

MALARIA IN IRAQ

1- INTRODUCTION

Malaria is a very well known endemic disease in Iraq, antimalarial programme had been very successful in eliminating malaria from most part of the country, through an eradication campaign started in 1957 with the aid of the WHO.

Since 1991, following the recent war, Iraq has affected by a serious epidemic of p.vivax malaria that started in the three autonomous Governorate namely (Erbil, Dohuk and Suleimaniya) which soon spilled over to other parts of Iraq.

2- MALARIA SITUATION

Since 1994 when the urgent epidemic of autonomous region (A.R.) had been affecting the neighboring Governorate namely (Naniwa and Al-Tamim), the National Malaria Programme personnel did their best to contain and control the epidemic thereafter. Table 1. & figure 1 show total number of cases Malaria (1990-1999) while table (2) & figure (2) reflect geographic distribution of Malaria during the same period (1990-1999).

Table (1)

INDICATOR	1990	1994	1995	1996	1997	1998	1999
MALARIA CASES	3924	94236	98705	49840	13959	9684	4134
RATE PER 1000 POP.	2.4	4.7	4.8	2.3	0.6	0.4	0.2

N. B. Information covers total Iraq.

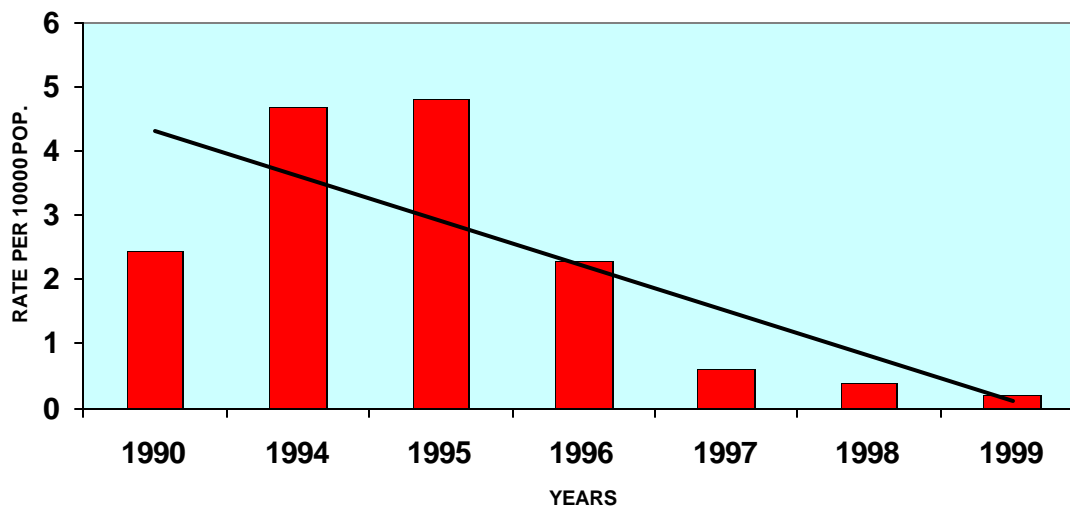
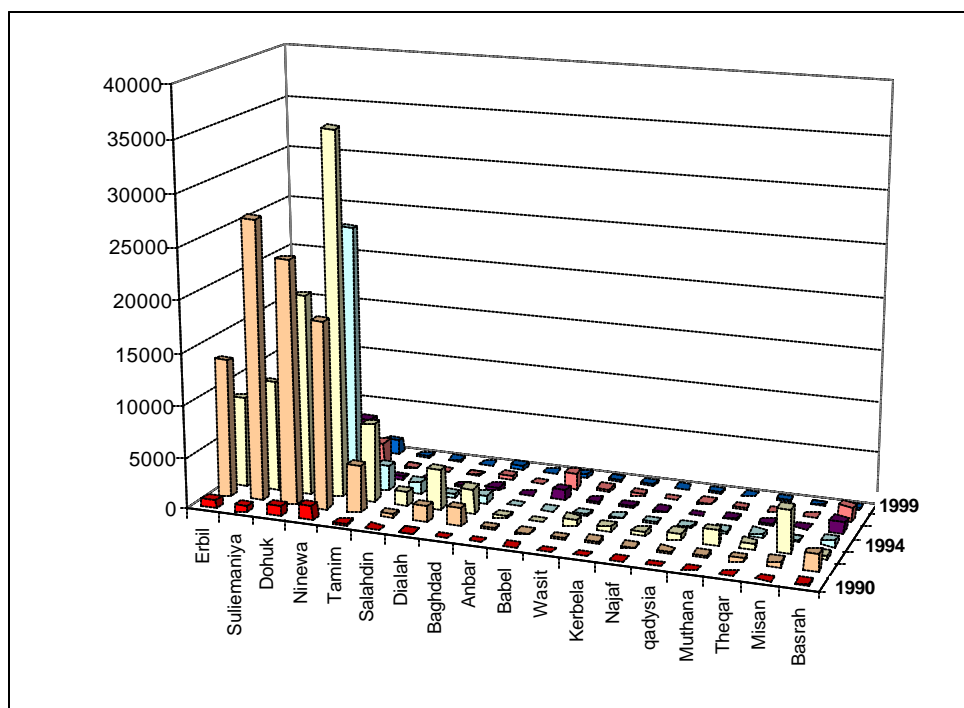


Fig. (1)

Table (2) shows Geographical Distribution of Malaria Cases in Total Iraq: (90-99)

Gov./Yr	1990	1994	1995	1996	1997	1998	1999
Erbil	713	13367	8739	3685	1207	1124	422
Suliamaniya	502	27202	10617	2557	649	282	87
Dohuk	948	23612	19414	11399	2509	1282	413
Ninewa	1401	18123	35318	25414	5690	2280	1469
Tamim	154	4578	7564	2432	218	134	175
Salahdin	2	306	1393	1223	309	124	140
Dialah	59	1514	3929	528	78	95	73
Baghdad	24	1726	2460	697	340	421	375
Anbar	0	167	293	12	8	6	15
Babel	1	234	39	47	968	1531	218
Wasit	1	187	714	157	158	287	112
Kerbela	0	201	510	256	192	217	77
Najaf	0	123	438	190	104	112	59
Qadysia	0	149	694	94	104	145	90
Muthana	0	187	1442	189	107	86	40
Theqar	0	411	572	301	91	111	101
Misan	2	466	4263	98	32	28	25
Basrah	117	1683	306	561	1195	1419	243
Total	3924	94236	98705	49840	13959	9684	4134

Figure (2) reflects Geographical Distribution of Malaria (90-99)



3- OBJECTIVES OF THE PROGRAMME:

- ?? Reduction of morbidity to a degree that will not be considered as a health problem.
- ?? Prevent the occurrence of malaria epidemics
- ?? Prevent the resurgence of malaria to malaria free areas.
- ?? Prevent introduction of malaria due to p.falciparum from abroad

4- CONTROL ACTIVITIES :-

4-1. DISEASES MANAGEMENT: -

4-1.1. MANAGEMENT

All patients with fever (in endemic areas during the season of transmission) had been suspected as malaria and full dose of Chloroquine was given, and blood films for microscopical confirmation were asked for them, so all the reported cases are microscopically confirmed.

4-1.2. NATIONAL DRUG POLICY: -

Clear defined written national antimalaria drug policy according to the WHO recommendation, is distributed to all health authorities. Provision of free of charge drugs is ensured at all levels in endemic area.

4-1.3. MICROSCOPIC DIAGNOSIS: -

4-1.3.1. PHC CENTERS: -

Most of the centers in the endemic areas are provided with all facilities for microscopic diagnosis of malaria.

4-1.3.2. DISTRICT LABORATORY: -

Malaria- labs are established in all districts to examine the slides collected from the PHC centers, located under their responsibilities.

4-1.3.3. PROVINCIAL LABORATORY: -

In each Governorate there is a reference lab. that receives 25% of negative slides as well as all positive slides from peripheral labs for quality confirmation.

4-1.3.4. CENTRAL REFERENCE LAB: -

The Central Reference lab is located in Baghdad and is the reference to all Governorate, that receives 10% of negative slides and all positive slides from all Governorate for quality control and evaluation .

4-1.4. EPIDEMIOLOGICAL INVESTIGATION: -

It is stimulated among confirmed cases to investigate the environmental , demographical and entomological situation, the result of the investigation of the cases of the year 1998 is as follows: -

Indigenous	= 4319
Introduced	= 68
Relapsing	= 1696
Imported:	
From the country	= 884
From abroad	= 15
Induced	= 2
Cryptic and non classified	= 12

Imported cases from abroad were (4) p.falciparum, (10)p.vivax from Yemen and (1)p.vivax from India .

4-1.5. PRIVATE SECTORS: -

Active participation of general practitioners is presented through their involvement in Malaria control activities, and they are taken into consideration when planning for training courses.

4-1.6. MOBILE TEAMS: -

Trained mobile teams were established from PHC centers for early detection and prompt treatment of every suspected case in endemic area in seasons of transmission. Blood films are taken for confirmation .

4-2. DISEASE PREVENTION: -

4-2.1. Epidemiological stratification

4-2.1.1. MALARIA ENDEMIC AREA: -

The local continuous transmission is presented in the autonomous region (A.R), as well as northern Governorates of Ninew, Tammem and Salahdin, Central governorates of Babel and Basrah in the south.

4-2.1.2. MALARIA RECEPTIVE AREAS: -

Sporadic transmission includes middle region and part of the southern region.

4-2.1.3. MALARIA FREE AREA: -

Initially non malarious areas, these include the desert region and high land fringes in the western part of Iraq.

4-2.2. SEASONS OF TRANSMISSION: -

There are two transmissional seasons in Iraq, the first is during April – May and the second is during September – October.

4-2.3. RESPONSIBLE VECTOR: -

4-2.3.1. AN. Stephensi: This group is the main vector in the central and southern region .

4-2.3.2. AN. Superpictus: These are distributed in the northern fringes of central region .

4-2.3.3. AN. Sacharovi : Presented in the vector in the northern Governorate of moderate altitude(500-2000m above sea – level).

4-2.3.4. AN. Maculopensis : This is found in the mountain area above 2000m above sea-level .

4-2.4. PARASITES.

4-2.4.1. Plasmodium vivax : Is the only parasite responsible for the endogenous transmission .

4-2.4.2. Plasmodium falciparum : That imported from outside the country .

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Priority is given to community education and participation in all vector control activities through primary health care committee that established in every sub-district level including deferent sectors of the community .

4-2.5.1. LARVA – CONTROL

4-2.5.1.1. ENVIRONMENTAL MANAGEMENT: -

This is presented through the method of choice, that is source-reduction by elimination of peridomestic man-made breeding places by active community participation .

4-2.5.1.2. BIOLOGICAL METHOD: -

Mainly by distribution of *Gambusia* fish all over the appropriate breeding sites especially in Naniwa, Babel and Basra governorates.

4-2.5.1.3. CHEMICAL METHOD: -

By using larvicides like Temephose and primiphose (Ictelic)

4-2.5.1.4. MECHANICAL METHOD: -

By using Diesel oil or mineral oil especially used in Babel, Kerbala and Basra governorates.

4-2.5.2. ADULT CONTROL: -

4-2.5.2.1. PERSONAL PROTECTION:

Active health education for personal protective measures to prevent vector-man contact by the use of long clothes, curtains, bed nets and other materials.

4-2.5.2.2. INDOOR RESIDUAL SPRAYING: -

Since 1994 lambda-cyhalothrin w.p.10 was introduced in to field activities for control of adult *Anopheles*. In 1997, Etofenprox was recommended to be used also the details of spraying campaign of the year 1998 is shown in table (3) :

Table – 3 shows Spraying Campaign for the year 1998

Governorates	No. of villages	No. of houses	No. of rooms	Sprayed area(m) ²	Insecticide used	
					Icon (Kg)	Vectron
Naniwa	233	38461	205606	12828250	3207	-
Al-Tamim	49	5147	39055	2276970	568	-
Salahedin	93	15914	111421	5953281	1488	-
Basra	24	12941	70193	3903500	976	-
Babel	48	28162	126728	6681735	-	11180
Theqar	3	687	3871	298000	83	-
Kerbela	10	1860	8169	516832	129	-
Wasit	3	143	1944	72000	18	-
Total	463	103315	566987	32 530568	6469	11180

4-3 PREVENT INTRODUCTION OF P.F. MALARIA FROM ABROAD.

3.1 Blood film is taken from those coming to Iraq from known endemic countries with p.f.

3.2. Radical treatment is given for all cases with p.f.

3.3. Follow up of all cases with p.f.

5- EPIDEMIOLOGICAL SURVEILLANCE AND INFORMATION SYSTEM:

5.1. Entomological detection:

It is performed activity in all Governorate, by a small well trained entomological teams for monitoring the abnormal build up of vector population and man-made environmental changes .

5.2. Geographical Reconnaissance (G.R.) was renewed and updated for the year 1998

5.3. Information system depends on weekly reporting from PHC center to district level as well as district to provincial level and finally a monthly reporting from provinces to NMCP in Baghdad. These reports include number of confirmed cases distributed according to age, sex and village , classification and investigation of cases, density of vector (adult and larva) and number of slides examined .

6- BUDGET OF MALARIA FOR THE YEAR 1998:

6.1. Total national allocation on malaria = Equiv. To USD 45000.00

6.2 . WHO funds = USD 35,000.00.

This budget was for the operational cost for spraying campaign as well as other training and local cost expenses and other activities. The budget was distributed to governorates according to their epidemiological situation taking into consideration giving incentives to the malaria teams working in fields in the governorates .