

Epidemiological Bulletin



From 1 January to 31 March, 2013

Gaza Strip in Numbers:

The Palestinian territories consist of two geographically separated areas West Bank (WB) and Gaza Strip. Gaza strip is a narrow zone of land bounded of the south by Egypt, on the west by the Mediterranean Sea, and on the east and north by the occupied territories in 1948. Gaza strip is very crowded place with 46 kilometers long and 5 –12 kilometers wide and with a total area of 365 sq km. Gaza strip is administratively divided into five governorates: North, Gaza, Mid-zone, Khan-Younes and Rafah. It consists of four cities, fourteen villages and eight refugees' camps.

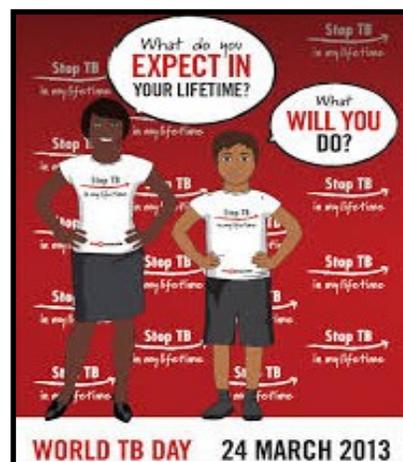
- * Gaza Strip has a population of 1.561.906 people (PCBS, 2010).
- * Male/Female ratio in general population is 103.100.
- * Population density is 4279 inhabitants per sq km. Gaza Strip has an extremely high population growth rate of over 3.3%, and as a result some 44.2% of the population is under the age of 15.
- * Infant Mortality Rate is 17.1 per 1000 live births.
- * Crude Birth Rate is 38.3/1000.
- * Crude Death Rate is 3.1/1000.
- * Average life expectancy is 70.2 years for males and 72.9 years for females.
- * Fertility rate is 5.7%.
- * Family size Average is 5.8.

Tuberculosis world day

Tuberculosis (TB) is an infectious bacterial disease caused by Mycobacterium tuberculosis, which most commonly affects the lungs. It is transmitted from person to person via droplets from the throat and lungs of people with the disease. In 2011 alone, an estimated 8.7 million new cases of TB occurred, leading to 1.4 million deaths. Historically, TB has killed more people than any other disease.

So how best to deal with this modern plague? In an globalization era, how do you stop a millennia-old disease which is spread by coughing and where one untreated person can infect as many as 15 others per year? TB is a disease which is closely associated with poverty – how, then, to ensure that treatment reaches disadvantaged populations?

The fight against TB in the 21st century is very much a classic case of “good and bad news”. On the good news front: the Millennium Development Goal set for TB – to halt and reverse the epidemic – has already been achieved, two years ahead of the deadline. Worldwide, TB deaths have declined by 41 percent since 1990. Access to care has been expanded substantially, saving an estimated 20 million lives since 1995. And collaborative treatments for people living with both HIV and TB are increasingly being implemented in many countries around the world. In addition, new tools have been developed which allow for much more rapid diagnoses. On the other hand, on the bad news, TB remains a disease which is difficult to treat. Standard TB



Continued on page 6

Highlights of this issue:

Gaza strip in numbers	1
Tuberculosis World Day	1
Communicable diseases surveillance system	2
Reports of notifiable communicable diseases	3
Haemophilus Influenza death of an unvaccinated infant.....	5

Communicable diseases surveillance system:

In Gaza Strip, we apply a multi-disease approach of communicable disease surveillance, which depends essentially on passive surveillance system from health facilities of different health providers (Primary Health Care Centers, Hospitals and Laboratories), governmental and nongovernmental (MOH, UNRWA, NGOs and private sector). The collected data by this system are routinely analyzed and interpreted to help in making decision for prevention and control of communicable disease and to be part of the monthly, quarterly and annually reports on communicable diseases.

Communicable diseases and their related events in Palestine are divided into three groups according to their epidemiological importance:

Group A diseases: Diseases of this group are of high importance so they must be immediately notified with accuracy due the urgency of investigation and intervention. This group includes Acute Flaccid Paralysis, Acute Poliomyelitis, HIV/AIDS, Cholera, Diphtheria, Food poisoning, Measles, Rubella, Meningococcal diseases, Hemophilus Influenza B Meningitis, Rabies, Tetanus and Adverse Events Following Immunization.

Group B diseases: Diseases of this group are of the second highest importance and must be notified within one week. It includes other Bacterial and Viral Meningitis, Brucellosis, Hepatitis (A, B and C), Lishmaniasis, Influenza A H1N1, Malaria, Mumps, Sexual Transmitted Diseases (STD), Shigellosis, Tuberculosis, Salmonellosis, Typhoid and Paratyphoid fever, and Whooping Cough.

Group C diseases: Diseases of this group are of low importance and monthly notification is needed. This group includes Animal Bites, Chicken Pox, Diarrhea, Upper respiratory infection, Ascariasis, Amebiasis, Giardiasis, Strongyloidiasis, Enterobiasis, Trichuriasis, Hymenolepiasis, Toxoplasmosis and Leprosy.

Each issue of Epidemiological Bulletin will include information about the time of notification, number and distribution of cases of notifiable communicable diseases under surveillance system.

Some selected reported notifiable diseases by governorates: January, February and March, 2013.

Disease	North	Gaza	Mid-Zone	Khan-Younes	Rafah	Total Q1, 2013	Total 2013	5 Years Average, Q1
AFP	1	2	0	0	1	4	4	0.6
AIDS/HIV	0	1	0	0	0	1	1	0
Meningococcal Disease	9	10	0	1	1	21	21	33
Food poisoning	19	0	0	0	0	19	19	40
Hepatitis A	80	57	92	51	71	351	351	157
Hepatitis B	34	40	3	15	6	98	98	93
Hepatitis C	9	4	0	4	1	18	18	11.6
Mumps	1	4	2	30	0	37	37	3
TB Pulmonary	1	1	0	2	0	4	4	4.2
TB Extrapulmonary	0	1	0	0	0	1	1	1.8
Diarrhea <3 years	5023	2028	2294	4646	1081	15072	15072	10727
Diarrhea >3 years	3778	1284	1895	1776	686	9419	9419	5665
Bloody Diarrhea	894	265	771	456	124	2510	2510	1397
Upper Respiratory Tract Infection	16377	5389	4969	6813	2284	35832	35832	10829

Epidemiological situation of reported notifiable communicable diseases

During the first quarter 2013 a total of 73.230 cases of notifiable diseases were notified to the epidemiology department which constitute more than 30% increase comparing with the same quarter 2012 (55.083 cases). This increase was mainly related to the increase in the number of cases of upper respiratory tract infection (URTI) and diarrhea. These diseases only were the top two diseases on the reporting form, constituting a total of about 86% of all notifications. The five years average (during the first quarter) for URTI was very low because only influenza cases were reported. Recently, URTI was added to the notification list which explain the high number of notifications. When compared with the average notifications in the preceding five years, only meningococcal disease showed more than 35% decrease. Hepatitis A, mumps, diarrhea and URTI showed an obvious increase. During the preparation of this bulletin, an outbreak of mumps was reported by Ministry of Health in Khan-Younes governorate (Mae'en area on April 28, 2013) and more details will be announced in the next issue of the bulletin. There was an improvement of reported cases of AFP where four cases were reported. During this period, none of the following infection was recorded: acute poliomyelitis, diphtheria, measles, tetanus, brucellosis and malaria.

Immediately reported diseases during the first quarter, 2013

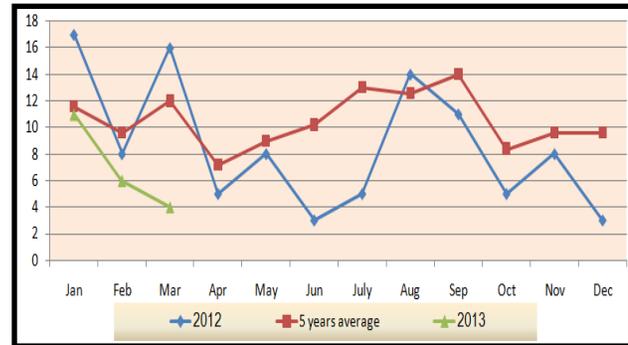
Acute Flaccid Paralysis (AFP) /Acute Poliomyelitis:

During the first quarter 2013 no any case of acute poliomyelitis was reported. There was improvement of reporting cases of acute flaccid paralysis where a total of 4 cases were reported. In Gaza governorate two cases were reported on February, one case was reported in North governorate on March and one case was reported in Rafah governorate on February. During the previous quarter only one case was reported in Khan-Younes governorate on December. During the same period 2012, zero case was reported. For three cases, a 60 days follow up examination was done for final classification of cases and all cases were classified as having Guillain-Barre syndrome.

Meningococcal Diseases:

The situation of meningococcal diseases during the first quarter 2013 was improved and the number of meningococcal diseases cases decreased dramatically comparing with the same quarter 2012 and the five years average. During this quarter only 21 cases of meningococcal diseases

Distribution of Meningococcal diseases in Gaza strip, years 2012-2013



was reported while 41 cases were reported during the same quarter 2012. The majority of reported cases (14) were diagnosed as meningococemia constituting about 56% from all cases. Among these cases four children with meningococemia and one case with Meningococcal meningitis were died with a case fatality rate of 20%. The majority of cases were reported in Gaza and North governorates (11 and 9 cases constitute about 44% and 36% respectively from the total number of reported cases).

Other bacterial Meningitis cases

The situation of other bacterial meningitis during the first quarter 2013 was improved comparing to

Distribution of other bacterial Meningitis cases in Gaza strip, years 2012-2013



Continued on page 7

Weekly Reported Diseases during the first quarter, 2013

Viral Hepatitis A

Hepatitis A is an endemic disease in many parts of the world including Palestine where it represents the majority of acute hepatitis notified cases during childhood period. It has been observed that about 75% of all reported hepatitis cases were due to hepatitis A.

During the first quarter 2013, there was an increase of reported cases of hepatitis A comparing to the 5 years average and the same quarter 2012. A total of 351 cases were reported during this quarter comparing to 330 cases were reported during the previous (fourth) quarter 2012. During the first

Distribution of Hepatitis A cases in Gaza strip, years 2012-2013



Our E-Mail: epidept-phc@moh.gov.ps

quarter 2012 a total of 224 cases were reported. In spite of the usual increase of reported number of cases during this period of the year, this number was higher than reported but does not reached a threshold or an outbreak. This increase was almost in all governorates but the majority of reported cases were from Mid zone and Rafah governorates. No cases of deaths were registered during this period.

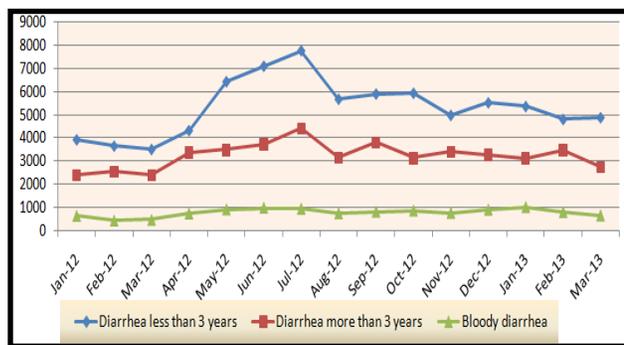
Strengthening of community health education regarding mode of transmission and prevention of this disease was conducted during the last period focussing on personal hygiene through hand washing especially after going to toilet and before eating and restriction of movement of patients for the hole symptomatic period.

Monthly Reported Diseases during the first quarter, 2013

Diarrheal diseases:

During the first quarter 2013, the diarrheal disease situation continued improving comparing to the previous quarter but it still higher than the reported number during the same quarter of the previous year. A total of 27.001 cases of diarrhea were reported during this period, representing almost about 34% increase comparing with the same quarter 2012 (20.110 cases were reported). This increase was mainly in North governorate and among age group less the three years. On the other hand there was a decrease of reported number of cases comparing with the previous quarters where a total of 28.915 and 33.355 cases were reported during the fourth and third quarters respectively.

Distribution of all types of diarrheal diseases in Gaza strip, 2012-2013



Diarrhea < 3 years:

There was a slightly decrease in incidence during the first quarter 2013, where a total of 15.072 cases were reported while a total of 16.463 cases were

Distribution of diarrhea among children less than 3 years in Gaza strip, 2012-2013



Continued on page 6

Haemophilus Influenza death of an unvaccinated infant

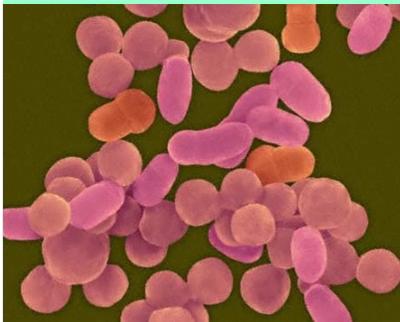
Case definition for Haemophilus Influenza (HI):

Haemophilus influenzae is an invasive infections commonly caused by serotype b.

Suspected case: A case of sudden onset of fever (more than 38.5°C rectally or 38°C axillary), headache, vomiting and neck stiffness with/ or altered consciousness or convulsion and bulging fontanel in infants.

Probable case: A suspected case as defined above and turbid CSF with positive Gram stain (antigen detection).

Confirmed case: A suspected or probable case with laboratory confirmation by isolation of Haemophilus Influenza type b (by culture) from CSF in person with meningitis.



The Hib bacterium is commonly present in the nose and throat. This bacteria is transmitted from person to person through respiratory droplet spreads. Infected children may carry Hib bacteria without showing any signs or symptoms of illness but they can still infect others.

Prophylactic measures:

Rifampicin 600mg daily for 4 days for adults, and 20mg/ kg daily for 4 days for children.

Trimethoprim 160 mg +Sulfamethoxazole 800mg: 2 tablets/day for 4 days for adults, and syrup for 4 days for children.

Although the type of infectious diseases caused by Haemophilus influenzae has changed considerably in recent years as a result of the widespread implementation of routine childhood immunization against type b organisms, this organism remains an important pathogen. Haemophilus influenzae type b (Hib) is a serious disease caused by an aerobic gram-negative cocco-bacillus with two types (encapsulated and unencapsulated). The unencapsulated strains are responsible chiefly for infections at mucosal surfaces, including conjunctivitis, otitis media, sinusitis, and bronchitis. In contrast, one of the six antigenically distinct encapsulated strains (a-f), strain type b, is associated with invasive diseases such as septicemia, meningitis, cellulitis, septic arthritis, epiglottitis, and pneumonia mostly in children less than 5 years old. Encapsulated Hib has a polysaccharide capsule composed of Polyribosyl ribitol Phosphate (PRP).

Clinical picture of Hib diseases differ according to the site of infection. Hib is an important cause of childhood meningitis and a major cause of bacterial pneumonia in children.

The onset of Hib meningitis can be sub-acute or sudden with fever, vomiting, lethargy and meningeal irritation with a bulging fontanelle in infants and stiff neck in older children.

Hib pneumonia is clinically indistinguishable from other bacterial pneumonias. The symptoms of pneumonia may be nonspecific, including lethargy, poor feeding, high temperature, instability, respiratory distress, and apnea.

This report describes a Hib death in an unvaccinated female infant aged two months. In January 2013, a deeply cyanosed infant was admitted to the Gaza European hospital with apnea, hypothermia and hypotension. Shortly in the emergency room the condition was deteriorated rapidly and the infant was arrested. Immediately, advanced cardiac life support (ACLS) began with cardiopulmonary resuscitation (CPR), endotracheal intubation, establishment of intravenous access and re-warming of the infant. The infant was admitted to the intensive care unit (ICU) in a critical situation. On admission, the infant had hypothermia (t^o-35°C), hypotention (unrecordable blood pressure) and dyspnea. The patient's laboratory results at admission indicated anemia (Hb%-9mg/dl) and leukocytosis (white blood cell count: 66,4/μL); Blood sugar-35mg/dl (hypoglycemia); Urea-123 and Createnin-1.1(pre-renal failure); Na-139; K-10; blood culture was positive for Haemophilous Influenza. The source of the infant's Hib exposure till now remains unknown. The infant was diagnosed as having HI septic syndrome, Pre-renal failure, Multi-organ failure and Disseminated intravascular coagulopathy (DIC).

The infant was treated by broad spectrum antibiotics (cefotaxime, amikacin and ampicillin). In addition to this treatment, the infant's treatment included tamiflu, hydrocortisone, dopamine, fresh frozen plasma vitamin K and calcium gluconate. On the second day,

Continued on page 7

Tuberculosis World Day

Continued from page 1

requires daily medication for six months and supervision for a minimum of two months. Those most often affected are also those who can least afford to devote daily time and resources to seeking health care.

The other bad news on TB are the rise of multidrug-resistant TB, otherwise known as MDR-TB, or, even more worryingly, extensively drug-resistant TB. When patients fail to complete their treatment, or receive substandard medication, the strain of TB bacterium they are infected with will develop resistance to the medication, and it is this newly strengthened bacterium which can then be transmitted to others.

These new strains of TB are much more difficult to treat, and the treatment, which will require two years of powerful and second-line drugs, has a lower treatment success rate.

Each year on 24 March, World Tuberculosis Day is commemorated the day on which Sir Robert Koch made the famous announcement about discovery of mycobacterium tuberculosis, the causative organism of tuberculosis at the Physiological Society of Berlin in 1882. This was a first step towards diagnosing and curing tuberculosis. And this is an occasion for further building public awareness about the disease, advocacy for tackling one of the major causes of avoidable death and generating stronger commitment from all stakeholders.

The global campaign for World Tuberculosis Day has had different themes and slogans over the years. The 2013 campaign is the second year of a two-year campaign for World TB Day, with the slogan “Stop TB in My Lifetime”.

This is an opportunity to raise awareness about the burden of TB worldwide and the status of TB prevention and control efforts.

Diarrheal Diseases

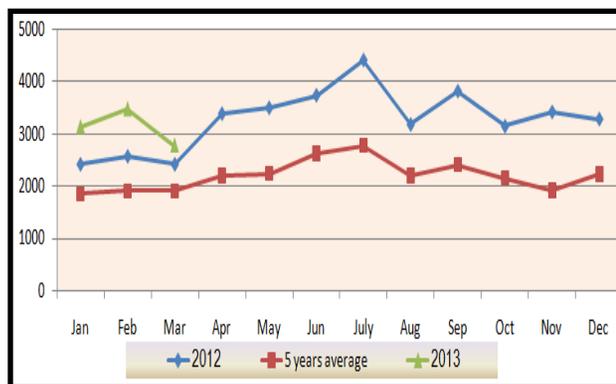
Continued from page 4

reported in the previous quarter. On the other hand during the same quarter 2012, a total of 11.116 cases were reported representing about 35% decrease comparing to this year. The majority of cases were reported mainly in North and Khan-Younes governorates.

Diarrhea > 3 years:

There was appropriately the same incidence of

Distribution of diarrhea more than 3 years in Gaza strip, 2012-2013

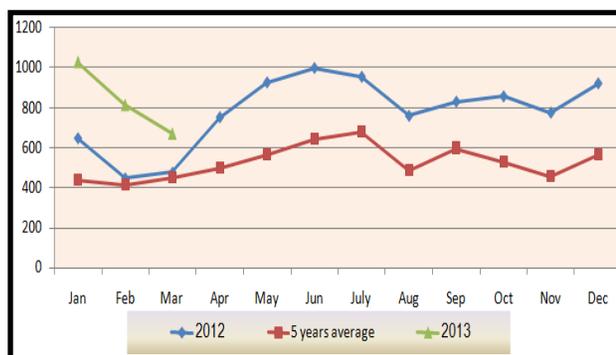


reported cases during the first quarter 2013 and the fourth quarter 2012. During the first quarter 2013, a total of 9.419 cases were reported while a total of 9.874 cases were reported during the previous quarter. During the same quarter 2012, a total of 7.430 cases were reported. The majority of cases were reported mainly in North and Mid-Zone governorates.

Bloody Diarrhea:

There was appropriately the same incidence of reported cases during the first quarter 2013 and the fourth quarter 2012. During the first quarter 2013, a total of 2.510 cases were reported while a total of 2.578 cases were reported during the previous quarter. This situation represents a clear increase comparing to the same quarter 2012 where a total of 1.575 cases were reported. The majority of cases were reported mainly in North and Mid-Zone governorates.

Distribution of bloody diarrhea in Gaza strip, 2012-2013



Continuous monitoring and evaluation of activities are essential to assure the progress and effectiveness of national diarrheal disease control programs.

Haemophilus Influenza

Continued from page 5

the infant died. This case underscores the importance of Hib vaccination.

Hib disease can be prevented with vaccine given early in infancy. Use of conjugate vaccines for the prevention of Hib disease in children has substantially decreased the burden of disease.

The vaccines are highly effective against invasive disease and may prevent up to 25% of radiographically confirmed pneumonia.

Incidence of HI Meningitis cases per 100.000 pop. in Gaza strip, years 2003-2012



In Gaza Strip, since the introduction of conjugate Hib vaccine in the national expanded program of immunization in 2007 (three doses at 2, 4 and 6 months), Hib meningitis registered cases dramatically decreased and had nearly been eliminated. Before 2007, the incidence reached 1.46 per 100.000 population but after this date it decreased to zero in some years. The immunization coverage from 2007-2012 was near to 100% which reflect the different reasons like increasing awareness among Palestinians mothers about the importance of vaccines, the availability of the vaccines throughout the year, efficient cold chain (including refrigerators powered by solar energy which located in each governorate), continuous follow up of defaulters by the health centre staff and good appointment system.

Other bacterial Meningitis cases

Continued from page 3

the previous quarters 2012 and five years average. A total of 34 cases of other bacterial meningitis were reported during the first quarter 2013 while a total of 60 cases were reported during the previous quarter 2012. During the same quarter 2012 a total of 115 cases were reported (about three times more than this year). The majority of cases (21) were reported mainly in Gaza and North governorates.

Non Specific Meningitis cases:

The reported number of non specific meningitis (NSM) cases continue decreasing during the first quarter 2013. During this quarter, a total of 118 cases of NSM were reported while a total of 223 cases were reported during the previous (forth) quarter 2012. During the same quarter 2012, a total of 406 cases were reported.

Distribution of non-specific Meningitis cases in Gaza strip, years 2012-2013



All reported cases were diagnosed based on clinical picture, CSF findings (measurement of cells, protein and sugar levels), negative CSF culture and for some cases gram stain was negative. As there is no confirmatory tests in Gaza strip for this disease, all cases were considered as probable non specific meningitis cases.

If you want to receive our issues by E-mail, please go to our web sites: <http://www.moh.gov.ps/>; or <http://www.moh.gov.ps/care/>, or forward your E-mail address to our E-mail listed below. Please send any comments and feedback to the Epidemiology Department-Gaza; Email: epidept-phc@moh.gov.ps.

Editorial Board

Dr. Majdi Dheir
ibmajdi@hotmail.com
Dr. Nedal Ghuneim
ghuneimnedal@yahoo.com

Published by:

Epidemiology Department
Al-rimal Martyrs Clinic
Alwehda st.
Palestine-Gaza