

*Republic of Lebanon
Ministry of Public Health
Directorate of Prevention*

Epidemiological Surveillance Unit

الجمهورية اللبنانية
مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

*Meningitis cases in Lebanon
Annual report 2001*

Republic of Lebanon
Office of the Minister of State for Administrative Reform
Center for Public Sector Projects and Studies
(C.P.S.P.S.)

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Reported Meningitis Cases In Lebanon for year 2001

1-Context:

Meningitis is among the mandatory reportable diseases.

Under one year, the most frequent agent of bacterial meningitis are *Listeria monocytogenes*, *Escherichia coli* and *Streptococcus B*. For children age, the most frequent become *Neisseria meningitis*, *Haemophilus influenza b* and *Streptococcus pneumoniae*. At adult age, the most frequent remain *Neisseria meningitis* and *Streptococcus pneumoniae*.

Primary prevention by immunization is available for *Neisseria meningitis*, *Haemophilus influenza b* and *Streptococcus pneumoniae*. In Lebanon, children immunization includes Hib vaccine.

Prophylactic measures have to be done for to close contacts for *Neisseria meningitis* and also for *Haemophilus influenza b* (if there is close contacts less than 5 years old), in order to prevent secondary cases.

2-Objectives:

- To establish a database on meningitis cases in Lebanon.
- To enhance the surveillance system with rapid response regarding *Neisseria meningitis*, *Haemophilus influenza b* and outbreaks.

3-Material and Methods:

Each case of meningitis has to be notified to the ministry of health (epidemiological surveillance unit), using the reporting form for communicable diseases. (cf. annex)

Furthermore, an investigation form is sent to hospitals for clinical findings, CSF results, and blood results. (cf. annex)

Data and forms are centralized in the epidemiological surveillance unit.

Regarding the information, prophylactic measures are taken towards close contacts, in co-ordination between the hospital physicians, the ministry of health at district (caza or mohafazat) level and eventually the ministry of defense and the schools.

Data entry and analysis are done using the Epiinfo6 software.

4-Results:

a)- Demographic results:

During year 2001, 108 of meningitis cases have been reported to the ministry of health. The overall rate is 2,5 cases of meningitis per 100,000 habitants. *Table 1*

Most of the cases have been reported in the North mohafazat (30,2%) and Mount-Lebanon mohafazat which includes Beirut suburbs (33,0%) and the South mohafazat (17,9%). *Table 2*

According the population size, the high rates by habitants are reported in the South (5,1 /100,000 habitants) and the North (3,4 /100,000 habitants) mohafazats. The other mahafazats have lower rates, which can be explained by under reporting.

The meningitis pic is reported on June (18,5%). *Table 4*

Most cases are among children: under 1 year (12,7%), 1-5 year (33,3%) and 6-20 year (37,3%). *Table 5*

52,8% of the cases are male. *Table 6*

The occupational status of the cases is as follow: school students (50,0%) or children at home (26,3%). *Table 7*

b) Clinical findings:

Clinical findings are reported in 42,6% to 58,3% of the cases. *Table 8*

Purpura, septic choc and gangrena have been seen in 8, 5 and 2 cases respectively. *Table 9*

c)- CSF results:

Lumbar punction results are partially or fully documented for 84,3% of the cases. *Table 10*

68% of the lumbar punction are performed before antibiotic delivery. *Table 11.*

According to the turbid aspect of CSF or the CSF count of 100 or more WBC or the high CSF concentration of proteins ($\geq 1\text{g / dl}$), 77,5% of cases are classified as purulent meningitis. *Table 16*

CSF culture was in 81,2% negative and in 18,8% has shown bacterial agents: 8,7% Neisseria meningitis, 4,3% Haemophilus influenza b and 5,8% Pneumococcal. *Table 17*

CSF soluble antigens were performed in 7,4 to 22,2% of cases, and have been positive in 11 cases: 5 Neisseria meningitis, 3 Haemophilus influenza b and Pneumococcus. *Table 19*

d)-Blood results:

Blood culture was done in 93,5% of cases. *Table 20*

It has been negative in 74,4% and has found bacterial agents in 25,6% : 15,4% *Neisseria meningitis*, 2,6% *Haemophilus influenza b* and 5,1% *Pneumococcus*. *Table 21*

e)- Strain isolates:

Meningitis bacterial isolated strains were sent to the Central Laboratory of the ministry of health in 8 cases for confirmation and further testing. 50% were confirmed and 50% were negative mostly because of lack of good transportation condition. *Table 22*

f)- Follow-up:

4 deaths were notified, due to *Haemophilus influenza b*, *Pneumococcus* and unknown purulent meningitis. Fatality rate of all purulent meningitis is $4/69=0,058$ (5,8%). Fatality of all meningitis is 8,3%. *Table 23*

f)- Prophylaxis for close contacts:

Chemical prophylaxis for close contacts was performed for 19 cases, and was documented for 13 cases. For documented cases, 463 persons were protected and no secondary cases were observed. *Table 26*

g)- Meningitis type:

According to clinical findings and CSF results, we can distinguish:

- *Neisseria meningitis meningitis* : 14,8 %
- *Haemophilus influenza b meningitis*: 3,7 %
- *Pneumococcal meningitis*: 0,9%
- *Tuberculosis meningitis*: 2,8 %
- Other known bacterial agent meningitis: 45,5 %
- Other purulent meningitis with unknown agents: 15,7 %
- Viral meningitis: 15,7 %
- Non documented meningitis: 8,3%.

Other purulent meningitis are those who ~~are~~ have negative CSF or blood culture or CSF soluble antigens, and who have turbid CSF aspect, or WBC ≥ 100 or Proteins ≥ 1 g/dl. *Table 27*

Data related to each kind of meningitis are shown in details in tables 27 to 36.

Finally, the table 37 summarizes the chance or possibility of finding out the bacterial agents among all purulent meningitis, including those where bacterial agents were found. The higher rates was 66,6 % in the Beqaa mohafazat regarding the probable under-reporting of cases, and the lower rate

was in the Nabatiyeh and the South mohafazats. This rate can be used as an indicator of laboratory performance.

h)- Meningitis graphs:

Graphs of meningitis cases over week in year 2001, at national, mohafazat and caza levels have shown 3 pics. All of them were not outbreaks.

The pic of week (23) for the caza of Chouf gathered 3 cases: 2 within the same family with a CSF lymphocytic numeration, the third case was a far unspecified case.

The pic of week (15) in the caza of Tripoli gathered 3 cases which were from different areas of Tripoli. 1 was due to Pneumococcus.

The pic of week (26) in the caza of Saida gathered 5 cases. 3 had viral or lymphocytic formule in CSF results, one was purulent meningitis and the last one was not documented.

i)- Meningitis case mapping

The map (1) shows the distribution of different cases reported during the year 2001 in Lebanon. Many cases occurred in cities which have the higher population density.

5-Conclusion:

Meningitis cases are reported since 1957 and the Lebanese surveillance system has been re-activated in 1994.

However, it is the first time, CSF results were documented for more than 80% (84,3%). Still more efforts have to be conducted:

- To enhance reporting of meningitis cases
- To complete CSF results for all the cases
- To establish national guidelines for prophylatic measures for close contacts.

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Graph (1): All meningitis in Lebanon for year 2001

Graph (2): All meningitis in Beirut Mohafazat for year 2001

Graph (3): All meningitis in the North Mohafazat for year 2001

Graph (4): All meningitis in Akkar Caza (North) for year 2001

Graph (5): All meningitis in Minieh–Danieh Caza (North) for year 2001

Graph (6): All meningitis in Tripoli Caza (North) for year 2001

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Graph (9): All meningitis in the Beqaa Mohafazat for year 2001

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Graph (21): All meningitis in Mount-Lebanon Mohafazat for year 2001

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Graph (25): All meningitis in Baabda Caza (Mount-Lebanon) for year 2001

Graph (26): All meningitis in Aleyh Caza (Mount-Lebanon) for year 2001

Graph (27): All meningitis in Chouf Caza (Mount-Lebanon) for year 2001

MAP

Map (1): Meningitis cases

Table (1): All meningitis - Total cases

	N cases	%	Rate /100000 habitants
	108	100.0	2.5

Table (2): All meningitis - Repartition and rates by Mohafazat

	N cases	%	Rate /100000 habitants
North	32	30.2 ✓	3.4
Beqaa	8	7.5	1.4
Nabatiyeh, Moh	5	4.7	1.7
South	19	17.9	5.1
Mount-Lebanon	35	33.0 ✓	2.2
Beirut	7	6.6	1.3
Unspecified	2		
TOTAL	108	100.0	2.5

Table (3): All meningitis - Repartition and rates by Caza

	N cases	%	Rate /100000 habitants
Akkar	10	9.4	3.6
Minieh Danieh	4	3.8	2.9
Tripoli	15	14.2	4.8
Zgharta			
Koura	3	2.8	4.5
Batourn			
Bchirre			
Hermel	1	0.9	1.8
Baalbeck	4	3.8	1.8
Zahleh	2	1.9	1.2
Beqaa Gharby			
Rachaya	1	0.9	2.9
Nabatiyeh, Caza	2	1.9	1.5
Hasbaya			
Marjiyoun	3	2.8	5.1
Bint Jbeil			
Saida	16	15.1	9.5
Sour	3	2.8	1.7
Jezzine			
Jbeil	2	1.9	1.1
Kesrouan	3	2.8	3.4
Metn	2	1.9	0.4
Baabda	14	13.2	2.7
Aleyh	6	5.7	4.4
Chouf	8	7.5	4.8
Beirut	7	6.6	1.3
Unspecified	2		
TOTAL	108	100.0	2.5

Table (4): All meningitis – Repartition by month

	N cases	%
January	8	7.4
February	10	9.3
March	11	10.2
April	12	11.1
May	13	12.0
June	20	18.5
July	12	11.1
August	13	12.0
September	2	1.9
October	1	0.9
November	4	3.7
December	2	1.9
TOTAL	108	100.0

Table (5): All meningitis – Repartition by age group

	N cases	%
Under 1 year	13	12.7
1 - 5 year	34	33.3
6 - 20 year	38	37.3
21- 40 year	11	10.8
41- 60 year	3	2.9
>= 61 year	3	2.9
Unspecified	6	
TOTAL	108	100.0

Table (6): All meningitis – Repartition by sex

	N cases	%
Male	57	52.8
Female	51	47.2
Unspecified		
TOTAL	108	100.0

Table (7): All meningitis – Repartition by occupational status

	N cases	%
Child at home	21	26.3
Kindergarden child	5	6.3
Scholar	40	50.0
Student		
Military	2	2.5
Others	12	15.0
Unspecified	28	
TOTAL	108	100.0

Table (8): All meningitis – Information on clinical findings available

	Known	Unknown	TOTAL
High temperature	63	45	108
%	58.3	41.7	100.0
Frissons	48	60	108
%	44.4	55.6	100.0
Raideur nuque	62	46	108
%	57.4	42.6	100.0
Fontanelle bombée	48	60	108
%	44.4	55.6	100.0
Kerning	48	60	108
%	44.4	55.6	100.0
Brudzinski	49	59	108
%	45.4	54.6	100.0
Photophobia	47	61	108
%	43.5	56.5	100.0
Prostration	46	62	108
%	42.6	57.4	100.0
Nausea, vomiting	60	48	108
%	55.6	44.4	100.0
Purpura	54	54	108
%	50.0	50.0	100.0
Hypotension	52	56	108
%	48.1	51.9	100.0
Septic choc	50	58	108
%	46.3	53.7	100.0
Gangrena	50	58	108
%	46.3	53.7	100.0
Convulsions	52	56	108
%	48.1	51.9	100.0

Table (9): All meningitis – Clinical findings (when available)

	Yes	No	TOTAL
High temperature	58	5	63
%	92.1	7.9	100.0
Frissons	24	24	48
%	50.0	50.0	100.0
Raideur nuque	42	20	62
%	67.7	32.3	100.0
Fontanelle	3	45	48
%	6.3	93.8	100.0
Kerning	29	19	48
%	60.4	39.6	100.0
Brudzinski	28	21	49
%	57.1	42.9	100.0
Photophobia	25	22	47
%	78.3	21.7	100.0
Prostration	20	26	46
%	43.5	56.5	100.0
Nausea, vomiting	47	13	60
%	78.3	21.7	100.0
Purpura	8	46	54
%	14.8	85.2	100.0
Hypotension	4	48	52
%	7.7	92.3	100.0
Septic choc	5	45	50
%	10.0	90.0	100.0
Gangrena	2	48	50
%	4.0	96.0	100.0
Convulsions	12	40	52
%	23.1	76.9	100.0

Table (10): All meningitis – Documentation on lumbar punction

	N cases	%
Lumbar punction documented	91	84.3
Lumbar punction not documented	17	15.7
TOTAL	108	100.0

Table (11): All meningitis – Lumbar punction before Antibiotics

	N cases	%
Lumbar punction done before atb	40	68
Lumbar punction done after atb	19	32
Unspecified	49	
TOTAL	108	100.0

Table (12): All meningitis – CSF aspect

	N cases	%
Clear	30	47.6
Trouble, turbid	30	47.6
Bloody	3	4.8
Unspecified	45	
TOTAL	108	100.0 %

Table (13): All meningitis – WBC count in CSF

	N cases	%
<100 WBC	20	26.0
100-499 WBC	25	32.5
500-999 WBC	14	18.2
>=1000 WBC	17	23.4
Unspecified	32	
TOTAL	108	100.0

Table (14): All meningitis – Segmented WBC % in CSF

	N cases	%
>=65 % Segmented	34	46.0
45-64 % Segmented	10	13.5
< 45 % Segmented	30	40.5
Unspecified	34	
TOTAL	108	100.0

Table (15): All meningitis – Proteins in CSF

	N cases	%
< 1 g/dl	49	72.1
>=1 g/dl	19	27.9
Unspecified	40	
TOTAL	108	100.0

Table (16): All meningitis – Purulent meningitis (turbid CSF aspect and/or ≥ 1000 WBC and/or ≥ 1 g/dl proteins)

	N cases	%
Purulent meningitis	69	77.5
Non purulent	20	24.5
Unspecified	19	
TOTAL	108	100.0

Table (17): All meningitis – CSF: culture results

	N cases	%
Neisseria meningitis	6	8.7
Haemophilus influenzae b	3	4.3
Pneumococcus	4	5.8
Tuberculose		
Negative culture	56	81.2
Unspecified	39	
TOTAL	108	100.0

Table (18): All meningitis – CSF: Soluble Antigens performed

	Yes	Unknown	TOTAL
Neisseria meningitis	24	84	108
%	22.2	77.8	100.0
Haemophilus influenzae b	21	87	108
%	19.4	80.6	100.0
Pneumococcus	22	86	108
%	20.4	79.6	100.0
E. coli	8	100	108
%	7.4	92.6	100.0
Strep B	8	100	108
%	7.4	92.6	100.0

Table (19): All meningitis – CSF: Soluble Antigens results

	Negative	Positive	TOTAL
Neisseria meningitis	5	19	24
%	20.8	79.2	100.0
Haemophilus influenzae b	3	18	21
%	14.3	85.7	100.0
Pneumococcus	3	19	22
%	13.6	86.4	100.0
E. coli	0	8	8
%	0	100.0	100.0
Strep B	0	8	8
%	0	100.0	100.0

Table (20): All meningitis – Blood culture

	N cases	%
Blood culture done	43	93.5
Blood culture not done	3	6.5
Unspecified	62	
TOTAL	108	100.0

Table (21): All meningitis – Blood culture results (if done)

	N cases	%
Neisseria meningitis	6	15.4
Haemophilus influenzae b	1	2.6
Pneumococcus	2	5.1
Moraxella sp.	1	2.6
Culture negative	29	74.4
Unspecified	4	
TOTAL	43	100.0

Table (22): All meningitis – Strains sent to Central Laboratory

	Strains sent to C.L.	Culture positive	Culture negative
Neisseria meningitis	6	3	3
Haemophilus influenzae b	1	1	0
Pneumococcus	1	0	1
TOTAL	8	4	4

Table (23): All meningitis – Follow-up

	N cases	%
Guerison	44	91.7
Death	4	8.3
Unknown	60	
TOTAL	108	100.0

Table (24): All meningitis – Prophylactic measures for close contacts

	N cases	%
Done and documented	13	12.0
Done, not documented	6	5.5
Not done, unknown	89	82.5
TOTAL	108	100.0

Table (25): All meningitis – Prophylactic measures provided by whom

	N cases for whom prophylactic measures were taken	%
MOH	6	46.2
Ministry of Defense	2	15.4
Private Hospitals	5	38.5
Unknown		
TOTAL	13	100.0

Table (26): All meningitis – Prophylactic measures: the close contacts (for 13 documented cases)

	N close contacts who received atb	%
From families	323	69.8
From Schools, kinergarden	67	14.5
From military camps	73	15.8
Unknown		
TOTAL	463	100.0

Table (27): By meningitis types – Total cases

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
N cases	16	4	9	1	3	49	17	9	108
%	14.8	3.7	8.3	0.9	2.8	45.4	15.7	8.3	100

Table (28): By meningitis types – Geographical Repartition by Mohafazat

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
North	7	4	1			16	1	3	32
Beqaa	1		2	1		2	2		8
Nabatiyeh						5			5
South						10	6	3	19
Mount-Lebanon	5		5		3	13	7	2	35
Beirut	2		1			3	1		7
Unspecified	1							1	1
TOTAL	16	4	9	1	3	49	17	9	108

Table (29): By meningitis types – Geographical Repartition by Caza

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
Akkar	1	3				6			10
Minieh Danieh	2					1		1	4
Tripoli	3	1	1			7	1	2	15
Zghrata									
Koura	1					2			3
Batourn									
Bchirre									
Hermel						1			1
Baalbeck			2	1		1			4
Zahleh	1						1		2
Beqaa Gharby									
Rachaya							1		1
Nabatiyeh, Caza						2			2
Hasbaya									
Marjiyoun						3			3
Bint Jbeil									
Saida						8	6	2	16
Sour						2		1	3
Jezzine									
Jbeil	1		1						2
Kesrouan	1		1			1			3
Metn						1	1		2
Baabda	2		2		1	6	1	2	14
Aleyh	1		1			2	2		6
Chouf					2	3	3		8
Beirut	2		1			3	1		7
Unspecified	1							1	
TOTAL	16	4	9	1	3	49	17	9	108

Table (32): By meningitis types – Repartition by sex

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
Male	10	1	6		1	26	7	6	57
Female	6	3	3	1	2	23	10	3	51
Unspecified									
TOTAL	16	4	9	1	3	49	17	9	108

Table (33): By meningitis types – Repartition by occupational status

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
Child at home	2	2	3		2	6	5	1	21
Kindergarden child						3	1	1	5
Scholar	5		1		1	23	8	2	40
Student									
Military	2								2
Others	5		2			5			12
Unspecified	2	2	3	1		12	3	5	28
TOTAL	16	4	9	1	3	49	17	9	108

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Table (34): By meningitis types – Diagnosis findings I

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
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Clinical symptoms

Purpura	8								8
Septic choc	3	1				1			5
Gangrena	1	1							2
Convulsions	1	1	1			5	4		12

Documentation on Lumbar puncture

Lumbar puncture documented	13	4	6	1	2	47	17	1	91
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Lumbar puncture performed before Antibiotics

Lumbar puncture before ATB	6	1	3		1	24	5		40
Lumbar puncture after ATB	2		1	1		8	7		19
Unspecified	8	3	5		2	17	5	9	49

CSF: Aspect

Clear	3			1		14	12		30
Turbid	5	3	2			20			30
Bloody			1		1	1			3
Unspecified	8	1	6		2	14	5	9	45

CSF: WBC counts

< 100 WBC		1				3	16		20
100-499 WBC	1		2	1	2	19			25
500-999 WBC	1		1			12			14
>= 1000 WBC	5	1				12			18
Unspecified	9	2	6		1	3	1	9	31

TOTAL	16	4	9	1	3	49	17	9	108
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Table (35): By meningitis types – Diagnosis findings II

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
--	----------------------	--------------------------	--------------	--------------	-----------------------------	--------------------------------------	-------	-------------	-------

CSF: Segmented WBC %

>= 65 % Segmented	7	1	4			17	5		34
45-64 % Segmented	1				1	7	1		10
< 45 % Segmented	1		1	1		19	8		30
Unspecified	7	3	4		2	6	3	9	34

CSF: Proteins

< 1 g / dl	3		1		1	30	14		49
>= 1g / dl	2	2	3	1	1	10			19
Unspecified	7	1	4		1	6	2	9	30

CSF: Purulent meningitis (turbid CSF, or WBC>= 100 or Proteins >= 1g/dl)

Purulent meningitis	10	3	4	1	2	49			69
Non purulent	2		1				17		20
Unspecified	4	1	4		1			9	19

CSF: Culture results

CSF culture positive	6	3	4		1				14
CSF culture negative	2		1		1	37	14	1	56
Unspecified	9	1	4	1	1	12	3	8	38

CSF: Soluble Antigens results

CSF Antigens positive	5	3	3						11
CSF Antigens negative	1		1						2
Unspecified	10	1	5	1	3	49	17	9	95

TOTAL	16	4	9	1	3	49	17	9	108
--------------	----	---	---	---	---	----	----	---	-----

Table (36): By meningitis types – Diagnosis findings III

	Neisseria Meningitis	Haemophilus influenzae b	Pneumococcus	Tuberculosis	Other purulent known agents	Purulent meningitis + unknown agents	Viral	Unspecified	TOTAL
--	----------------------	--------------------------	--------------	--------------	-----------------------------	--------------------------------------	-------	-------------	-------

Blood culture results

Blood culture positive	6	1	2		1				10
Blood culture negative	1		1	1		18	8		29
Blood culture not done or unknown	9	3	6		2	31	9	9	69

Strains sent to the Central Laboratory

Strains sent and positive	3	1							4
Strains sent and negative	3		1						4
Strains not sent		2	3		2				7
No isolated strains or unknown	10	1	5	1	1	49	17	9	93

Follow-up of the patients

Guerison	8		2	1	3	20	10		44
Death		1	2			1			4
Unspecified	8	3	5			28	7	9	60

Prophylactic measures performed

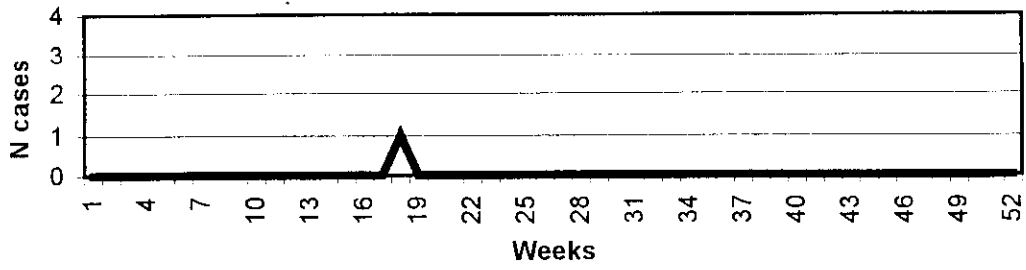
Prophylactic measures done and documented	13	2	1			3			19
Prophylactic measures not documented, not done or unknown	3	2	8	1	3	46	17	9	89

TOTAL	16	4	9	1	3	49	17	9	108
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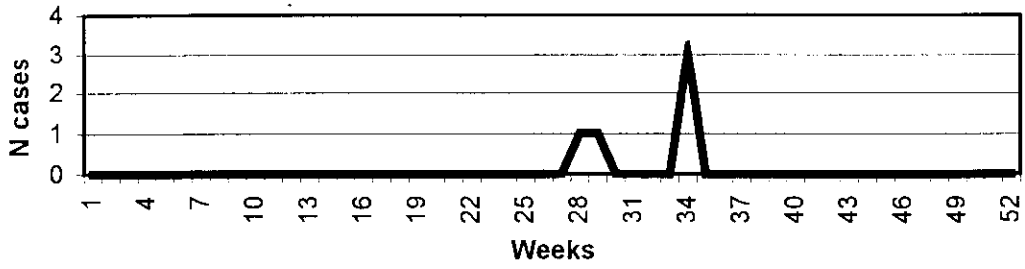
Table (37): All meningitis – Proportion of isolated bacterial agents

	Total cases	Total purulent cases (2)	Total cases with isolated agents (3)	% of (3) / (2)
LEBANON	108	82	29	35.4
North	33	29	12	41.4
Beqaa	8	6	4	66.6
Nabatiyeh, Moh	5	5	0	0.0
South	19	10	0	0.0
Mount-Lebanon	34	24	8	33.3
Beirut	7	6	3	50.0

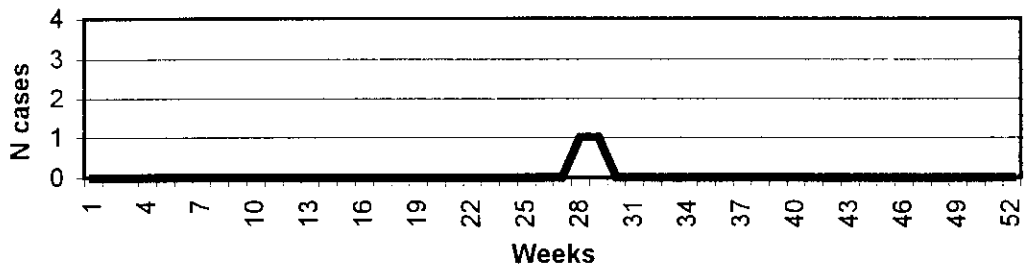
**GRAPH (13): All meningitis cases in the Caza of Rachaya (Beqaa)
for year 2001**



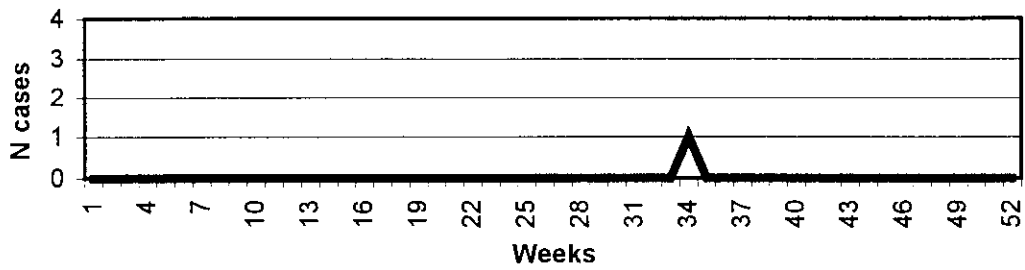
GRAPH (14): All meningitis cases in the Mohafazat of the Nabatiyeh for year 2001



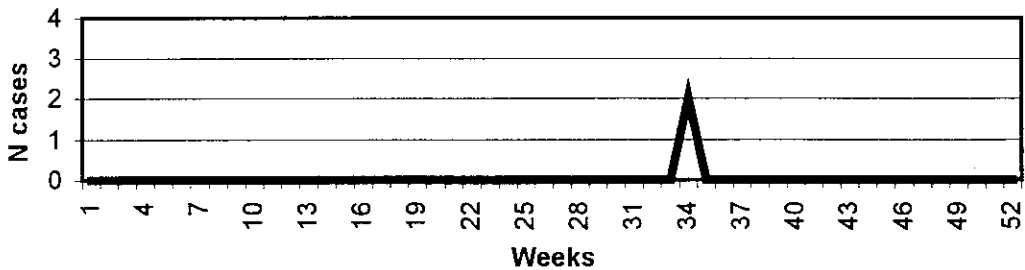
GRAPH (15): All meningitis cases in the Caza of Nabatiyeh (Nabatiyeh) for year 2001



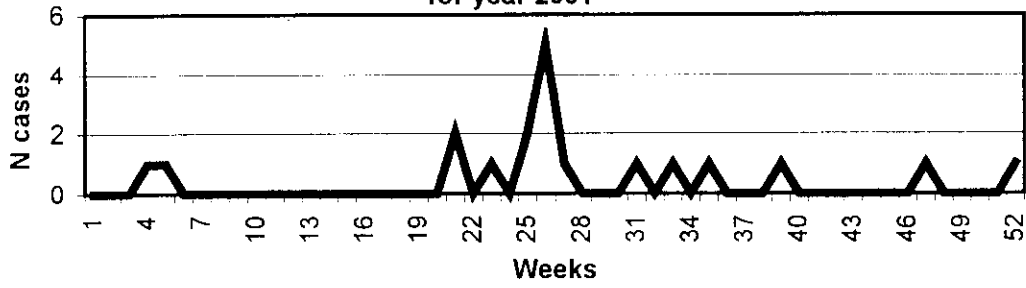
GRAPH (16): All meningitis cases in the Caza of Hasbaya (Nabatiyeh) for year 2001



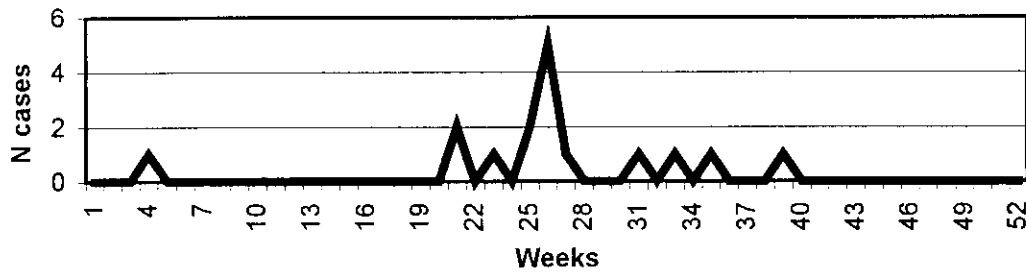
GRAPH (17): All meningitis cases in the Caza of Marjiyoun (Nabatiyeh) for year 2001



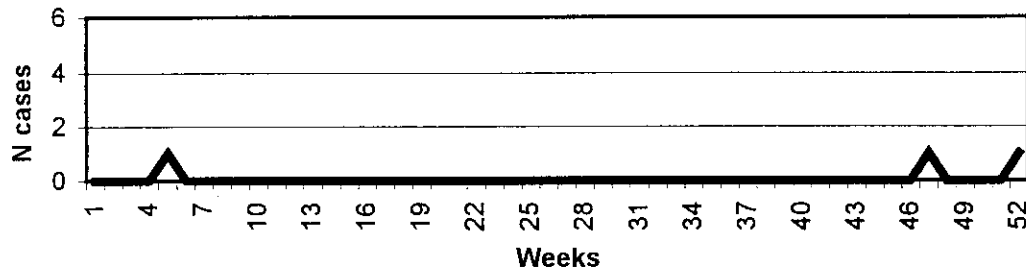
GRAPH (18): All meningitis cases in the Mohafazat of the South for year 2001



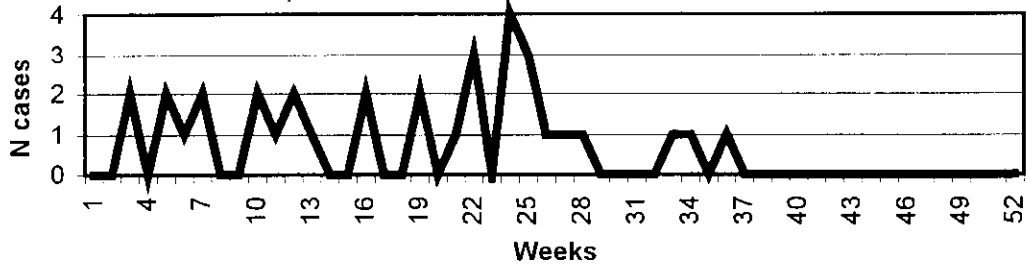
GRAPH (19): All meningitis cases in the Caza of Saida (South) for year 2001



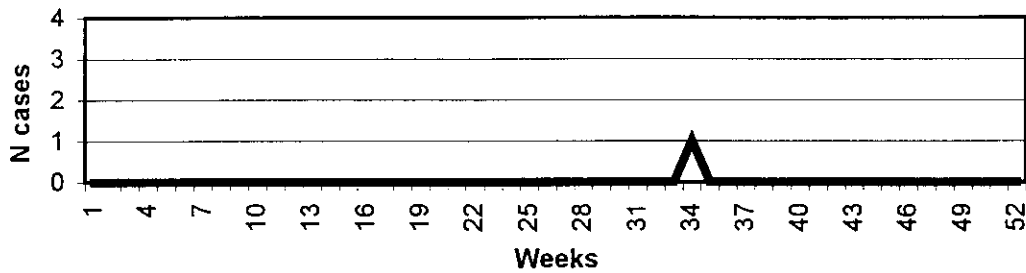
GRAPH (20): All meningitis cases in the Caza of Sour (South) for year 2001



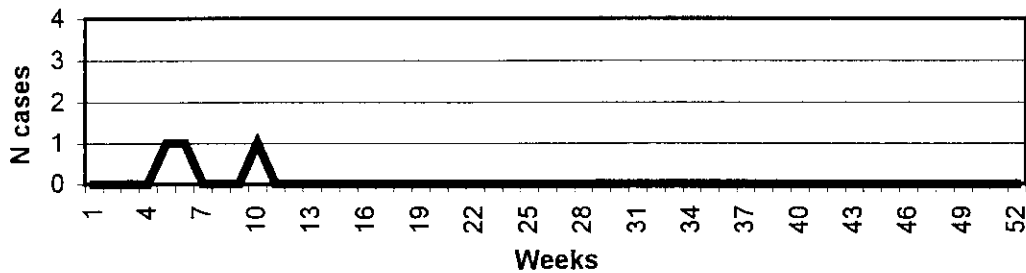
GRAPH (21): All meningitis cases in the Mohafazat of Mount-Lebanon for year 2001



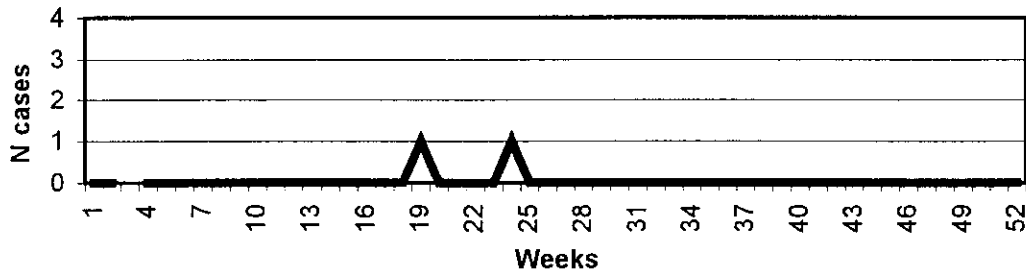
GRAPH (22): All meningitis cases in the Caza of Kesrouan (Mount-Lebanon) for year 2001



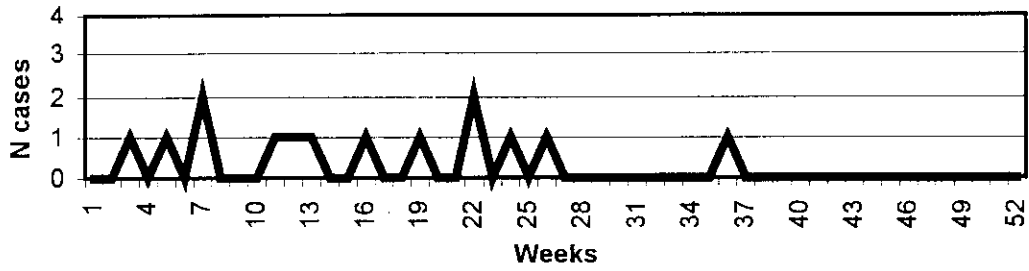
GRAPH (23): All meningitis cases in the Caza of Jbeil (Mount-Lebanon) for year 2001



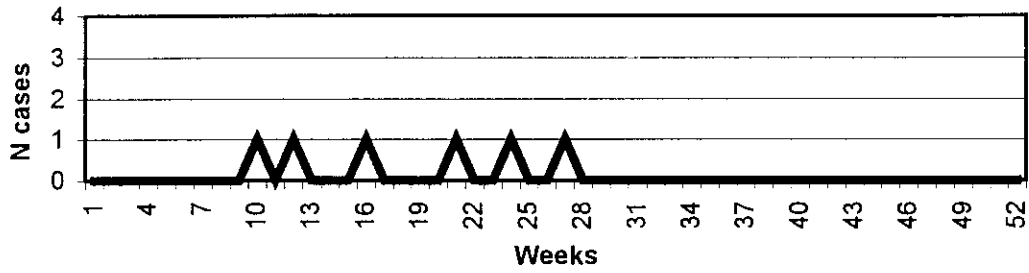
GRAPH (24): All meningitis cases in the Caza of Metn (Mount-Lebanon) for year 2001



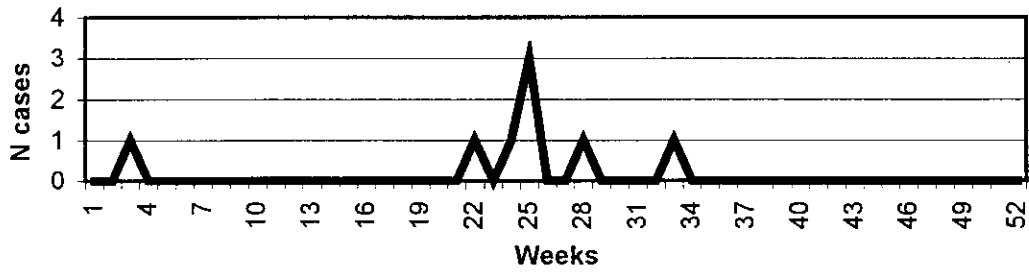
**GRAPH (25): All meningitis cases in the Caza of Baabda
(Mount-Lebanon) for year 2001**



**GRAPH (26): All meningitis cases in the Caza of Aleyh
(Mount-Lebanon) for year 2001**

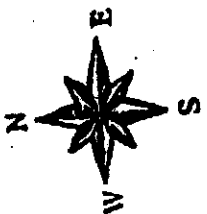
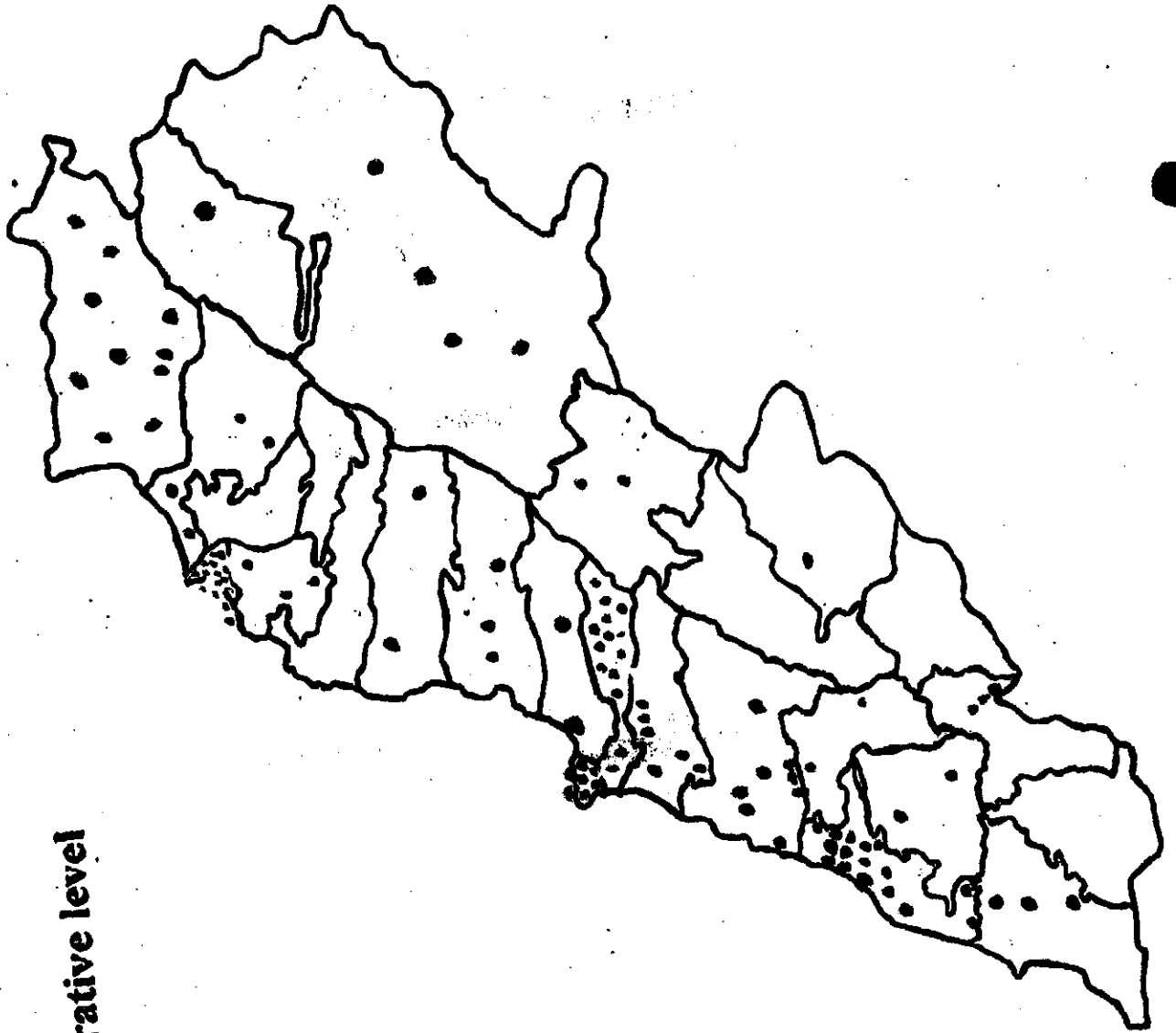


**GRAPH (27): All meningitis cases in the Caza of Chouf
(Mount-Lebanon) for year 2001**



Lebanon
Second sub-national level

Regions at the 2nd Administrative level



استمارة إبلاغ عن مرض إنتقالي

<p>Immediate Reportable Cases / الأمراض الإنتقالية التي تبلغ فوراً</p> <ul style="list-style-type: none"> <input type="checkbox"/> Acute Flaccid Paralysis / الشلل الرخو الحاد <input type="checkbox"/> Cholera / الكوليرا <input type="checkbox"/> Diphtheria / الخانوق <input type="checkbox"/> Food Poisoning / التسمم غذائي <input type="checkbox"/> Malaria / الملاريا <input type="checkbox"/> Meningitis (All Agents) / التهاب السحايا <input type="checkbox"/> Neonatal Tetanus / الكزاز الوليدي <input type="checkbox"/> Rabies / الكلب - السعار <input type="checkbox"/> Measles / الحصبة <input type="checkbox"/> Rubella / الحصبة الألمانية <input type="checkbox"/> Congenital Rubella syndrome 	<p>إسم المصاب : إسم الأب : الشهرة :</p>
<p>Unusual cases / الأمراض الإنتقالية غير الإعتيادية (تبلغ فوراً عند حدوثها)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Creutzfeldt - Jacob / كروتسفيلد - جاكوب <input type="checkbox"/> Ebola / الحمى النزفية <input type="checkbox"/> Plague / الطاعون <input type="checkbox"/> Typhus / حمى التيفوس <input type="checkbox"/> Yellow Fever / الحمى الصفراء 	<p>الجنسية : مقيم <input type="checkbox"/> زائر <input type="checkbox"/> تاريخ الولادة : / / الجنس : ذكر <input type="checkbox"/> أنثى <input type="checkbox"/> الوضع التحصيني : (للمريض المبلغ عنه) ملقح <input type="checkbox"/> غير ملقح <input type="checkbox"/> عدد الجرعات : البلدة / الحي : المحافظة / القضاء : رقم الهاتف :</p>
<p>Monthly Reportable Cases / الأمراض الإنتقالية التي تبلغ شهرياً</p> <ul style="list-style-type: none"> <input type="checkbox"/> Bilharzia / بلهارسيا <input type="checkbox"/> Brucellosis / الحمى المالطية <input type="checkbox"/> Dysentery / الزحار <input type="checkbox"/> Hepatitis (A, B, C, D, E) / التهاب الكبد الفيروسي <input type="checkbox"/> Hydatid Cyst / الكيسيات المائية <input type="checkbox"/> Urethritis / السيلان <input type="checkbox"/> Leishmaniasis / حبة حلب <input type="checkbox"/> Cutaneous <input type="checkbox"/> Visceral <input type="checkbox"/> Leprosy / الجذام <input type="checkbox"/> Mumps / أبو كعب <input type="checkbox"/> Parasitic Worms / الديدان المعوية <input type="checkbox"/> Pertussis / الشاهوق <input type="checkbox"/> Syphilis / السلفس <input type="checkbox"/> Tetanus / الكزاز <input type="checkbox"/> Trichinosis / التريشيونز <input type="checkbox"/> Tuberculosis - Pulmonary / السل الرئوي <input type="checkbox"/> Tuberculosis - other sites / أشكال أخرى <input type="checkbox"/> Typhoid & Para Typhoid / الحميات التيفية 	<p>تاريخ ظهور عوارض المرض : / / تاريخ تشخيص المرض : / / هل دخل المريض المستشفى : نعم <input type="checkbox"/> لا <input type="checkbox"/> إسم المستشفى : تاريخ دخول المستشفى : / / هل من تشخيص مخبري : نعم <input type="checkbox"/> لا <input type="checkbox"/> إذا نعم حدد :</p>
<p>إن حالات السيدا تبلغ على وثائق خاصة وترسل في ظرف مختوم مباشرة إلى البرنامج الوطني لمكافحة السيدا</p>	<p>إسم المستشفى/المركز الصحي/المختبر/عيادة خاصة/غيره : العنوان : الهاتف : إسم وصفة المبلغ : التاريخ : / / التوقيع : في الحالات التي تبلغ فوراً إضافة إلى ملء الوثيقة يجب الإتصال مباشرة وخلال ٢٤ ساعة بواسطة الهاتف أو الفاكس بوحدة الترصد الوبائي ومكافحة الأمراض المعدية تلفون ٠١-٦١٤١٩٤/٦ فاكس : ٠١-٦١٥٧٥٩ / ٠١-٦١٠٩٢٠</p>

Cas de MENINGITE : investigation

1- Identification du patient

Prenom	
Prenom du pere	
Nom de naissance	
Nom marital	
Date de naissance/Age	
Sexe	1-masculin 2-feminin
Adresse :qada	
Adresse :commune	
Adresse complete	
Telephone	
Profession du malade	1-enfant au foyer 2-enfant en garderie 3-ecolier 4-etudiat universitaire 5-militaire & service militaire 6-autres

2- La prise en charge

Nom du medecin traitant 1& Telephone	
Nom du medecin traitant 2& Telephone	
Nom de l'hospital & Telephone	
Nom du medecin de laboratoire & Telephone	
Date d'hospitalisation	

3- La clinique

Date debut des symptomes			
Fievre, preciser le pic	1-oui, pic	2-non	9-inconnu
Frissons	1-oui	2-non	9-inconnu
Raideur de la nuque	1-oui	2-non	9-inconnu
Bombement des fontanelles	1-oui	2-non	9-inconnu
Signe de kerning	1-oui	2-non	9-inconnu
Signe de Brudzinski	1-oui	2-non	9-inconnu
Photophobie	1-oui	2-non	9-inconnu
Prostration	1-oui	2-non	9-inconnu
Nausees & vomissements	1-oui	2-non	9-inconnu
Purpura,	1-oui	2-non	9-inconnu
	preciser :		
Hypotension	1-oui	2-non	9-inconnu
Choc septique	1-oui	2-non	9-inconnu
Gangrene des extremités	1-oui	2-non	9-inconnu
Convulsions	1-oui	2-non	9-inconnu
Autres			

4- La ponction lombaire

Date de la ponction			
Ponction réalisée avant le démarrage des antibiotiques	1-oui 2-non 9-inconnu		1-oui 2-non 9-inconnu
GB			
GR			
Formule GB			
Aspect du LCR			
Examen direct			
Proteinoachie (unités)			
Glucorachie (unités)			
LDH			
Culture LCR			
Recherche d'antigènes solubles	Meningocoque Hib Pneumocoque	1-positive 1-positive 1-positive	2-negative 2-negative 2-negative
			9-non faite 9-non faite 9-non faite

5- Les examens de sang

Date de la prise de sang			
GB			
Hb			
PLaquettes			
Formule GB			
Glycemie (unités)			
Hemoculture			
Examen direct			
Hemoculture réalisée avant le démarrage des antibiotiques	1-oui 2-non 9-inconnu		1-oui 2-non 9-inconnu

6- L'antibiothérapie

	<i>A domicile</i>	<i>A l'hôpital</i>
Date de démarrage des atb		
Noms et posologie des atb 1		
Noms et posologie des atb 2		
Noms et posologie des atb 3		
Noms et posologie des atb 4		
Noms et posologie des atb 5		

7- L'évolution

Date de sortie de l'hôpital	
Evolution	1-guérison 2-décès 3-complications
Complications, préciser	

8- Isolement d'une souche bactérienne

Nature souche isolée à l'hôpital			
Souche envoyée au labo central	1-oui	2-non	9-inconnu
Date d'envoi au labo central			
Isolement réussi au labo central	1-oui	2-non	9-inconnu
Nature souche isolée au labo central			

9- Chimio prophylaxie de l'entourage (cas sporadiques)

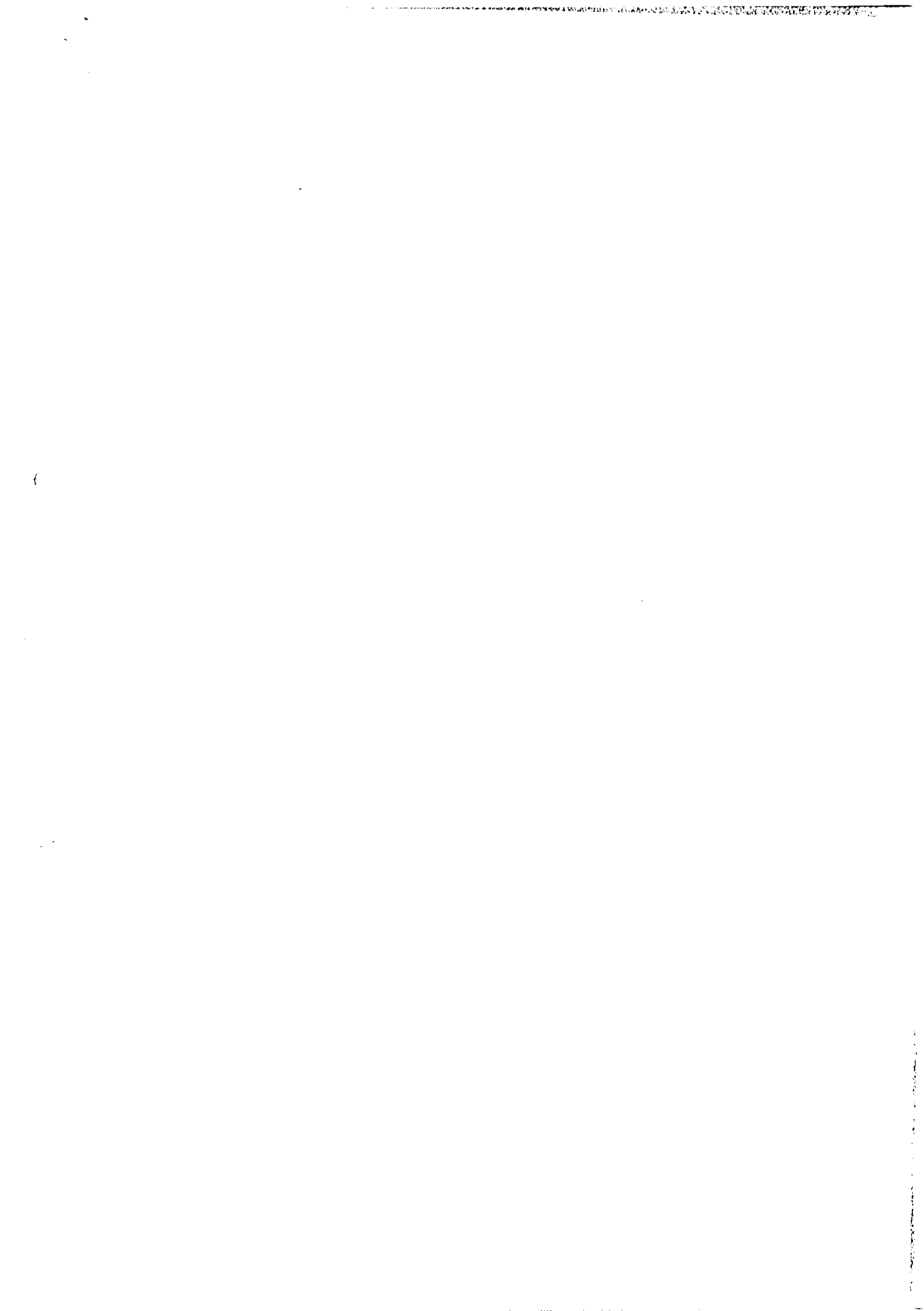
	<i>Famille</i>	<i>Crèche</i>	<i>Ecole</i>	<i>Camp</i>
Présence d'enfant de moins de 5 ans	Oui/Non	Oui/Non	Oui/Non	Oui/Non
Protocole adopté :				
-2 jours rifadine				
-4 jours rifadine				
Date de début de la prophylaxie				
Nb de personnes présentes				
Nb de personnes couvertes				
Prophylaxie réalisée par : préciser				
1-méd traitant				
2-méd qada				
3-méd crèche/scolaire				
4-méd militaire				
5-autres				

10- Nouveaux cas de méningites dans les deux semaines qui suivent

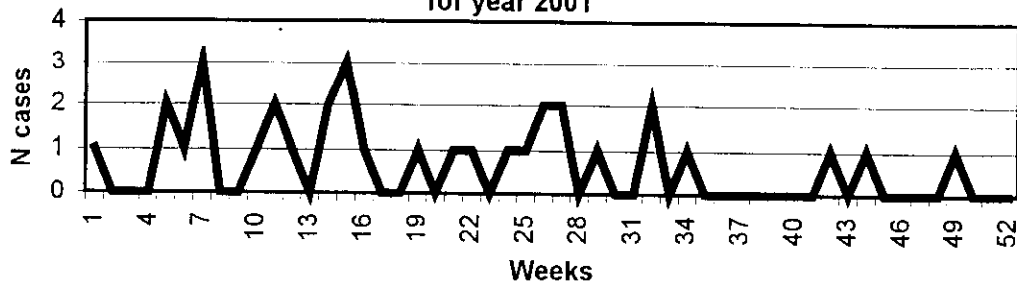
<i>Commune</i>	<i>Famille</i>	<i>Crèche</i>	<i>Ecole</i>	<i>Camp</i>

11- Autres données

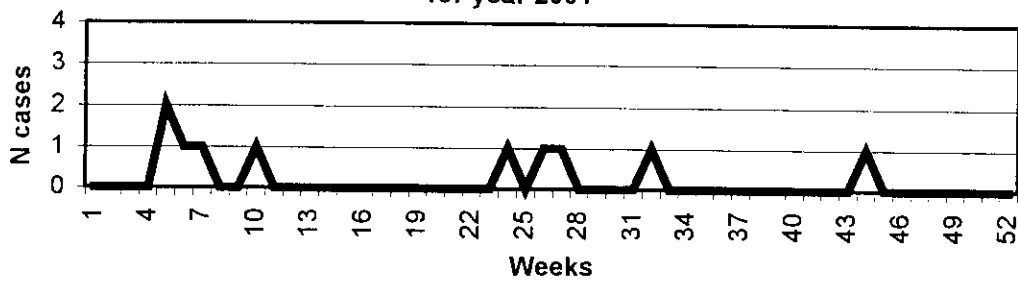
Personne qui a rempli le questionnaire & téléphone	
Date du remplissage	



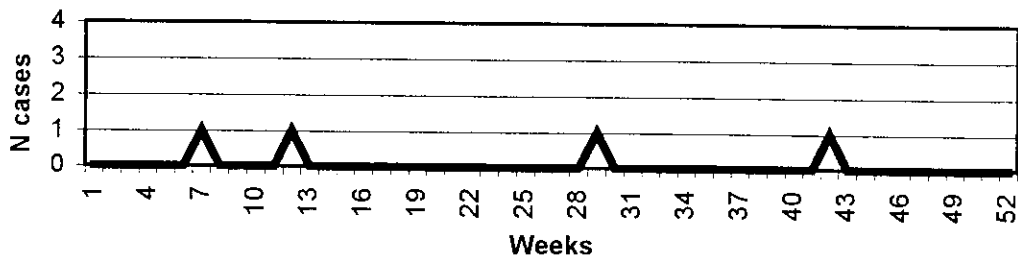
GRAPH (3): All meningitis cases in the Mohafazat of the North for year 2001



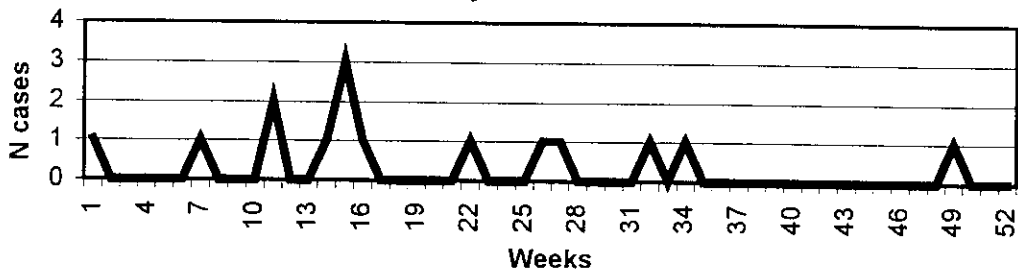
GRAPH (4): All meningitis cases in the caza of AKKAR (North) for year 2001



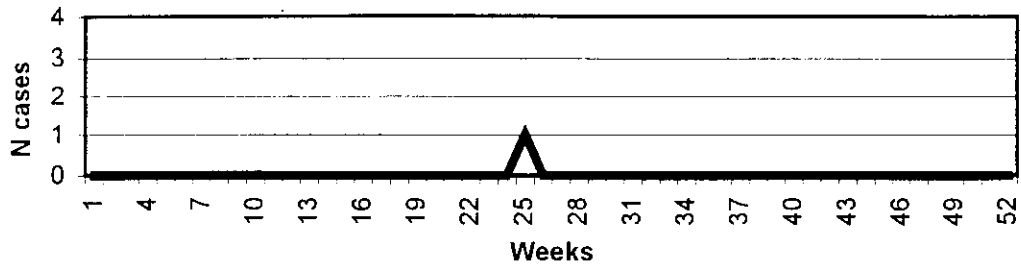
GRAPH (5): All meningitis cases in the caza of Minieh-Danieh (North) for year 2001



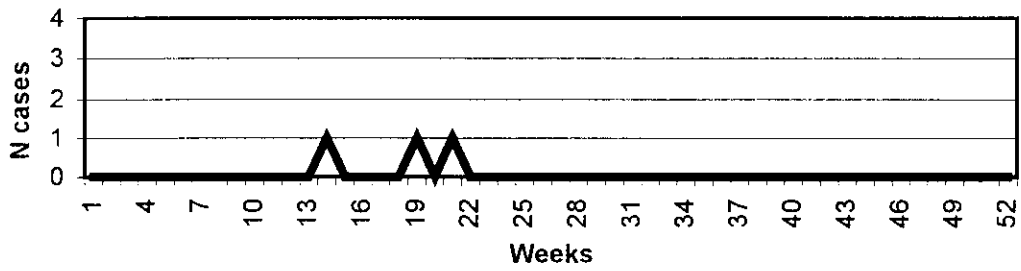
GRAPH (6): All meningitis cases in the caza of Tripoli (North) for year 2001



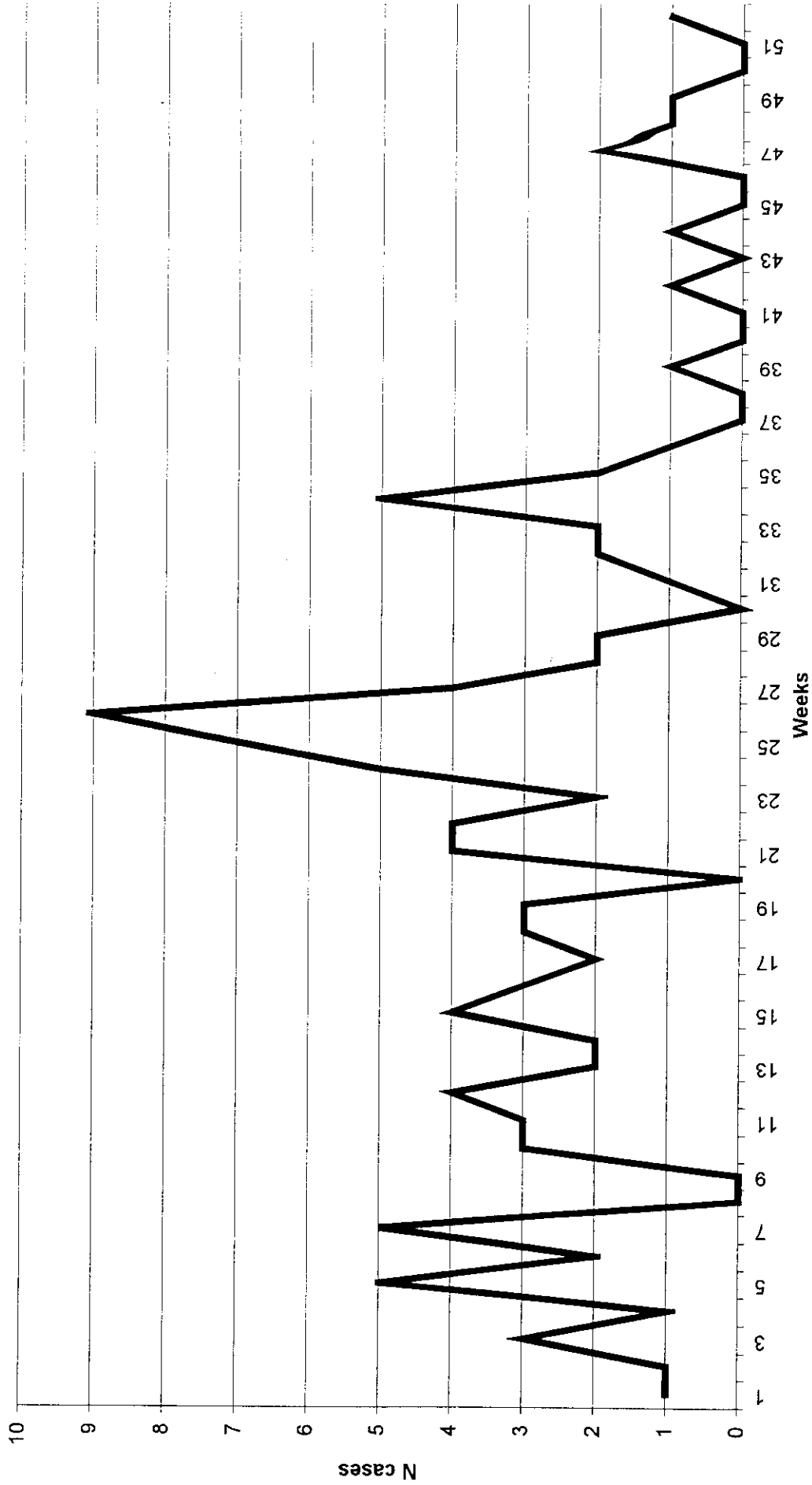
**GRAPH (7): All meningitis cases in the caza of Zgharta (North)
for year 2001**



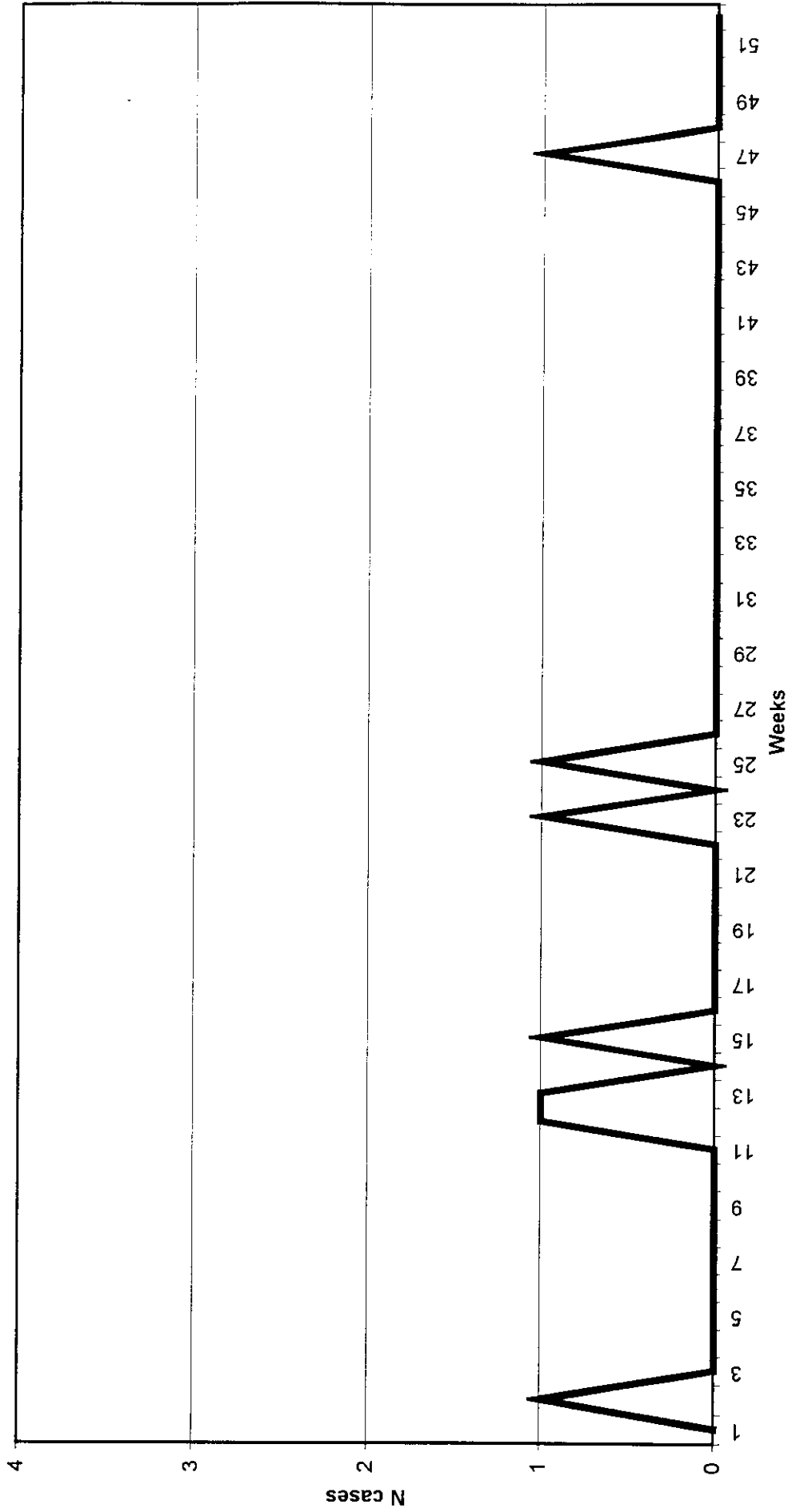
**GRAPH (8): All meningitis cases in the caza of Koura (North)
for year 2001**



GRAPH (1): All meningitis cases in Lebanon for year 2001



GRAPH (2): All meningitis cases in the Mohafazat of Beirut for year 2001



الجمهورية اللبنانية

مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

