

Epidemiological Bulletin



From 1 April to 30 June, 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 mid-year 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.

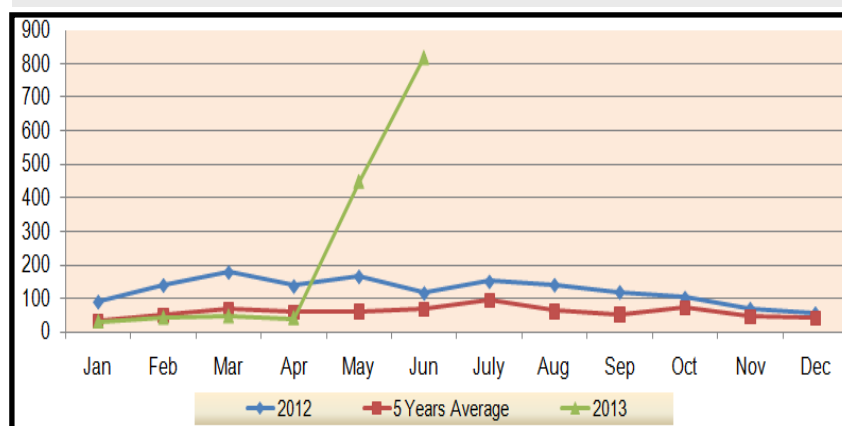
* Fertility rate is 5.7%.

* Family size Average is 5.8.

Ongoing outbreak of Non-Specific Meningitis

Non-Specific meningitis (NSM), an inflammatory process of the meninges, is a relatively common illness caused by a large number of different factors. The cerebrospinal fluid is characterized by pleocytosis and the absence of microorganisms on Gram stain and on routine culture. In most instances the illnesses are mild and self-limited however, some cases can be severe and life threatening. NSM has both infectious and noninfectious etiologies like viruses, bacteria, fungi, parasites, drugs, systemic diseases, and miscellaneous other conditions. Although in many instances the etiologic agent is not

Distribution of Non-Specific Meningitis cases in Gaza strip, years 2012-2013



identified, clinical and research experience indicates that viruses are usually the responsible agents. Viral meningitis is, in most cases, a benign disease with a self-limiting clinical course, but the economic impact it imposes is large. The most common cause of nonviral NSM is partially and inappropriately treated bacterial disease. The clinical

Continued on page 6

Highlights of this issue:

Gaza strip in numbers	1
Ongoing outbreak of Aseptic Meningitis.....	1
Communicable diseases surveillance system	2
Reports of notifiable communicable diseases	3
Mumps outbreak in a highly vaccinated population.....	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: April, May and June, 2013.

Disease	North	Gaza	Mid-Zone	Khan-Younes	Rafah	Total Q2, 2013	Total 2013	5 Years Average, Q2
AFP	1	0	0	0	0	1	5	1.6
Meningococcal Disease	5	9	3	7	1	25	47	26.4
Bacterial Meningitis	5	25	3	14	1	48	147	68
Non-Specific Meningitis	76	403	286	104	81	950	1068	183
Hepatitis A	107	30	41	112	29	319	670	123
Hepatitis B	29	28	7	11	4	79	177	99
Hepatitis C	5	2	0	1	0	8	26	15.2
Mumps	37	20	12	334	14	417	454	11.4
TB Pulmonary	1	7	0	1	0	9	13	1.8
TB Extrapulmonary	0	2	0	1	1	4	5	2.6
Diarrhea <3 years	6302	2485	2634	4762	1260	17443	32515	12339
Diarrhea >3 years	3978	982	1721	1764	748	9193	11784	7065
Bloody Diarrhea	689	202	726	488	103	2208	4718	1702
Upper Respiratory Tract Infection	16384	4939	4730	4011	2620	32685	68517	11639

Epidemiological situation of reported notifiable communicable diseases

During the second quarter 2013 a total of 74,441 cases of notifiable diseases were notified to the epidemiology department which constitute about 7% increase comparing with the same quarter 2012 (69,214 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 more than 82% of all notifications. The five years average (during the second 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 to the average notifications in the preceding five years; mumps showed more than 37 fold increase; non-specific meningitis showed more than five fold increase; Hepatitis A and URTI showed more than two fold increase. Hepatitis B and C showed decrease compared with the five years average. During this period, none of the following infection was recorded: acute poliomyelitis, diphtheria, measles, tetanus, brucellosis and malaria.

Immediately reported diseases during the second quarter, 2013

Novel coronavirus

Coronaviruses are a large family of viruses that cause illness in humans and animals. In people, coronaviruses can cause illnesses ranging in severity from the common cold to Severe Acute Respiratory Syndrome (SARS).

The novel coronavirus, first detected in April 2012, is a new virus that has not been seen in humans before. In most cases, it has caused severe disease. Death has occurred in about half of cases.

This new coronavirus is now known as Middle East Respiratory Syndrome Coronavirus (MERS-CoV).

In September 2012 MERS-CoV raised global concern with over 60% being fatal cases and documented international spread. About 75% of the cases are elderly men and most severe illness has occurred in people with chronic health conditions. The majority of patients required intensive care including mechanical ventilation. There are no specific treatments or vaccines for the disease. WHO is coordinating the global response

to this emerging virus through the International Health Regulations (2005).

It is not yet known how people become infected with this virus. Investigations are underway to determine the source of the virus, the types of exposure that lead to infection, the mode of transmission, and the clinical pattern and course of disease.

Common symptoms are acute, serious respiratory illness with fever, cough, shortness of breath and breathing difficulties. Most patients had pneumonia. Many also had gastrointestinal symptoms, including diarrhoea. Some patients had kidney failure. About half of people infected with MERS-CoV died. In people with immune deficiencies, the disease may have an atypical presentation. It is important to note that the current understanding of illness caused by this infection is based on a limited number of cases and may change as we learn more about the virus.

Globally, from September 2012 to the end of second quarter 2013, WHO has been informed of a total of 77 laboratory-confirmed cases of infection with MERS-CoV, including 40 deaths.

Several countries in the Middle East have been affected, including Jordan, Saudi Arabia, the United Arab Emirates (UAE), and Qatar. Cases have also been reported by three countries in Europe: France, Germany, and the United Kingdom. All of the European cases had a direct or indirect connection to the Middle East. However, in France and the United Kingdom, there has been limited local transmission among close contacts who had not been to the Middle East but had been in contact with a traveler recently returned from the Middle East.

Based on the current situation and available information, WHO encourages all Member States to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns. Health care providers are advised to maintain vigilance. Recent travelers returning from the Middle East who develop SARI should be tested for MERS-CoV as advised in the current surveillance recommendations.

Specimens from patients' lower respiratory tracts should be obtained for diagnosis where possible.

Health care facilities are reminded of the importance of systematic implementation of infection prevention and control (IPC).

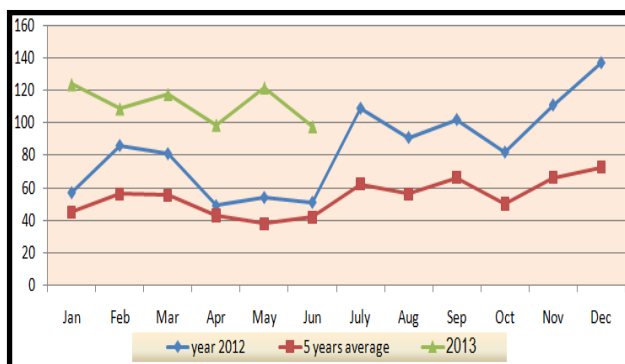
WHO does not advise special screening at points of entry with regard to this event nor does it currently recommend the application of any travel or trade restrictions.

Weekly Reported Diseases during the second quarter, 2013

Viral Hepatitis A

During the second 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 319 cases were reported during this quarter comparing to 351 cases were reported during the previous (first) quarter 2013. During the second quarter 2012 a total of 154 cases were reported. This increase was reported mainly from Khan-Younes and North governorates. No cases of deaths were registered during this period. Strengthening of community health education regarding mode of transmission and prevention of

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



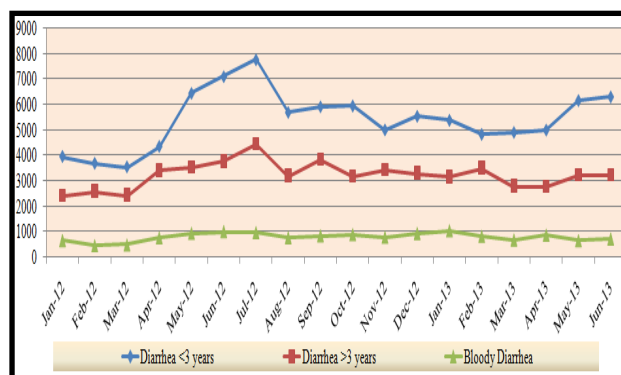
this disease was conducted during the last period focussing on personal hygiene through hand washing especially after going to toilet and before eating and restriction of movement of patients for the whole symptomatic period.

Monthly Reported Diseases during the second quarter, 2013

Diarrheal diseases:

During the second quarter 2013, the reported number of diarrheal disease increased comparing to the previous quarter but it was lower than the reported number during the same quarter of the previous year. A total of 28.844 cases of diarrhea were reported during this period, representing about 7% decrease comparing with the same

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

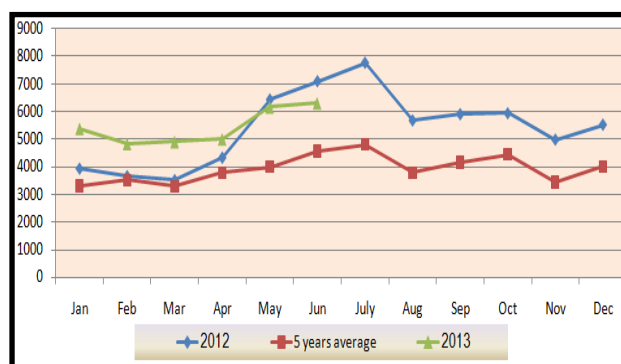


quarter 2012 (31.213 cases were reported). This decrease was mainly in Rafah, Khan-Younes and Mid-Zone governorates and among age group more the three years. On the other hand there was an increase in reported number of cases comparing to the previous quarter where a total of 27.001 cases were reported.

Diarrhea < 3 years:

There was an increase in incidence during the second quarter 2013, where a total of 17.443 cases were reported while a total of 15.072 cases were reported in the previous quarter. On the other hand during the same quarter 2012, a total of 17.881 cases were reported. The majority of cases were reported mainly in North and Khan-Younes governorates.

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



Diarrhea > 3 years:

There was appropriately the same incidence of reported cases during the second and first quarters 2013. During the second quarter 2013, a total of

Continued on page 6

Case definition for Mumps:

Because clinical diagnosis of mumps may be unreliable, cases of mumps should be laboratory confirmed. Not all cases of parotitis, especially sporadic ones, are due to mumps infection; however, mumps is the only known cause of epidemic parotitis. Experience indicates that case investigations combined with laboratory testing will result in many suspected mumps cases being discarded. The virus is spread from a human reservoir by direct contact, airborne droplets, fomites contaminated by saliva and, possibly, by urine.



Suspected case: an illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting greater than or equal to 2 days, and without other apparent cause

Confirmed case: a case that meets the clinical case definition and is laboratory-confirmed, (positive IgM antibody for Mumps) or epidemiologically linked to a laboratory-confirmed case. Mumps virus can also be cultured from swabs of the buccal mucosa.

Mumps is an acute, generalized viral disease characterized by swelling and tenderness of one or more of the salivary glands, usually the parotid and occasionally the sublingual or submaxillary glands. The mumps virus is a member of the Paramyxoviridae family. This virus can affect other organs like pancreas, testes and meninges. Mumps is endemic in most urban populations. Most mumps transmission likely occurs before parotitis onset and within the subsequent 5 days. The incubation period varies from 12 to 25 days and is usually 16 to 18 days.

The onset of Parotitis is usually characterized by swelling in one or both parotid glands. The parotid swells characterized by the following: it first fills the space between the posterior border of the mandible and the mastoid and then extends downward and forward, being limited above by the zygoma. Oedema of the skin and soft tissues usually extends further and obscures the limit of the glandular swelling. Swelling slowly subsides within 3-7 days but occasionally lasts longer.

Respiratory symptoms can occur, particularly in children under five years. Epididymo-orchitis occurs in up to a third of postpuberal males and is most commonly unilateral; sterility is an uncommon complication. Oophoritis occurs in up to 31% of females aged over 15 years and may cause lower abdominal or back pain. Many infections in children less than two years of age are subclinical.

In unvaccinated persons, unilateral or bilateral parotitis occurs in approximately half of

patients infected with mumps; 15-20% are asymptotically infected and the remainder have nonspecific, flu-like symptoms without Parotitis.

The main strategy for controlling a mumps outbreak is to define the at-risk population and a transmission setting, and to rapidly identify and vaccinate susceptible persons or, if a contraindication exists, to exclude susceptible persons from the setting to prevent exposure and transmission.

Epidemiology department continues investigate mumps outbreak that began since the end of April, 2013 in Khan-Younes governorate and mainly Ma'en area. During the second quarter, a total of 417 cases of clinically diagnosed mumps were reported in all Gaza governorates (anti mumps IgM was detecting from some cases). The majority of Mumps cases (80%) were from Khan-Younes governorate (Ma'en area). The majority of cases were male with a male:female ratio of 3.6:1. The age of the children varies mainly from 6-15 years. All were previously immunized only by one dose of Measles, Mumps and Rubella (MMR) vaccine. Only two complicated cases were reported with orchitis and meningo-pancreatitis. All cases were recovered including complicated cases with a case fatality rate of zero%.

According to the recent Palestinian schedule for immunization (2009), all children began receiving two doses of MMR vaccine, with the first dose administered at 12 months and the second dose at

Continued on page 7

Ongoing outbreak of Aseptic Meningitis

Continued from page 1

course varies with age and is usually characterized in older children by fever, headache, photo-phobia, neck rigidity and hyperesthesia, and in infants by fever, irritability lethargy, poor feeding, vomiting and bulging fontanel.

An outbreak of NSM has been ongoing in several areas of Gaza strip mainly Gaza and Mid-Zone governorates since the end of May 2013. By 30 June (during the second quarter), a total of 1269 cases had been notified which constitute more than 10 fold increase compared to the previous quarter (118 cases) and more than three fold increase compared to the same quarter 2012 (416 cases). The Epidemiology department staff initiated collecting of data to describe the outbreak. In this outbreak, NSM cases were characterized by atypical manifestations like fever, drowsiness, vomiting, diarrhea, headache, sore throat and abdominal pain. Most of the cases were registered in Al-Nasser and Al-Aqsa hospitals. About 58% of reported cases were male and about 50% were

Our E-Mail:

epidept-phc@moh.gov.ps

infants. The age of the children varies from one to twelve. The mean age of cases was two years (SD 2.2). Clusters of cases were reported among the same family provides evidence of person-to-person transmission which explains the long duration of the outbreak of NSM.

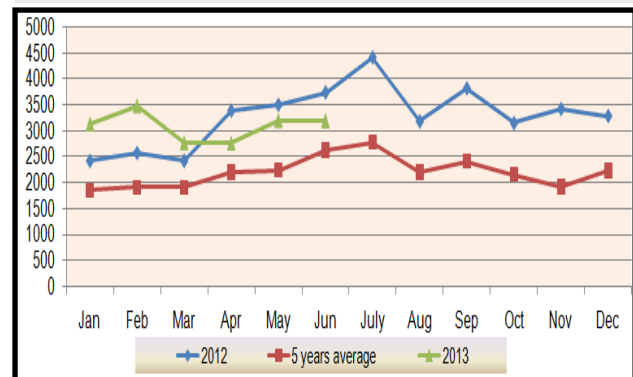
All cases were diagnosed based on the presence of more than 5 cells in the cerebrospinal fluid (CSF). In addition, no organisms were seen on direct smears and the result of CSF cultures was negative for bacteria. Some specimens were sent to Israeli hospitals for viral study but no viruses were isolated.

Other than hand washing and improvement of personal hygiene, there are no effective control measures to halt person-to-person transmission of viral infection. In absence of appropriate diagnostic facilities, doctors tend to assume that meningitis is of bacterial etiology. So doctors have been alerting on the emerging outbreaks of NSM and the results of cultures in order to reduce unnecessary prescription of antibiotics and duration of hospitalization.

Diarrheal Diseases

Continued from page 4

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

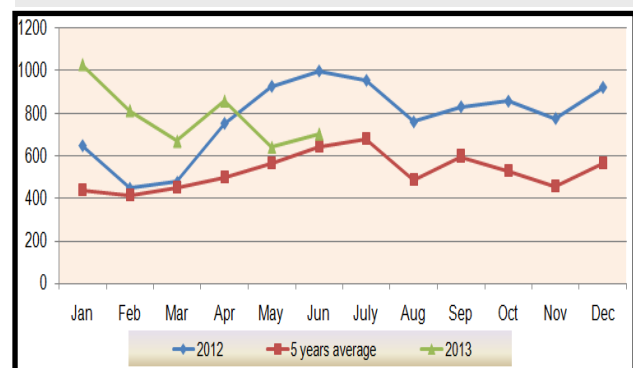


9,193 cases were reported while a total of 9,419 cases were reported in the previous quarter. During the same quarter 2012, a total of 10,650 cases were reported. The majority of cases were reported mainly in North governorate.

Bloody Diarrhea:

There was appropriately the same incidence of reported cases during the first quarter 2013 and the fourth quarters 2012. During the second quarter 2013, a total of 2,204 cases were reported while a total of 2,510 cases were reported during the

Distribution of bloody diarrhea in Gaza strip, 2012-2013



previous quarter. This situation represents a clear decrease comparing to the same quarter 2012 where a total of 2,680 cases were reported. The majority of cases were reported mainly in Mid-Zone and North governorates.

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

Mumps outbreak in a highly vaccinated population. *Continued from page 5*

18 months. Two doses of vaccine convey protection in 90% of vaccine recipients.

Since the introduction of the mandatory vaccination of MMR to the population in 1985, a substantial decrease in reported cases of mumps was noticed. Since that time, the immunization coverage of infants with the recommended schedule has ranged between 94% to 100%.

Control measures were initiated in the form of extensive health education, isolation of patients, follow up of defaulters for MMR.

Vaccination campaign of all susceptible students of Ma'en schools were implemented as a first stage. At the second stage, Ministry of health is planning for a national campaign to vaccinate all children who received only one dose of MMR by a second dose. Although mumps vaccination has not been shown to be effective in preventing mumps in persons already infected, it will prevent infection in those persons who are not infected. If susceptible persons can be vaccinated early in the course of an outbreak, they can be protected. However, cases are expected to continue to occur among newly vaccinated persons who are already infected for at least 3 weeks Following vaccination because of the long incubation period for mumps.

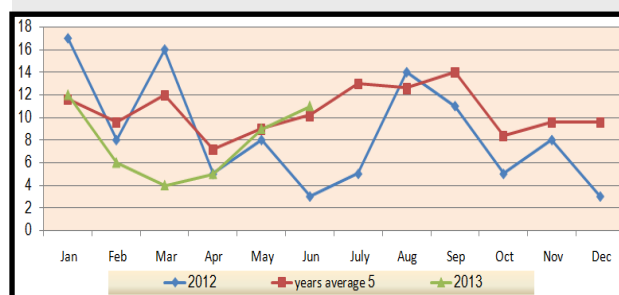
Immediately reported diseases during the second quarter, 2013. *Continued from page 3*

Meningococcal Diseases:

There were an increase of reporting cases of meningococcal diseases during the second quarter 2013 where a total of 25 cases were reported given

an increase trend compared to the first quarter. Comparing to the five years average, the same trend was reported where a total of 68 cases were reported. During the previous quarter a total of 21 cases were reported making a decreasing trend. During the same quarter 2012, only 16 cases of meningococcal diseases were reported. The majority of reported cases (14) were diagnosed as meningo-

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

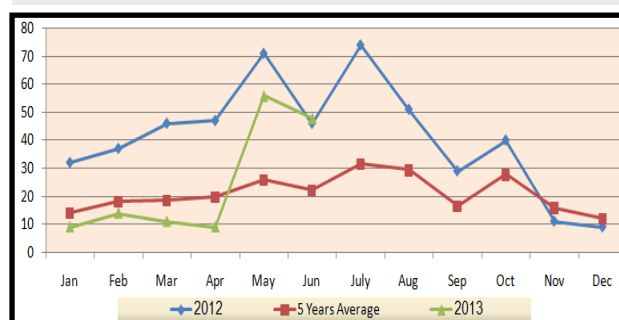


coccal meningitis constituting about 65% from all cases. Among these cases one child with meningococemia was died with a case fatality rate of 4%. The majority of cases were reported in Gaza governorate (10 cases constitute about 40% from the total number of reported cases).

Other bacterial Meningitis cases

There were an increase of reporting cases of other bacterial meningitis during the second quarter 2013 (113 cases were reported) comparing to the previous quarters 2013 (34 cases were reported). During the same quarter 2012, a total of 164 cases

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



were reported suggestive a seasonal increase of the disease during this period. The majority of cases (21) were reported mainly in Gaza and Khan-Younes governorates.

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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