192	100	30	71	80	85	14	33	163	3	147	7	40	15	2	1184	
Dengue Fever	0	133	670	19	2	0	0	0	0	0	0	0	0	0	146	0	0	0	0	0	0	970
Khomra	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	4

Comparisons of selected notifiable diseases, Jan - Mar 2017-2018

DISEASE	Jan-Mar	Jan-Mar	Change	Jan-Mar	Jan-Dec	DISEASE	Jan-Mar	Jan-Mar	Change	Jan-Mar	Jan-Dec
	2018	2017		2018	2017		2018	2017		2018	2017
Cholera	0	1	-100	0	0	Meningitis mening.	4	1	300	4	10
Diphtheria	1	1	0	1	1	Meningitis other	21	5	320	21	405
Pertussis	3	7	-57	3	21	Hepatitis B	2241	1609	69	149	5561
Tetanus, neonat	2	2	0	2	5	Hepatitis C	1036	1019	39	2241	3647
Tetanus, other	0	21	-100	0	32	Hepatitis unspecified	21	8	2	1036	84
Poliomyelitis	0	0	0	0	0	Hepatitis A	54	46	163	21	198
Measles	355	179	98	355	457	Typhoid & paratyphoid	0	43	-100	0	390
Mumps	22	15	47	22	47	Amoebic dysentery	800	655	22	800	3606
Rubella	10	7	43	10	61	Shigellosis	8	12	-33	8	50
Varicella	1583	1233	28	1583	4533	Salmonellosis	288	229	26	288	1452

Diseases of low frequency, Jan - Mar 2018

* Yellow fever, Plaque, Poliomyelitis, Cholera, Tetanus Others: No Cases

* Pertussis: 3 Cases (Jeddah)

* Neonatal Tetanus: 2 Cases (Jazan)

* Diphtheria: 1 Case (Makka)

Selected notifiable diseases by region, Apr–Jun 2018

Diseases	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shammal	Jizan	Najran	Al-Jouf	Baha	Goriat	Gorfuda	Total
Measles	135	13	83	14	45	2	39	10	8	90	6	2	0	1	33	4	5	0	0	0	490
Mumps	0	1	3	1	2	0	2	1	0	1	1	0	0	2	0	3	0	0	0	0	17
Rubella	2	0	4	1	1	1	0	1	0	3	0	0	0	0	2	1	0	0	0	0	16
Varicella	99	20	102	89	145	96	359	37	28	107	39	48	3	24	77	164	0	9	6	12	1464
Meningitis mening.	0	0	8	0	0	2	0	0	0	0	0	1	3	0	0	0	0	0	2	1	17
Meningitis other	7	3	20	12	3	13	23	8	0	0	0	9	1	4	10	4	0	18	0	0	135
Hepatitis B	289	131	499	150	118	39	152	58	4	66	37	10	6	8	247	39	0	13	0	83	1949
Hepatitis C	177	111	304	76	25	13	93	58	0	22	8	8	4	3	68	5	0	4	1	39	1019
Hepatitis unspecified	1	1	1	1	0	1	2	0	0	6	0	0	0	1	1	0	0	0	0	2	17
Hepatitis A	11	2	10	4	0	0	7	4	0	3	1	1	1	0	5	0	0	0	1	0	50
Typhoid & paratyphoid	5	0	6	22	4	2	38	3	1	0	0	4	2	0	32	2	0	0	0	1	122
Amoebic dysentery	10	0	204	10	50	21	328	77	2	61	3	0	0	1	1	2	0	0	3	0	773
Shigellosis	1	1	6	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	12
Salmonellosis	119	18	100	19	6	0	122	44	0	1	1	0	2	0	2	9	0	0	1	1	445
Brucellosis																					

Comparisons of selected notifiable diseases, Apr - Jun 2017-2018

DISEASE	Apr-Jun	Apr-Jun	Change	Jan-Jun	Jan-Dec	DISEASE	Apr-Jun	Apr-Jun	Change	Jan-Jun	Jan-Dec
	2018	2017		%	2018		2017	2018		2017	%
Cholera	0	0	-	0	0	Meningitis mening.	1	2	-50	5	10
Diphtheria	0	0	-	1	1	Meningitis other	135	66	105	156	405
Pertussis	2	5	-60	5	21	Hepatitis B	1949	1407	39	4190	5561
Tetanus, neonat	0	2	-100	2	5	Hepatitis C	1019	686	49	2055	3647
Tetanus, other	0	3	-100	0	32	Hepatitis unspecified	17	24	-29	38	84
Poliomyelitis	0	0	-	0	0	Hepatitis A	50	37	35	104	198
Measles	490	17	2782	845	457	Typhoid & paratyphoid	0	77	-100	0	390
Mumps	17	1	1600	39	47	Amoebic dysentery	773	809	-4	1573	3606
Rubella	16	0	-	26	61	Shigellosis	12	15	-20	20	50
Varicella	1466	1197	22	3049	4533	Salmonellosis	445	253	76	733	1452

Diseases of low frequency, Apr - June 2018

* Yellow fever, Plaque, Poliomyelitis, Cholera, Diphtheria, Neonatal Tetanus, Tetanus Others, Hemolytic Uremic Syndrome: No Cases

* Pertussis: 2 Cases (Eastern)

Selected notifiable diseases by region, Jul—Sept 2018

Disease	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jizan	Najran	Al-Jouf	Baha	Goriat	Gonfuda	Total
Measles	24	2	8	11	0	4	3	0	10	6	0	2	0	2	20	9	5	1	22	0	129
Mumps	0	0	6	0	4	1	10	2	1	2	0	0	0	2	0	0	0	0	0	0	28
Rubella	1	0	4	0	0	0	2	1	1	0	0	1	0	0	1	1	0	1	1	0	14
Varicella	128	22	80	90	96	67	348	27	11	72	37	31	4	4	62	69	5	4	9	17	1183
Meningitis mening.	0	0	8	0	0	2	0	0	0	0	0	1	3	0	0	0	0	0	2	1	17
Meningitis other	7	3	20	12	3	13	23	8	0	0	0	9	1	4	10	4	0	18	0	0	135
Hepatitis B	348	187	516	145	88	46	191	102	5	88	31	13	3	16	199	31	3	20	0	13	2045
Hepatitis C	245	199	248	85	27	32	74	54	0	64	18	24	0	15	24	14	0	8	0	1	1132
Hepatitis unspecified	1	1	1	1	0	1	2	0	0	6	0	0	0	1	1	0	0	0	0	2	17
Hepatitis A	39	7	17	1	0	3	27	9	0	0	0	3	0	0	5	4	3	4	0	0	122
Typhoid & paratyphoid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amoebic dysentery	18	6	179	18	40	19	549	88	2	41	5	3	0	0	0	2	0	0	12	0	982
Shigellosis	11	1	0	0	0	0	7	1	0	0	0	1	0	0	0	0	0	0	0	0	21
Salmonellosis	18	27	199	39	24	0	325	96	24	4	2	8	0	0	4	3	0	0	0	3	776

Comparisons of selected notifiable diseases, Jul - Sept 2016-2017

DISEASE	Jul-Sep	Jul-Sep	Change	Jan-Sep	Jan-Dec	DISEASE	Jul-Sep	Jul-Sep	Change	Jan-Sep	Jan-Dec
	2018	2017		%	2018		2017	2018		2017	%
Cholera	0	0	-	0	0	Meningitis mening.	1	2	-50	5	10
Diphtheria	0	0	-	1	1	Meningitis other	135	66	105	156	405
Pertussis	4	8	-50	9	21	Hepatitis B	2045	1766	16	6235	5561
Tetanus, neonat	1	0	-	3	5	Hepatitis C	1132	930	22	3187	3647
Tetanus, other	0	3	-100	0	32	Hepatitis unspecified	18	28	-36	53	84
Poliomyelitis	0	0	-	0	0	Hepatitis A	122	48	154	226	198
Measles	129	53	143	974	457	Typhoid & paratyphoid	0	77	-100	0	390
Mumps	28	3	833	67	47	Amoebic dysentery	982	1263	-22	2555	3606
Rubella	14	14	0	40	61	Shigellosis	21	12	75	41	50
Varicella	1183	952	24	4232	4533	Salmonellosis	776	551	41	1509	1452

Diseases of low frequency, Jul - Sept 2018

* Yellow fever, Plaque, Poliomyelitis, Cholera, Diphtheria, Tetanus Others, Hemolytic Uremic Syndrome: No Cases

* Pertussis: 4 Cases (Riyadh 2, Jeddah 1, Hafr Albatin 1)

Selected notifiable diseases by region, Oct—Dec 2018

Disease	Riyadh	Makkah	Jeddah	Medinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jizan	Najran	Al-Jouf	Baha	Goriat	Gonfuda	Total
Measles	27	0	1	0	2	12	2	0	0	5	0	5	0	0	9	4	10	1	67	2	147
Mumps	14	3	5	2	3	3	24	1	0	0	1	0	2	0	1	8	0	1	1	1	70
Rubella	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	4
Varicella	137	17	195	71	182	82	657	85	16	118	13	26	3	11	58	84	0	8	8	10	1781
Meningitis mening.	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Meningitis other	20	0	6	7	1	5	4	1	0	3	0	2	1	0	0	0	0	0	0	1	51
Hepatitis B	315	180	383	130	92	50	235	125	3	117	25	28	7	17	187	44	2	18	2	26	1986
Hepatitis C	133	149	193	29	67	19	135	57	1	23	12	7	7	1	56	12	0	11	30	6	948
Hepatitis unspecified	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Hepatitis A	22	4	9	3	2	1	20	5	0	3	0	1	0	0	3	2	4	0	10	0	89
Typhoid & paratyphoid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amoebic dysentery	17	5	129	12	76	13	404	67	7	64	0	0	0	0	9	0	0	0	4	0	807
Shigellosis	22	1	2	3	0	0	3	5	0	0	0	0	0	0	1	0	0	0	0	0	37
Salmonellosis	183	31	111	11	1	0	219	42	2	1	1	5	1	0	5	8	0	5	0	0	626


Comparisons of selected notifiable diseases, Oct - Dec 2016-2017

DISEASE	Oct-Dec	Oct-Dec	Change	Jan-Dec	Jan-Dec	DISEASE	Oct-Dec	Oct-Dec	Change	Jan-Dec	Jan-Dec
	2018	2017		%	2018		2017	2018		2017	%
Cholera	0	0	-	0	0	Meningitis mening.	1	2	-50	9	10
Diphtheria	0	0	-	1	1	Meningitis other	51	66	-23	358	405
Pertussis	1	8	-88	9	21	Hepatitis B	1986	1766	12	7432	5561
Tetanus, neonate	1	0	-	4	5	Hepatitis C	948	930	2	3434	3647
Tetanus, other	2	3	-33	5	32	Hepatitis unspecified	4	28	-86	29	84
Poliomyelitis	0	0	-	0	0	Hepatitis A	89	48	85	247	198
Measles	147	53	177	1156	457	Typhoid & paratyphoid	0	77	-100	0	390
Mumps	70	3	2233	118	47	Amoebic dysentery	807	1263	-36	3351	3606
Rubella	4	14	-71	53	61	Shigellosis	37	12	208	71	50
Varicella	1781	952	87	4389	4533	Salmonellosis	626	551	14	2044	1452

Diseases of low frequency, Oct - Dec 2018

* Yellow fever, Plaque, Poliomyelitis, Cholera, Diphtheria, Tetanus Others, Hemolytic Uremic Syndrome: No Cases

* Pertussis: 1 Case (Eastern)



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