Since 9 years the association IFBV-BELHERB from Luxembourg has established a working relationship with African and South American universities, in close cooperation with other European research institutions. Several of these partners have run clinical trials with *Artemisia annua* tea. In all these trials a therapeutic effect of 95 % or higher was confirmed by the use over 7 days of whole leaf infusion [1-4] capsules or tablets. One of the surprising effects noticed in these trials was that the artemisinin content had very little impact on the results. This lead us to make an analysis as complete as possible of all the constituents, organic and inorganic, in a large series of *Artemisia annua* samples from different origins [5]. The effect of polysaccharides, amino acids, polysaturated fatty acids, pentacyclic triterpenes, cumarins, phytosterols and saponins has been neglected in the past [6]. Several papers have shown that A. annua ingested as powdered leaves or in conjunction with fatty food significantly increases the artemisinin concentration in the blood and even overcomes resistance to artemisinin [7]. It is well documented in the literature that *A. afra* or *sieberi* which contain little or no artemisinin are extensively used as antimalarials. They contain at least 5 molecules of the same antimalarial efficacy as artemisinin. Recent research from the Al Quds University has shown that aqueous infusions of several Artemisia species strongly inhibit beta-hematin, like chloroquine did [8]. But the most important finding in several of the clinical trials, especially in Kenya and Uganda, was that people who drink one or two cups of *Artemisia annua* tea per week become immune against malaria [9]. At Lubumbashi, RD Congo Dr C Kansango Tchandema has shown in 2014 that *Artemisia annua* and Artemisia afrra raised CD™ [2]. Anti-HIV properties of *Artemisia afrfa* have been documented by a team at the University of Leiden [10]. Screening prophylactic results have been obtained with ARTAVAL, a mixture of herbs developed Dr Patrick Ogwang at the Ministry of Health. The produce does not contain Artemisia without artemisinin. In fact the antimalarial properties of Artemisia plants other than *Artemisia annua* are no surprise. The Chinese favoured Artemisia apiacea and the French in Algeria during 100 years protected their soldiers against malaria with Artemisia absinthium.

In 2015 a team of medical doctors in RD Congo, Jerome Munyangi and Michel Idumbo, have run randomized clinical trials on a large scale in the Maniema province with the participation of some 1000 malaria infected patients. The trials were run in conformity with the WHO procedures and compared Artemisia annua and Artemisia afrfa with ACTs (Coartem and ASAQ). For all the parameters tested herbal treatment was significantly better than ACTs: faster clearance for fever and parasitemia, absence of parasites and gametocytes as confirmed by PCR on day 28 for 99.5% of the Artemisia treatments and 79.5% only for the ACT treatments. A total absence of side effects was evident for the treatments with the plants, but for the 498 patients treated with ACTs, 210 suffered from diarrhea, and/or nausea, pruritus, hypoglycemia etc. The efficiency was equivalent for Artemisia annua and Artemisia afrfa [2]. More important even is the observation for the total absence of gametocytes after 7 days treatment with the herb. A tremendous hope found for malaria eradication. The results have been communicated to the local health authorities, and to the Ministries of Health and Research in the RD Congo who were supportive of these trials. The draft of a paper is almost ready and will be submitted to a peer reviewed scientific journal.

In parallel with the clinical trials against malaria, (see Breaking News Jan 5 on www.malariaworld.org) the same team has completed another large scale randomized, double blind trial against schistosomiasis, Artemisia vs Praziquantel. The results confirm previous anecdotic results from several countries in Africa. Both arms in this trial had 400 infected patients. The treatment efficiency was 97 % in the Artemisia arm and 71% in the Praziquantel arm. No side effects were noticed in the Artemisia treatment. Praziquantel caused vomiting in 26.5% of the patients, abdominal pain in 18.5%, cephalalgia in 15.5%. Very impressive is the fact that the Artemisia treatment led to an unexpected almost complete absence of eggs in feaces after 2 months. Schistosomiasis kills 150 000 Africans per year and more than 70 000 000 are infected. A neglected disease in poor populations, where the only existence is drug, Praziquantel, loses efficiency year after year.

In 2016 clinical trials have been run against Tuberculosis and Buruli ulcer with Artemisia annua and Artemisia afrfa. Screening trials in 2015 had been promising and these recent large scale, randomized, double blind have resulted in an obvious therapeutic effect of these plants against Mycobacteria, not only tuberculosis but also Buruli ulcer. After three weeks of treatment the Ziehl stain assay is negative for alcohol-resistant bacteria. They will be published in the scientific literature. Most of us ignore that on Nov 3, 2015 a Convention was signed in Bali declaring the fight against the looming TB-Diabetes co-epidemic, one of the greatest global health challenges. An estimated two billion people, or one third of all people worldwide, live with a tuberculosis (TB) infection, of whom 9.6 million people develop active TB disease annually. TB is the leading cause of death worldwide due to a single infectious pathogen, responsible for 1.5 million human deaths in 2014, and 95 percent of human TB deaths occur in low- and middle-income countries. Diabetes mellitus is escalating worldwide. Clinical assays are planned to be run in the Katanga province of RD Congo with Artemisia plants against diabetes.

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**Citation:** Lutgen P (2016) Artemisia Plants: A Deadly Weapon Against Tropical Diseases. Int J Clin Res Trials 1: 108. doi: https://doi.org/10.15344/2456-8007/2016/108

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All these trials are run in compliance with the WHO protocol, full approval of the health authorities of the country and the province and encouragements of WHO-Afro.

Competing Interests

The author declares that he has no competing interests.

References


