Developing Traditional Medicine to Roll Back Malaria in Africa

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Introduction

The role which traditional medicine (TM) plays in Africa cannot be overemphasized as it is estimated that about 80% of the population use this form of health care at one time or another. The political will in favour of TM in countries and the abundance of natural resources for TM augur well for African TM that has long been accepted as an integral part of the cultures in the Region.

Limited financial and material resources often hinder people from accessing conventional health care. Conversely, accessibility, affordability and flexible payment options within TM favour the use of this health care system by the majority of the underprivileged.

Emerging opportunities and approaches

Awareness of the value of indigenous traditional medical knowledge (TMK) and particularly of its potential to contribute to sustainable development and poverty alleviation is rapidly increasing within the African Region. Several centres of excellence have researched traditional medicine in varying degrees over the last 20 years. This is no doubt in response to the existing unparalleled community acceptance and patronage of traditional medicine in most countries. Indeed, several medicaments of botanical origin are already in the essential drugs list in several countries as remedies for various priority disease conditions and ailments.

In 2001, African Heads of State and Government declared the period 2001–2010 as the *Decade of African Traditional Medicine.* In an earlier summit in Abuja in 2000, they committed themselves to halve the malaria burden by the end of the decade. This commitment provides an opportunity for harnessing and utilizing traditional and indigenous resources (human, medicines and knowledge) for malaria control in Africa.

The current linkage between traditional medicine and modern science is encouraging. This linkage is demonstrated by the current malaria treatment policy advocating the use of artemisinin-based combination therapy (ACT) and continued use of quinine, both derived from natural botanical sources.

Inventories and databases

In order to better harness TM resources for rolling back malaria, it is essential that countries establish proper inventories of available remedies, promote systems to authenticate traditional health practitioners (THPs), and pass legislation and regulations to guide TM practice. The WHO Regional Office for Africa is supporting four countries (Kenya, Mali, Mozambique, Zambia) to document traditional medicines for malaria and evaluate them using ethnomedical and scientific criteria. Guinea is being supported to establish a composite national database to facilitate systematic evaluation of TMs.

Training of THPs to treat simple malaria

While many patients with malaria visit THPs, it is often uncertain whether the prescribed remedies are effective enough to both ameliorate the symptoms and eliminate the parasites from the patient. Therefore, while waiting for properly validated antimalarials of herbal origin, the Regional Office for Africa is working with Benin, Mozambique and Niger to train THPs to recognize simple (uncomplicated) malaria, treat with sulfadoxine-pyrimethamine (SP) or other first-line antimalaria medicines as appropriate for the country, and refer serious (severe and complicated) malaria to the nearest health facility. By adopting this approach, THPs are scaling up evidence-based interventions.

THPs training in PHC aspects of malaria prevention and treatment, Benin 2005

In addition, this will ensure that there is consistency in treatment of malaria patients.

In an equally innovative initiative, traditional birth attendants (TBAs) are being organized in Kenya and Uganda to provide appropriate counselling to pregnant women. In some countries, TBAs provide delivery care to over 50% of pregnant women. TBAs and other community-owned resource persons (CORPs) deliver intermittent preventive treatment (IPT) in some countries and counsel pregnant women to attend antenatal clinics. In countries where IPT is strictly reserved for health facilities, TBAs advise pregnant women to attend ANCs for all the doses of IPT.

These initiatives are elevating traditional medicine practice into the realms of evidence-based practice. They illustrate the existing potential to utilize traditional health resource persons in the delivery of established interventions for malaria prevention and control.

Evaluation of TMs for malaria

Supporting African institutions to collaborate with THPs to identify and evaluate traditional medicines for malaria is being given priority attention for two reasons: It will facilitate selection of drugs to be developed further if found to be promising in efficacy and safety. It will provide policy-makers with the requisite evidence to encourage or discourage the use of those medicines and remedies according to properly validated scientific findings. Currently, institutions are being supported in Ghana, Kenya, Mozambique and Zambia.

Several institutions are engaged in the evaluation of the effectiveness of various traditional strategies for malaria control and prevention. For example, traditional plants and methods for vector control are being evaluated at the International Centre for Insect Physiology and Ecology (ICIPE) in Kenya and the Aklilu Lemma Department of Pathobiology at the University of Addis Ababa, Ethiopia. The WHO Regional Office and CIDA are supporting the two institutions to carry out community-wide evaluation of the effectiveness of local *Ocimum* spp. as promising mosquito repellents for use in rural households in Africa. The underlying objective is to assess their potential to augment commercially marketed insect repellents that are often not easily available or affordable.

Mozambique's National Institute of Health (NIH) is carrying out a comparative clinical trial of herbal tea derived from *Artemisia annua* versus SP/Doxycycline to treat uncomplicated malaria in symptomatic adults. The trials are conducted at selected regional hospitals, and patients are followed up by a multidisciplinary team of investigators. A phyto-chemical facility set up jointly with support from the Regional Office, NIH and Eduardo Mondlane University in Maputo will sample yields of artemisinin from *Artemisia annua* grown in various regions of the country. WHO, in collaboration with NGOs, government agencies and pharmaceutical groups, convened a meeting in Arusha in June 2005 to realign

efforts to accelerate cultivation of *Artemisia annua* in east Africa and contribute to increased global production of artemisinin and ACTs.

Information, education and communication

Advocacy for collaboration between THPs and the formal health system needs to be addressed and intensified. For example, in Mozambique, conventional health workers prepare herbal tea for treatment of malaria in a pilot activity in a health facility. THPs in Zambia administer the herbal medication while the formal health care workers observe and report patient progress and review laboratory findings. THPs and conventional health workers in Benin discuss malaria and how it should be prevented and treated. They know that SP or other appropriate first-line antimalaria drugs should be used for malaria treatment until properly validated traditional (herbal) medicines or their derivatives are available.

Main challenges

Traditional medicine is a useful source for pharmaceutical companies searching for new therapeutic agents. However, pertinent issues regarding intellectual property rights governing such indigenous resources are complex, and rules for sharing benefits and patents are inadequately developed in Africa. This situation is further compounded by lack of a systematic documentation of traditional medicine information, which, in most contexts is passed on orally. This inadequate inventory also allows for illegal patents that exploit traditional medical knowledge. The prerequisite for clinical assessment of the effectiveness of traditional medicines presents a barrier to its acceptance and integration into modern healthcare systems. Established methods used by western science are sometimes unsuitable for evaluating traditional medicine; hence, rapid methods which take into account the importance of available ethno-medical evidence for safety and efficacy may have to be considered. The lack of organized and established systems for traditional medicine practice in many countries has hindered dialogue and collaboration with the conventional system, undermining transparent development of the practice.

Future perspectives

Countries of the Region should begin to systematically undertake actions to legalize TM practice and support the organization of THPs and TM practice as a precursor activity to encourage the development of standards in the practice. Efforts by countries and partners to establish in-country collaboration between TM and conventional practitioners should be promoted. They should support priority research on herbal medicines and TM practice.

In response to these efforts, WHO will continue to provide technical guidance to countries and institutions on the institutionalization processes and on best practices based on evidence for the evaluation of TMs and for harnessing of traditional resource persons for control of malaria and other priority diseases.

Malaria is a priority disease in Africa. It is a public health problem which can benefit from the combination of traditional medicine with the principles of evidence-based practice in conventional health systems.

Ocimum spp. at ICIPE, Mbita Point in western Kenya. The ICIPE group are working with local communities in this malaria-endemic area to evaluate this plant to repel mosquitoes from the human host

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