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**INCIDENCE OF THE SIX IMMUNIZABLE DISEASES IN THE REGION**

**by**

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The six immunizable diseases are notifiable in most of the countries of this Region (Table 2). However, the data available is insufficient to determine the extent of the problem. The marked difference in the number of cases notified for each of the six diseases by various countries in the Region (Tables 3 to 8) speaks for itself, viz. that the notifications are neither complete nor reliable. It is well known that in the countries of the Region, health facilities are inadequate and the vast majority of the population has little access, if any, to such facilities. Most of the cases of these diseases, particularly in rural areas and to a considerable extent in urban areas, are brought to the health institutions only if they have severe complications. Quite often death occurs before a case is brought to a hospital or a health centre. Furthermore the notification system in the countries of the Region is not adequately developed. Even the cases which reach the health institutions are not all notified by the medical profession.

The available data have been presented (Tables 3 to 8); there can be no difference of opinion that these data are grossly underreported. An effort has therefore been made, based on experience in other countries of the world, to define the magnitude of the problem in the countries of this Region.

### Measles

The available data may be seen in Table 3. It is seen that the incidence of the disease varies from 0.00035 (Lebanon) per thousand of population, to 26.4 (Oman) per thousand of population. The incidence in these countries per thousand births is between 0.008 to 529.

In a study of the natural history of measles (1) in a rural and in an urban area in India in 1974, it was seen that the attack rate in the general population was 72.8 and 31.0 per thousand of population respectively, while for children below 10 years of age it was 345 and 122.4 per thousand in the two areas respectively.

Furthermore in a study in Kenya (2) where approximately 600 000 children are born each year, the reported yearly incidence of measles is 120 000 or 200 per thousand births, mostly in the first 2 years of life.

Hayden (2) found that 2-3 per cent of Kenyan children contract measles before they reach six months of age, 25-30 per cent before the age of 12 months and 55-60 per cent before the age of two years. By the age of 4 years, practically all children have experienced measles.

The above findings of Hayden are corroborated by David Morley in his paper entitled (3) "Severe measles in the tropics"; he states that in the developing countries, more than 30 per cent of children in urban areas may develop measles in the first year of life.

Morley (4) has further shown that in West African towns, 15-20 per cent of children may get measles before they are 9 months old and over 80 per cent by the time they are three years.

It has also been estimated that in the United States about 4 million cases (5) of measles were occurring each year before 1963, i.e. before the vaccination against measles started there. This number is almost equal to the number of births in the United States each year.

It is however said that, before the widespread use of the measles (6) vaccine, as many as 15-30 per cent of children without a clinical history of natural measles infection had serological evidence of a previous measles infection.

Taking into consideration all the above evidence, one may be inclined to agree that the yearly incidence of measles may be equal to 6 313 800 cases for the Region as a whole, or about 25 per thousand of the total population. The above number is equal to about 60 per cent of the births each year in the Region.

It is also seen that in Kuwait in 1975, about 83 per cent of the cases were less than five years of age, and that about 25 per cent were under one year of age.

Based on these findings, one may say that about 1 578 450 cases of measles do occur annually in the Region in children under one year of age and that about 5 240 454 such cases occur annually in children of up to five years of age.

The experience in Kuwait (7) shows that mortality was 1.7 per cent in 1974 and 3.1 per cent in both 1973 and 1975. Since malnutrition along with over-population and unhygienic urban conditions, as well as inadequate health resources are the major factors unfavourably influencing the severity of the disease, there is no doubt that mortality from measles in the countries of the Region is going to be substantial. Even if one may put the case fatality from measles around one per cent, the result would be that 63 138 deaths from measles may be expected annually in the Region. As the case fatality is the highest in the lower age groups, one may agree to a case fatality of 1.9 per cent in age group under one year and of 0.9 per cent from 1 to 4 years of age. At these rates there will be about 29 989 deaths from measles in children under one year of age and about 32 958 deaths in children of 1 to 4 years of age.

The deaths from measles (Table 3 A) will then form about 1.7 per cent of the general mortality or 0.25 per thousand of population.

#### Whooping cough

Whooping cough is said to almost rival measles in importance and severity. Deaths from whooping cough are frequent among infants aged less than one year. However, recording of cases is very low because of the difficulty of making the diagnosis in early infancy.

The number of cases recorded in the countries of the Region (Table 4) varies from 1.2 (Cyprus) per 100 000 population to 1517 (Oman) per 100 000 population. The total number of cases notified (Table 4 A) by fourteen countries/populations amounts to about 112 422 cases from a population of 90 201 031. These notifications give an incidence of 124 cases per 100 000 population.

While looking into the data on whooping cough notifications of England (8) from 1954 to 1966, it is seen that on an average 95 cases of whooping cough were notified per 100 000 population. It has also been said that in California (9) in 1940, just before introduction of potent vaccines, there were reported 15 824 cases and 102 deaths, a morbidity and mortality rates of 228 and 1.47 per 100 000 respectively. The case fatality in this case stands at 0.64 per cent.

The prevailing conditions in the countries of the Region should be borne in mind, together with the fact that most of the cases of whooping cough do not come to the health institutions, and also that even their diagnosis is quite difficult.

One is inclined to agree to an incidence rate of 250 cases per 100 000 population for the countries of the Region. At this rate, these will be about 613 250 cases of whooping cough annually.

It is also seen (8) that about 9 per cent of the cases are under one year of age, and that the case fatality for whooping cough in children under one year of age is 8.9 per 1 000 cases. The overall case fatality in whooping cough is 1.08 per 1 000 of cases.

With the above number of estimated cases in the Region, the number of deaths from whooping cough is calculated to amount to 662. This assumption appears to be too low, as it is said (8) that the majority of people contract the disease at some time during their life and it is thought that about 70 per cent suffer from a clinical attack.

If this be taken as the basis for estimating the morbidity from whooping cough, then there will be almost an equal number of cases (6 313 800) as given for measles in the Region. Based on this figure, the number of cases in children under one year of age will amount to 568 242, with about 5 057 deaths annually. The total of deaths from whooping cough in the Region will then be about 6 818 annually.

### Tetanus

Tetanus is of relatively high incidence in agricultural and under-developed areas, where contact with animal excreta is more common. The disease will continue in agricultural countries and in those with a low standard of living and poor hygiene, unless the population is protected through vaccination.

A considerable number of cases of tetanus occur amongst the newborn, where the mortality is very high. The disease in the newborn is due to the lack of obstetrical care. Babies born in rural areas frequently have a septic umbilical wound. The risk of tetanus neonatorum is particularly high in places where soil, cow dung, ashes and similar substances are used for dressing the umbilical stump.

In the countries of the Region, data on tetanus are available for eleven areas (Table No. 5 (A) -). A total of 1 679 cases was notified, which gave an incidence of 0.3 per 10 000 population or 6.9 per 10 000 live births.

However, in a paper entitled "Recent trends of tetanus mortality in the world" by B. Bytchenko (10), it is estimated that, for the Asian countries, the mean mortality rate may be as high as 14.7 per 100 000 population.

With the above rate, the mortality in this Region from tetanus would be about 36 059 annually. As the overall mortality rate from tetanus (11) is estimated at 45 per cent of the cases, one would expect almost 80 131 cases of tetanus in the Region annually.

Since tetanus neonatorum is estimated (11) to account for about 18 per cent of the total cases, there are likely to be 14 423 cases of tetanus neonatorum in the Region annually with a case fatality rate of almost 85 per cent (11). In tetanus neonatorum the number of deaths in the newborn may be expected to be 12 259 annually in the Region.

However, in another paper entitled "Factors determining mortality due to tetanus", by B. Bytchenko *et al* (12) the estimated mortality due to tetanus neonatorum for Iran is 290.5 per 100 000 births, while for Pakistan it is 1422.9 per 100 000 live births. At this rate, Iran will have approximately 4 437 neonatal deaths due to tetanus, while Pakistan will have almost 45 532 deaths due to tetanus neonatorum, meaning thereby that over 11 per cent of the total deaths in infants under one year of age are due to tetanus neonatorum. Even if the lower estimated rates for Iran are applied to the Region, this would result in 30 450 deaths due to tetanus neonatorum in the countries of the Region annually. It has been said that in some tropical areas tetanus is responsible for as many as 80 incidences per 1 000 live births. This alone would result in about 841 840 cases of tetanus neonatorum in the Region.

### Diphtheria

The number of cases of diphtheria notified by fourteen countries of the Region amount to 3 956 (Table No 6 (A) -), which gives an attack rate of 4.1 per 100 000 of population in the countries concerned. It is however stated (13) that if 50 per cent of the school population and 30 per cent of pre-school children are immune, either by artificial immunization or previous infection, the population may remain protected against diphtheria. In the United States (13), the highest incidence rate of diphtheria recorded is about 40 per 100 000 population and a case fatality rate of around 10 per cent.

With an attack rate of say 15 per 100 000 population, 36 795 cases of diphtheria annually, with about 3 679 deaths, may be predicted for the Region. However, if the attack rate is assumed at 30 per 100 000 population, then the annual number of cases would be 73 590 with 7 359 deaths in the countries of the Region.

### Poliomyelitis

In countries such as those of this Region, where the living conditions of the population are still developing, poliomyelitis remains essentially an infantile disease or one affecting young children. Nearly all cases of paralysis occur in children under the age of 5 years and the majority in infants under the age of 3 years.

The number of cases reported in the Region (Table No 7 (A) -), by 14 of the areas, for one year comes to 2 447. This gives an average attack rate of 2.5 per 100 000 of population in the countries reporting the incidence. This appears to be on the very low side as in a study (14) by David D. Nicholas *et al* entitled "Is Poliomyelitis a serious problem in developing countries? The Danfa Experience", an annual incidence of at least 28 per 100 000 of population has been estimated.

Based on this incidence, the countries of the Region, may expect about 68 684 cases of paralytic poliomyelitis annually.

The age distribution of cases of poliomyelitis in this Region may not be comparable with that in Europe or North America, where relatively a higher percentage of older age groups are also affected. However in Alexandria (15), it is seen that 78.6 per cent of cases are under one year of age, 95 per cent under three years of age and 98.9 per cent under five years of age. The case fatality rate in poliomyelitis is said to be 10 per cent.

Based on the above age distribution, 53 985 cases of poliomyelitis under the age of one year and about 65 249 cases under the age of 5 years may be predicted annually. The overall figure for mortality from poliomyelitis in the Region is likely to be 6 868.

### Tuberculosis

Tuberculosis is one of the major health problems in the countries of the Region. Data on the incidence of the disease for 13 countries/populations (Table No 8 (A) -), are available. These show that 55 693 cases were notified in one year by them, giving an incidence of 0.6 per thousand of population.

The problem of tuberculosis, though great, varies from country to country in the Region. Data available for 13 countries/populations show an incidence of 55 693 cases, giving a yearly incidence rate of 0.6 per thousand of population in the countries concerned. However, different surveys/studies conducted in some of the countries in the Region show the following results:

1. Qatar<sup>(16)</sup> prevalence 3.7 per cent  
incidence 2.14 per 1 000 population
2. Somalia<sup>(17)</sup> prevalence 5 per cent (radiological)  
2.1 per cent (by direct microscopy)
3. Jordan<sup>(18)</sup> prevalence 1 per cent  
incidence 34.8 per 100 000 population
4. Syria <sup>(19)</sup> prevalence 2.04 per cent in Damascus  
1.5 per cent in Homs  
1.0 per cent overall  
0.28 per cent AFB
5. Pakistan<sup>(20-21)</sup> population infected 70 per cent  
prevalence 4 per cent  
incidence 1 per cent
6. Libya <sup>(22)</sup> prevalence 5.8 per cent (radiological)  
1.7 per cent AFB
7. Afghanistan<sup>(23)</sup> prevalence 0.45 per cent
8. Egypt <sup>(24)</sup> prevalence 7 per thousand population  
incidence 75 per 100 000 population

With the above rates (Table 8 B) the number of patients with tuberculosis (prevalence) in these countries would be 4 180 800 in a population of 162 100 000 giving an average prevalence of 2.58 per cent.

This rate of prevalence when applied to the total population of the Region would result in 6 328 765 cases of tuberculosis in the Region. The yearly number of new cases (Table 8B) in the four countries comes to 775 398 in a population of 116 400 000, giving an incidence rate of 0.66 cases per 100 of population. Thus the number of new cases at this rate in the whole Region would be 1 618 986 annually.

Children under five years of age suffering from tuberculosis form about eight per cent of the total cases. Thus in children in the age group 0 to 5 years there are 506 301 cases in the whole Region with a yearly incidence of 62 031 cases.

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Population and number of estimated births  
in the communities of the Region

TABLE NO 1

<u>Name of country</u>	<u>Population 1977*</u>	<u>Estimated Births</u>
Afghanistan	20 000 000	860 000
Bahrain	300 000	12 900
Cyprus	600 000	10 200
Democratic Yemen	1 800 000	90 000
Egypt	38 900 000	1 400 400
Iran	34 800 000	1 531 200
Iraq	11 800 000	519 200
Israel	3 600 000	100 800
Djibouti	250 000**	9 500
Jordan	2 900 000	139 200
Kuwait	1 100 000	48 400
Lebanon	2 800 000	112 000
Libya	2 700 000	129 600
Oman	800 000	40 000
Pakistan	74 500 000	3 278 000
Qatar	100 000	5 000
Saudi Arabia	7 600 000	380 000
Somalia	3 400 000	159 800
Sudan	16 300 000	782 400
Syria	7 800 000	351 000
Tunisia	6 000 000	204 000
United Arab Emirates	200 000	10 000
Yemen Arab Republic	5 600 000	280 000
Palestinian Refugees in the Near East	<u>1 451 031</u>	<u>69 648</u>
T O T A L	<u>245 301 031</u>	<u>10 523 248</u>

\* Source = \* World Population Sheet  
\*\* Population Estimated

TABLE No 2

Diseases Notifiable in the Region  
(out of six immunizable)

Country	Tuberculosis	Measles	Poliomyelitis	Diphtheria	Pertussis	Tetanus
Afghanistan	-	-	-	-	-	-
Bahrain	✓	✓	✓	✓	✓	✓
Cyprus	-	-	✓	✓	-	-
Democratic Yemen	✓	✓	✓	✓	✓	-
Egypt	✓	✓	✓	✓	✓	✓
Iran	✓	✓	✓	✓	-	✓
Iraq	✓	✓	✓	✓	✓	✓
Israel	✓	✓	✓	✓	✓	✓
Djibouti	NA	NA	NA	NA	NA	NA
Jordan	✓	✓	✓	✓	✓	✓
Kuwait	✓	✓	✓	✓	✓	✓
Lebanon	✓	-	✓	✓	-	-
Libya	✓	✓	✓	✓	✓	✓
Oman	NA	NA	NA	NA	NA	NA
Pakistan	✓	✓	✓	✓	✓	-
Qatar	-	-	✓	✓	✓	✓
Saudi Arabia	✓	✓	✓	✓	✓	✓
Somalia	NA	NA	NA	NA	NA	NA
Sudan	✓	✓	✓	✓	✓	✓
Syria	-	✓	✓	✓	-	✓
Tunisia	-	-	✓	✓	-	✓
United Arab Emirates	NA	NA	NA	NA	NA	NA
* Yemen Arab Republic	✓	✓	✓	✓	✓	✓
Palestine Refugees	✓	✓	✓	✓	✓	✓

Source = Seminar on Vital &amp; Health Statistics, Damascus, September 1972

\* Present list of notifiable diseases in Yemen Arab Republic

TABLE 3  
CASES OF MEASLES IN THE REGION

COUNTRY	YEAR	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Total	Cases per 10,000 population
Oman	1976	3657	3891	2993	1948	1682	1355	825	1185	625	999	1121	886	21,167	26.4
Bahrain	1976	662	892	741	781	810	290	260	105	81	43	30	29	4 724	15.7
Cyprus	1976	-	-	3	5	-	-	3	N.A.	6	-	-	-	17	0.028
Democratic Yemen	1975	162	234	269	311	302	154	135	91	54	33	4	14	1 763	0.97
Djibouti (Rep.de)	1976	176	181	188	22	45	30	39	31	42	24	26	19	823	3.29
Iraq	1974	2152	3106	4943	6533	8725	8751	6024	4377	3221	4008	6803	6748	65 391	5.54
Iran	1975	2670	3110	2720	5655	2624	3524	2578	2306	1124	1615	1619	2096	33 641	0.97
Jordan	1975	260	125	118	157	N.A.	121	72	24	19	N.A.	11	11	918	0.32
Kuwait	1974	NOT AVAILABLE BY MONTHS												2 859	2.6
Lebanon	1974	-	-	-	-	-	1	-	-	-	-	-	-	1	0.003
Libya	1973	512	664	850	706	397	274	144	88	56	41	60	37	3 829	1.4
Palestinian Refugees	1976	53	79	79	151	278	188	153	88	66	92	75	140	1 442	0.99
Saudi Arabia	1975	2968	2849	3753	3226	3558	2572	2233	1978	1150	633	1280	973	27 173	3.6
Sudan	1976	NOT AVAILABLE BY MONTHS												24 542	1.5
Syria	1976	46	142	179	152	132	166	108	23	49	32	93	53	1 175	0.15

TABLE 4  
CASES OF WHOOPING COUGH IN THE REGION

COUNTRY	Year	Jan	Feb.	Mar	April	May	June	July	August	Sept.	Oct	Nov.	Dec.	Total	Cases per 10 000 Population
Oman	1976	1739	2057	1726	2006	1269	1161	645	402	302	386	248	200	12141	151
Bahrain	1976	30	36	46	79	165	50	86	36	36	26	18	9	617	20.6
Cyprus	1976	1	-	-	-	-	-	-	NA	6	-	-	-	7	0.12
Democratic Yemen	1975	854	909	1023	632	494	575	570	308	200	241	419	466	6691	37.2
Djibouti	1976	26	48	49	1	15	7	3	8	11	15	11	16	210	8.4
Iraq	1974	86	209	268	361	510	685	631	478	310	199	230	279	4246	3.6
Iran	1975	1863	2993	2876	2683	3394	3094	4942	2230	1714	1922	1976	1973	31660	9.1
Jordan	1975	7	4	9	6	-	6	25	11	11	-	23	13	115	0.4
Kuwait	1974	NOT AVAILABLE BY MONTHS												345	3.1
Libya	1973	NOT AVAILABLE BY MONTHS												164	0.6
Palestinian Refugees	1976	23	12	22	17	24	16	16	6	8	7	-	17	168	1.16
Saudi Arabia	1975	959	571	659	720	1204	1096	913	703	463	260	579	255	8382	11.02
Sudan	1976	NOT AVAILABLE BY MONTHS												46605	28.6
Syria	1976	36	86	105	102	160	199	201	37	57	23	45	19	1070	1.4

Table 4 (A)

Incidence of Whooping Cough

Country	Population	No. of cases in one year
Iraq	11 800 000	4 246
Iran	34 800 000	3 660
Syria	7 800 000	1 070
Cyprus	600 000	7
Djibouti	250 000	210
Kuwait	1 100 000	345
Jordan	2 900 000	115
Oman	800 000	12 141
Bahrain	300 000	617
Democratic Yemen	1 800 000	6 691
Sudan	16 300 000	46 605
Libya	2 700 000	164
Saudi Arabia	7 600 000	8 382
Palestine Refugees	1 451 031	168
Total	<u>90 201 031</u>	<u>112 422</u>

Incidence Rate = 124 cases per 100 000 population.

TABLE 5  
CASES OF TETANUS IN THE REGION

COUNTRY	Year	Jan	Feb.	Mar	April.	May	June	July	August	Sept.	Oct	Nov	Dec.	Total	Cases per 10 000 Births
		NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE		
Oman	1976	7	13	7	11	6	4	-	1	-	-	1	-	50	12.5
Bahrain	1976	2	-	1	-	-	-	2	-	-	-	-	-	5	3.9
Democratic Yemen	1975	3	-	1	8	3	2	4	-	1	2	-	3	27	3.0
Iraq	1974	100	96	77	70	62	49	39	50	48	64	60	96	811	15.6
Kuwait	1974	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	7	1.4
Lebanon	1974	-	-	-	-	-	-	-	-	1	2	-	1	4	0.36
Libya	1973	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	41	3.2
Palestinian Refugees	1976	-	-	-	-	-	-	-	-	1	-	-	-	1	0.14
Sudan	1976	44	77	37	46	57	38	56	29	38	45	35	29	531	6.8
Syria	1976	1	7	7	12	14	26	15	3	15	8	10	-	118	3.4
Tunisia	1974	1	2	5	9	3	2	4	2	2	1	7	6	44	2.1

Table 5 (A)

Incidence of Tetanus

Country	Population	Estimated Births	No. of cases in one year
Iraq	11 800 000	519 200	811
Syria	7 800 000	351 000	118
Tunisia	6 000 000	204 000	44
Kuwait	1 100 000	48 400	7
Lebanon	2 800 000	112 000	4
Oman	800 000	40 000	50
Bahrain	300 000	12 900	5
Democratic Yemen	1 800 000	90 000	27
Sudan	16 300 000	782 400	531
Libya	2 700 000	129 600	41
Palestine Refugees	1 451 031	69 648	1
	<u>52 851 031</u>	<u>2 359 148</u>	<u>1 639</u>

Incidence rate 0.03 per thousand population or equal to 0.69 per thousand births.

TABLE 6  
CASES OF DIPHtheria IN THE REGION

COUNTRY	YEAR	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Total	Cases per 10 000 population
Oman	1976	1	-	13	9	-	-	-	-	-	-	-	-	23	0.29
Bahrain	1976	-	-	-	-	-	-	-	-	1	-	-	1	2	0.06
Democratic Yemen	1975	1	1	-	2	-	1	-	-	-	46	-	-	51	0.28
Djibouti (Rep.de)	1976	-	-	-	-	-	-	-	-	-	-	1	-	1	0.04
Iraq	1974	82	47	47	46	44	37	39	49	61	88	162	140	842	0.71
Iran	1975	155	229	158	131	111	73	95	89	95	134	121	161	1556	0.45
Jordan	1975	1	-	3	7	-	-	2	-	-	-	7	2	22	0.07
Kuwait	1974		NOT AVAILABLE	NOT AVAILABLE	BY	BY	BY	MONTHS	MONTHS	MONTHS	MONTHS	MONTHS	MONTHS	14	0.13
Lebanon	1974	1	-	2	1	-	-	-	-	1	-	-	1	6	0.02
Libya	1973		NOT AVAILABLE	NOT AVAILABLE	BY	BY	BY	MONTHS	MONTHS	MONTHS	MONTHS	MONTHS	MONTHS	35	0.13
Saudi Arabia	1975	40	32	13	35	42	6	14	24	6	14	27	13	266	0.35
Sudan	1976	26	71	82	67	50	13	47	65	92	131	47	59	750	0.46
Syria	1976	5	18	27	16	23	9	10	199	7	19	12	10	355	0.45
Tunisia	1974	N.A.	3	5	9	3	1	1	-	-	2	7	2	33	0.05



Table 6 (A)

Incidence of Diphtheria

Country	Population	No. of cases in one year
Oman	800 000	23
Bahrain	300 000	2
Democratic Yemen	1 800 000	51
Sudan	16 300 000	750
Libya	2 700 000	35
Saudi Arabia	7 600 000	266
Iraq	11 800 000	842
Iran	34 800 000	1 556
Syria	7 800 000	355
Tunisia	6 000 000	33
Djibouti	250 000	1
Q Kuwait	1 100 000	14
Lebanon	2 800 000	6
Jordan	2 900 000	22
	<hr/>	<hr/>
	96 950 000	3 956

Incidence Rate = 4.1 per 100 000 population.

TABLE 7  
CASES OF POLIOMYELITIS IN THE REGION

COUNTRY	YEAR	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Total	Cases per 10 000 population
Oman	1976	7	4	-	9	33	5	-	6	7	7	1	9	88	1.1
Bahrain	1976	-	4	4	2	4	1	1	1	-	-	-	-	17	0.57
Djibouti (Rep.de)	1976	1	1	-	-	-	-	-	-	3	9	12	2	28	1.1
Iraq	1974	52	77	73	47	87	47	91	55	33	43	22	35	662	0.6
Iran	1975	127	109	37	19	29	51	22	22	19	121	28	52	636	0.18
Jordan	1975	6	1	3	3	-	5	1	4	7	-	10	3	43	0.15
Kuwait	1974	NOT AVAILABLE BY MONTHS												52	0.47
Lebanon	1974	6	1	3	5	2	12	9	6	5	2	14	2	67	0.24
Libya	1973	8	2	3	1	3	2	2	3	10	5	12	7	58	0.21
Palestinian Refugees	1976	-	-	-	-	8	-	4	23	8	3	5	-	51	0.35
Saudi Arabia	1975	20	25	32	45	53	12	14	21	38	10	52	12	334	0.44
Syria	1976	-	2	1	5	1	3	-	5	5	1	5	-	28	0.03
Sudan	1976	NOT AVAILABLE BY MONTHS												375	0.23
Tunisia	1974	-	-	-	-	-	-	-	1	1	-	3	3	8	0.01

Table 7 (A)

Incidence of Poliomyelitis

Country	Population	No. of cases in one year
Iraq	11 800 000	662
Iran	34 800 000	636
Syria	7 800 000	28
Tunisia	6 000 000	8
Djibouti	250 000	28
Kuwait	1 100 000	52
Lebanon	2 800 000	67
Jordan	2 900 000	43
Oman	800 000	88
Bahrain	300 000	17
Sudan	16 300 000	375
Libya	2 700 000	58
Saudi Arabia	7 600 000	334
Palestine Refugees	1 451 031	51
	<u>96 601 031</u>	<u>2 447</u>

Incidence Rate = 2.5 cases per 100 000 population.

TABLE 8  
CASES OF PULMONARY TUBERCULOSIS IN THE REGION

COUNTRY	YEAR	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Total	Cases per 10 000 Population
		NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE		
Oman	1976	313	334	324	144	376	153	77	142	297	180	162	96	2 598	32.5
Bahrain	1976	6	8	14	6	16	13	23	12	15	17	17	14	161	5.4
Cyprus	1976	4	5	10	5	9	12	3	NA	6	8	10	9	81	1.3
Iran	1975	BY MONTHS												13 846	3.9
Iraq	1974	1 493	1 647	1 613	1 856	1 820	1 866	1 764	1 503	1 450	1 200	1 383	1 140	18 735	15.8
Djibouti	1976	164	180	162	189	195	164	193	97	113	143	172	143	1 915	76.6
Kuwait	1974	BY MONTHS												817	7.4
Lebanon	1974	27	39	73	74	61	60	44	30	42	30	46	78	604	2.1
Libya	1973	BY MONTHS												1 375	5.1
Palestinian Refugees	1976	7	13	5	11	9	6	1	4	1	6	12	6	81	0.56
Sudan	1976	BY MONTHS												12 124	7.4
Syria	1976	38	32	78	159	108	115	109	91	86	102	137	87	1 142	1.5
Tunisia	1974	157	203	191	247	185	232	178	175	196	145	188	117	2 214	3.7

TABLE NO 8 (A)

REPORTED INCIDENCE OF TUBERCULOSIS

Country	Population	Cases reported in one year
Iraq	11 800 000	18 735
Iran	34 800 000	13 846
Syria	7 800 000	1 142
Tunisia	6 000 000	2 214
Cyprus	600 000	81
Djibouti	250 000	1 915
Kuwait	1 100 000	817
Lebanon	2 800 000	604
Oman	800 000	2 598
Bahrain	300 000	161
Sudan	16 300 000	12 124
Libya	2 700 000	1 375
Palestine Refugees	<u>1 451 031</u>	<u>81</u>
	86 701 031	55 693
Incidence rate = 0.6 per 1 000 population		

TABLE NO 8 (B)

PREVALENCE AND YEARLY INCIDENCE OF TUBERCULOSIS

Country	Population	Total cases estimated	Yearly incidence estimated
Qatar	100 000	3 700	214
Somalia	3 400 000	170 000	
Jordan	2 900 000	29 000	1 009
Syria	7 800 000	78 000	
Pakistan	74 500 000	2 980 000	745 000
Libya	2 700 000	156 600	
Afghanistan	20 000 000	90 000	
Egypt	38 900 000	272 300	29 175
Iraq	<u>11 800 000</u>	<u>401 200</u>	<u>775 398</u>
	162 100 000	4 180 800	
	1. Average prevalence rate 2.58 per cent 2. Incidence rate against the population of 4 countries = 0.66 per cent		