

MALARIA CONTROL PROGRAMME 2004 & 2005

PROGRESS ACHIEVED

The year 2004 was considered one year of continuation of the response in the province of Chefchaouen and consolidation of the assets in the other provinces under malaria risk. Thus, the activities of monitoring and control were reinforced and made it possible to consolidate the stop of the transmission at the national level.

The vector control by biological action was particularly intensified thanks to the mobilization of the personnel of all the provinces at the time of the celebration of the African day of malaria 2004.

A considerable effort was also provided in the recycling and training area of the microscopists who will undertake the quality control on the level of the regions. The meetings of study of the action plans organized at the beginning of each year and the regular supervision of the activities contributed to the sensitizing and the increase in vigilance among the personnel of the provinces under risk.

At the time of the celebration of the African day of malaria 2005, the strategy of prevention and assumption of responsibility treatment of the imported malaria from abroad, was the object of a meeting with the partners concerned during whom recommendations were adopted to improve this strategy.

In conclusion, thanks to the activities of monitoring and support carried out during two last years, an enormous progress was recorded in the consolidation of the stop of the transmission of malaria on the level of all the country. The mobilization and the engagement of the persons in charge for elimination for the transmission for malaria in Morocco at the end of year 2006 are concretized each year by the good level of vigilance and the accomplished achievements.

It is importante to announce that the realization of the activities of support, listed below, was made thanks to project WHO-RBM. The impact of the financial and technical support of this project was very positive and made it possible during last years to continue the consolidation and the way towards the elimination of malaria in Morocco.

EPIDEMIOLOGIC SITUATION IN 2004

For the second consecutive year, no focus of active transmission of malaria was detected in Morocco. The epidemiologic situation was marked by the detection of only one residual case of indigenous malaria on the level of the province of Chefchaouen.

The epidemiologic investigation carried out around this case, on the level of the Tanakoub sector concerned of this province, did not show any sign of active

transmission what made it possible to conclude that it acts of a residual paradoxal case.

The year 2004 was also characterized by the detection of 55 imported cases of malaria coming from the countries of sub-Saharan Africa. It is to be announced that among these cases, two have deceased following a late treatment.

ACHIEVEMENTS OF THE YEAR 2004

1- ROUTINE ACTIVITIES

Two objectives were fixed in 2004, it acts of:

- To consolidate the stop of transmission of malaria in the whole of the provinces under risk by measures of prevention of the factors of the risk.
- To more control the imported malaria from abroad by measures of prevention and early detection of the cases.

Thus, all the provinces under risk developed action plans in conformity with the objectives fixed at the national level and the recorded achievements can be considered satisfactory.

1-1- Activity of case detection:

On the whole, 405.601 blood smears were done in 2004 in the search of case of malaria on the level of all the country. During this year, the TAEH (Annual Rate of Hematologic Examinations) recorded at the national level is approximately 2,5%.

On the level of the high-risk zones, this TAEH exceeds sometimes 20%.

1-2- Entomological surveillance and vector Control:

To eliminate the factors of risk of transmission of malaria, the activities of vector surveillance and control occupied a privileged place within the framework of elimination strategy of malaria. During the year 2004, these activities are summarized with:

- the sowing of 3654 breedings sites by larvivorous fish (gambusia) which is about 62% of the listed breeding sites.
- the environmental management of 1975 breeding sites of anopheles mosquito.
- Chemical control of 2561 breeding sites positive of anopheles mosquito.

1-3- Epidemiologic survey around the indigenous case:

The epidemiologic investigation carried out around the detected case showed that it acts of an adult of male gender. However, no precise link with a probable origin of the infestation was shown. So considering the intense shift in population which characterizes this zone, we classified the case as being a "residual case" of the focus of transmission of the year 2002.

In addition, in accordance with elimination strategy, these investigations were supplemented by the following actions of response:

- intense actions of detection (in the search of secondary or residual cases);
- intense actions of vector control;

- actions of education and sensitizing of the population.

2-SPECIFIC ACTIVITIES OF SUPPORT

The activities of support planned within the framework of elimination strategy launched into 1999 aimed the improvement of competencies of the personnel by the training of the technicians of microscopy and entomology and the responsible of the sentinel sites of monitoring of the susceptibility of mosquitoes to insecticides and the medical doctors responsible for the provincial cells for epidemiology.

In the other hand, these activities aimed the maintenance of vigilance by the permanent framing of the personnel in charge of the activities of monitoring and by the regular evaluation of the achievements.

2-1- Meetings of study of the action plans 2004:

Like every year, the meetings of study of the action plans are the occasion to evaluate the actions carried out during the last year and to discuss with the persons in charge for the provinces under risk the actions to be undertaken during the current year in accordance with the standards and the directives of the elimination strategy.

- At the beginning of the year 2004, six meetings of study of the action plans were organized from the 13 to January 26, 2004 according to the following calendar:
 - 13/1/2004: Chefchaouen - Fahs Anjra - Tangier - Tétouan
 - 15/1/2004: Kénitra - Larache - Sidi Kacem
 - 20/1/2004: Khémisset - Khénifra - Khouribga
 - 21/1/2004: Azilal - Blessed Mellal - El Kelaa - Settat
 - 22/1/2004: Fès - Moulay Yaacoub - Sefrou - Méknès - El Hajeb
 - 26/1/2004: Al Hoceima - Nador - Taounate - Taza

At the end of these six meetings, recommendations were adopted and diffused in order to maintain the stop of the transmission in the 25 provinces under risk.

2-2- Meeting of celebration of the fourth "African Day of Malaria":

Within the framework of the intensification of the activities of control, it was decided in 2004, to celebrate the 4th African day of malaria under the topic:

"Promotion of the biological control of malaria vector".

This day made it possible to start on an intensification campaign of the sowing of the permanent breeding sites by *Gambusia*.

The purpose of this action which related to 31 provinces under risk is to more consolidate the epidemiologic situation by the elimination of the factors of risk of transmission. Approximately one month after the realization of this campaign, 4 regional meetings of it evaluation were organized. 177 participants of 31 provinces concerned assisted to these meetings. It was the occasion to recall that the vigilance should be permanently maintained in order to achieve the goal of elimination of malaria in 2006.

2-3- Training and retraining

2-3-1- Seminar of training on mosquito entomology

This seminar was held in Rabat, from the 5 to June 09, 2004 and aimed the training in all the aspects related to the identification of the species of mosquitoes. 16 scientists involved in monitoring of the susceptibility of mosquitoes to insecticides in the concerned provinces were concerned by this training. The last day was devoted to the information of the personnel involved in vector control in the 09 sentinel sites about the activity of monitoring of mosquitoes sensitivity to the pesticides and how to collaborate to make it more effective. 26 participants attended this session.

2-3-3- Seminar on the Community participation

An experiment action of community participation in the activities o of malaria prevention and control of was implemented by the service of the parasitic diseases with a close coordination with the persons in charge for the delegation of Chefchaouen.

This experiment was established in five stages according to the following order:

- development and Briefing of the action plan of the experiment organized in Chefchaouen province on April 29, 2004;
- Meeting of follow-up and finalization of the action plan of the implementation organized on June 22, 2004;
- Symposium with the local authorities and ONGs organized on the level of the sites selected on June 23, 2004
- Days of training and of the local responsible and the volunteers carried out on the level of the selected districts from the 7 to July 12, 2004;
- Visit of supervision and evaluation on the level of the sites selected realized by the central service in collaboration with the SIAAP.

Six months after, the first evaluation showed that the experiment had much success and can be reproduced in other zones of the province.

2-4- Acquisition of drugs

During the year 2004, WHO equipped malaria programme by 500 cures of "Coartem" with an expiry date which is fixed at January 2006.

2-5- Mapping of the breeding sites and the species of mosquitos in the province of Chefchaouen

As the previous year, With an objective to list the species of mosquitos and their geographical distribution, the vector control programme proceeded in 2004 to investigations to the level of the breeding sites of two medical districts of the province of Chefchaouen. It concerned 345 breedings sites that have been localised by the GPS and mapped with the GIS Health Mapper. The data are being analysed in central level and the first results were presented and discussed during a meeting organised in May 03, 2005. A two days workshop was conducted in May 26 and 27, 2005 to evaluate the activities of monitoring of mosquitoes sensitivity to insecticides and to sensitize the personnel in charge of this activity to the use of heath mapper in the management of the data and the mapping of the breeding sites of mosquitoes.

ACHIEVEMENTS OF 2005

Within the framework of elimination strategy, a national action plan was elaborated at the beginning of the year 2005. The general objectives are:

- to consolidate the assets and to maintain the stop of the transmission in all the own territory;
- to control and prevent the imported malaria from abroad.

1- Activities of routine

1-1- Activity of case detection:

In accordance with the objectives of elimination strategy, this activity aims intense detection particularly, by various modes and through all the year, in the search of residual cases in the zones under risk.

The TEAH recommended during three last years is of:

- 16% for the high-risk localities
- 10% for the localities at the potential risk
- 6% for the localities at the low risk

1-2- Entomological surveillance and vector Control:

The elimination of the risk is based on the activities of vector control on the level of all the potential breeding sites by:

- Strict and regular entomological monitoring of the vector, in the sentinels stations of entomological surveillance, in the transmission period in all the zones under risk;
- Programming of integrated and continuous vector control activities in order to eliminate the risk of reintroduction of malaria in the vulnerable zones.

The system of monitoring of mosquitoes sensitivity to pesticides based on sentinel sites , initiated in 2003, will be more effective this year.

2 Principal achievements of the first half of 2005

2-1-1- Meeting of study of the action plans 2005:

As each year these meetings of study of the action plans were organized from the 7 to February 25, 2005 according to the following program:

- 7/2/2005: Chefchaouen - Larache- Fahs Anjra - Tangier - Tétouan
- 8/2/2005: Al Hoceima - Nador - Taounate - Taza
- 9/2/2005: Azilal - Blessed Mellal - Khouribga- El Kelaa - Settat
- 21/2/2005: Kénitra - Sidi Kacem- Khénifra
- 22/2/2005: Fès - Moulay Yaacoub - Sefrou - Méknès - El Hajeb
- 23/2/2005: Marrakech- El Jadida- BenSlimane- Berkane
- 25/2/2005: Khémisset- Folds back - Salted - Skhirat Témara

These meetings made it possible to evaluate the achievements of the year 2004 and to discuss the action plans 2005 of the 31 provinces under risk in order to adapt them to the current epidemiologic context. The principal recommendations made at the end

of these meetings encouraged the persons in charge of malaria control, of the provinces under risk, to provide more efforts and to maintain a vigilance increased on the level of their zones under risk in order to consolidate the assets and to achieve the goal of elimination the malaria from our country in 2006.

2-1-2- Celebration of the "African Day of Malaria":

As every year, the celebration on April 25, 2005 of the fifth "African Day of Malaria" was the occasion to heighten the awareness of the personnel of health about the imported malaria from which constitutes a challenge for the individuals and the country.

The slogan chosen for this day is:

"Let us control the imported malaria to consolidate the malaria elimination from our country"

This subject was approached in order to sensitize all the personnel on the interest to control the imported malaria from abroad by the standardisation of the chemoprophylaxis to the travellers coming or going to the endemic countries and the early diagnosis and treatment of the cases of imported malaria.

A meeting was organized at the central level in the presence of the doctors of the Ministry for health and the departments implied and concerned with this type of malaria. During this meeting it was discussed all the problems related on the chemoprophylaxis and the treatment of the imported cases. Similar meetings were organized with the profit of the personnel of all the provinces under risk.

2-1-3- Seminar of training of the microscopists responsible for the regional laboratories:

The general objective of this activity is to improve the performances and quality of the activities of the laboratories of the diagnosis of malaria by the training of regional trainers in microscopy of the malaria and the persons in charge for the quality control on the level of the targeted areas.

This activity was organized from the 3 to January 15, 2005 with the profit of 10 microscopists considered the most qualified at the national level and who are affected in the provinces of Taounate, Oujda, Tangier, Kénitra, Fès, Marrakech, Agadir, Béni Mellal, Khouribga and Méknès.

This activity that will be implemented from May 2005 will be coordinated by the central laboratory of reference of the National Institute of Hygiene.

The trained technicians in microscopy will be in charge of many provinces considered the most under risk in their regions.

2-1-4 Mapping of the breeding sites and the species of mosquitoes in the province of Chefchaouen

The data collected in the field during July and August 2004 in Chefcahouen province are being analysed in central level. The first results of this study and the one conducted in the region of Rabat-Zair-Zemmour were presented and discussed during a meeting organised in May 03, 2005 with all the provinces interested with the

mapping of the breeding sites of mosquitoes using the GIS Health mapper. 20 persons attended this meeting.

A two days workshop was conducted in May 26 and 27, 2005 to evaluate the activities of monitoring of mosquitoes sensitivity to insecticides and to sensitize the personnel in charge of this activity to the use of health mapper in data management and the mapping of the breeding sites of mosquitoes. 19 persons attended this workshop.

2-1-5- Establishment of a national inter-sectoral Committee of IVM :

A national inter-sectoral committee of IVM has been established this year. The members are the representatives of the Ministries of Health, the Interior, the Environment, the Agriculture and the University.

The first meeting was held in 24 February 2005 to discuss and to agree the terms of references of the committee.

A second meeting was held in 31 May 2005 and the subject was to discuss and agree how to improve the pesticide management and particularly the pesticide acquisition by different department involved in vector control.

3 - Activities programmed in the second half of 2005

3-1- Mapping of the breeding sites and the species of mosquitos in the province of Chefchaouen

After the experiment carried out in 2004 on the level of two medical districts (C/S) of the province of Chefchaouen, the program proposes the extension of this study during the year 2005 to two other C/S of this province known by its great stretches of water and its epidemiologic past.

Objective: To know the geographical distribution of the breeding sites and the identification of the species of mosquitos in the province of Chefchaouen

Activities:

- GPS localisation of the breeding sites by a qualified personnel;
- Larval collections by the same personnel;
- Collect of vegetation and physicochemical characterization of the medium;
- Identification of the species on the level of the central laboratory;
- Mapping of the breeding sites by the GIS Healthmapper.

3-2- Study on evaluation of a new insecticidal product "Alpha cyperméthrine"

In the framework of the search for a substitute to the DDT in indoor residual spraying, the programme proposes to conduct this study. The objective is to evaluate the efficacy and the persistency of the insecticide "Alpha-cypermethrine" in local conditions. This study will include 4 phases:

- preliminary phase of choice of the localities and preparation of logistics;
- phase of realization of the study on the field;
- phase of entomological evaluation;
- analysis and interpretation of the results.
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CONSTRAINTS NOTED

Among the noted constraints of the implementation of elimination strategy of malaria we can list:

- the insufficiency of the human means because of the retirement of a great number of personnel responsible for the activities of surveillance;
- lack of interest of certain persons in charge for this problem that seems in way to be solved;
- the insufficiency of the collaboration of the other sectors for the elimination of the persistent factors of risk in certain areas.

CONCLUSION

In conclusion, thanks to the activities of monitoring and support carried out during two last years, an enormous progress was recorded in the consolidation of the stop of the transmission of malaria on the level of all the country. The mobilization and the engagement of the persons in charge for elimination for the transmission of malaria in Morocco at the end of year 2006 are concretized each year by the good level of vigilance and the accomplished achievements. To announce that the realization of the activities of support, listed below, was made thanks to project OMS-RBM. The impact of the financial and technical support of this project was very positive and made it possible during last years to continue the consolidation towards the elimination of malaria in Morocco.