



*Aidemet Ong*

## **Aid to the Development of the Traditional Medicine**

Non-Governmental No-Profit Organization

BP 2174 Bamako – Mali

Phone and fax: 00223.2242904 – Mobil phone: 6746534; 6131273

E-mail : [aidemet@afribonemali.net](mailto:aidemet@afribonemali.net)

## **Malaria and Traditional Medicine.**

The activities have been carried out in the context of the project "Traditional Practices and Primary Health Care", developed by the Department of Traditional Medicine (DMT) of the INRSP and the Swiss NGO Antenna Technologies, with the support of PNLP and the participation of the international net RITAM. *Aidemet Ong* assured the coordination of the field activities, as so as the technical and financial management and the communication among the different partners. The project, started in 2002, required several phases.

The first phase consisted in two retrospective investigations, conducted in the health sectors of Kendié (District of Bandiagara, region of Mopti), and of Finkolo (District of Sikasso, region of Sikasso). It was established that, on a total cohort of 952 children, the larger part of those that had suffered of uncomplicated malaria had been treated at home (87%), or entirely with modern medicines (40%), or contemporarily with modern and traditional medicines (33%), or entirely with traditional medicines (27%). Concerning the severe malaria, 50% of the cases received only the traditional medicines. For the simple malaria, the clinical recovery has been brought in more than 98% of the cases, whatever the employed treatment. In the cases of presumptive severe malaria, on a cohort of 224 cases, the global mortality has been of 17%; particularly 11% after a traditional treatment and 26% after a modern treatment, although this difference is statistically not significant in the select champion. Already during this first phase, a plant attracted the attention of the researchers, the *Argemone mexicana* L., because its use has always been correlated to a positive therapeutic result.



**Photo n° 1 : *Argemone mexicana***

The second phase of the project consisted in the evaluation, in the same zones, of knowledge, attitudes and practices of the traditional healers concerning the uncomplicated and severe malaria, in the perspective of the collaboration among traditional and modern medicine for the optimal care of the critical cases. The survey has been realized from January to February 2003. The interviews concerned in total 79 traditional healers 9 of which were women. The study has shown that the traditional healers had a good knowledge of the symptomatology of the uncomplicated and severe malaria: their diagnosis corresponded to that of the health agents not having access to the analyses of laboratory. Nevertheless, the traditional and modern etiologies of malaria were not always in accord, even if the punctures of the mosquitoes are starting to be cited by the traditional healers among the causes of the malaria. The larger part of treatments was based on vegetal substances. In total, 66 medicinal plants were identified. The majority of them had already been studied for the anti-plasmodial

activity. The research continued on 8 of these plants that had not previously been object of in-depth studies. The extracts of the different organs of these plants have been tested *in vitro* on standard chloroquine-resistant strains of *Plasmodium falciparum*; one of the most active plants results once more *A. mexicana* whose organic extracts, methanol and dichloromethane, have shown IC<sub>50</sub>s (Inhibiting Concentrations to 50%) respectively of 1.00 and 1,22 µg/ml, comparable to those of the extracts of *Artemisia annua* whose active principle is at the base of the new therapeutic combinations used in first line for the treatment of malaria.

The following phase consisted in the evaluation of the ethno-medical evidence of the use of *A. mexicana* in the treatment of the uncomplicated malaria at the village, by an observational study dose-response. The study was carried out in the village of Missidougou, health sector of Finkolo, region of Sikasso, whose chief of village is a traditional healers using *A. mexicana*. It was question of effecting a clinical and biological monitoring of the patients that the traditional healer decided to treat for malaria with the decoction of *A. mexicana*. The 84 included patients were treated with three different doses. The results showed a dose-related activity. With the best dose, 72,5 % of the patients showed an adequate clinical response with an important fall of the parasitemia and really few secondary effects. The results were more encouraging for the patients of more of 5 years for which, in 89% of the cases, were recorded adequate clinical responses. Nevertheless, only few patients showed a total clearance of the parasites.



**Photo n° 2 : Chief of Village of Missidougou**

During the fourth phase, in the same village, the research team conducted in 2006 a clinical randomized essay, comparing the treatment with the decoction of *A. mexicana* to the standard treatment with the therapeutics combinations of arthemisine. The 301 patients with presumptive uncomplicated malaria, diagnosed by the health agent of the village, were randomized (2:1) to receive or the decoction of the plant or the standard treatment with arthesunate/amodiaquine. The median age of the patients was of 5 years in the two groups; according to the microscopic test of the blood, 87% of the patients had a thick drop positive for *Plasmodium falciparum*. The incidence of severe malaria has been selected as principal indicator. In fact, the principal danger with the uncomplicated malaria is the evolution toward severe malaria: this last is in fact responsible of the possible deaths. Like that, a strategy will be judged interesting if the proportion of severe malaria remains under the incidences observed in other studies of the same type. The control of the patients was carried out for three months; any patient has been lost of sight. The incidence of severe malaria remained under the level brought by the studies comparable to ours; and this in the two groups, without statistically significant differences. Therefore, the treatment with *A. mexicana* could be proposed as:

- First line treatment for the children of more of 5 years and for the adults in the zone of high transmission;
- First aid in every case waiting more of 24 hours before receiving the treatment with the ACTs and in case of not availability of the standard anti-malaria medicines.

**Text compiled by Dr Sergio Giani, Programs Officer of Aidemet NGO**

**Photo: Archives Aidemet**