

# African medicine: tradition and beliefs

Reports of killings to obtain body parts for “muti” (the Zulu word for medicine) brought African beliefs into the spotlight, including practices to do with healing. Indeed, many African healers use herbs that have been used to obtain drugs for Western medicine. In this article, the second in a series on traditional systems of medicine, **David Okpako** gives his interpretation of traditional African medicine

The major traditional healing systems that have survived the impact of modern biomedicine (driven by germ theory) are the Indian systems (Ayurveda and Unani), traditional Chinese medicine and traditional African medicine (TAM). The Asian systems have written philosophies and pharmacopoeias, whereas TAM is an oral tradition and there are no written records of the thoughts behind its methods and materials.

Traditional medicine is practised in different ways in different parts of Africa, but one characteristic feature of traditional medicine — wherever in Africa it is practised — is the belief that serious illness can be caused by a supernatural agency, for example, ancestor spirit anger (see below). I suggest that this allusion to the supernatural is a metaphor for what ancient Africans knew, from experience, to be a major predisposing factor for the occurrence of serious illness, namely, sustained emotional distress arising from a breakdown in the social and spiritual environment of the patient. This interpretation comes from a close study of how TAM practitioners and their clients manage illness.

The other common feature of traditional medicine in Africa is the widespread use of plant and animal parts for the preparation of medicines. It is for these fundamental similarities in traditional medicine practices throughout Africa that I use the term TAM in this article. I have discussed these two features of TAM in relation to, first, the scientific search for modern drugs in the plants used in TAM and, second, the possible impact of attitudes acquired from TAM on the use of modern drugs by indigenous populations. The term “traditional” refers to the fact that the system evolved endogenously in African societies and has been handed down from generation to generation.

## Ancestor spirit anger

Ancestor spirit anger has been used as an explanation for the occurrence of serious illness. In most of Africa south of the Sahara, a commonly held belief is that the spirits of



Wooden vessel designed to hold sacred palm nuts used for divination by Ifa priests: divination plays a role in traditional African medicine

the ancestors protect their living descendants. In return, the ancestors demand from their descendants veneration and strict adherence to the moral laws that the ancestors have laid down.<sup>1-3</sup> Similar beliefs exist in other parts of the world.<sup>4</sup>

In some African ethnic groups (eg, the Urhobo of southern Nigeria), ancestor spirit veneration is the core of the traditional religion. Serious illness or other misfortune can result if a descendant should fail in his or her obligations to the ancestors. An immoral act (eg, incest), it is believed, can trigger ancestor spirit anger and result in serious illness.

Divination and incantation play a role in TAM. Divination (the consultation of an oracle) is the diagnostic mechanism used in TAM to discover a hidden sin (ancestor spirit anger). If divination reveals ancestor spirit anger, exposition of the hidden misde-

meanour for ritual treatment is a necessary part of managing the illness. The rituals that are undertaken to appease the angered ancestor are not initiated until confessions of the misdemeanour have been extracted from the ill patient. Confessions are believed to be therapeutic. This is one reason for suggesting that the allusion to ancestor spirit anger is a shorthand reference, a metaphor for sustained emotional distress.

The rituals accompanying the use of herbal medicines are referred to as “incantation”. Incantation is medical poetry. It is a collection of carefully chosen words used to bring out the healing effect of the medicine. These procedures have the combined effects of resolving emotional contradictions in the mind of the patient, and his or her relatives, and assuring them that everything possible is being done in the cultural context to heal the sick person. Targeting the emotion as therapy is legitimate. In modern medicine we know now that sustained emotional upheaval can cause different illnesses.

The discipline of psychoneuroimmunology is a study of the networks used by the brain to control host immunity and the brain may control the body's defences against disease — there are receptors on lymphocytes and macrophages that respond to central nervous system neurotransmitters. Ancient Africans recognised the profound influence of the mind on human well being. They recognised that sustained negative emotions, such as guilt, fear and hate, can lead to illness. They knew this through experience and they passed this knowledge on through myths and beliefs that society could use in the upbringing of the young. This interpretation of TAM leads to two major questions that are of interest to the pharmacist. First, what sort of drugs should we expect to discover in African medicinal plants? And, second, what is the impact of TAM on the use of modern medicines by Africans or in Africa?

## Plants used in TAM

Some modern medicines have been developed from African medicinal plants. However, if as I have argued, the major ther-

This object is part of a display in the Wellcome Gallery at the British Museum, London

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apeutic target in serious illness is the emotion, then the plant remedies used in the management of such illness would not necessarily be expected to yield "drugs" (chemicals that are selectively toxic to disease-causing agents). In TAM, medicinal plants are merely part of a total management regimen with the overall object of assuring the client that the problem is being taken care of.

Another important point to note is that TAM tends to exclude poisonous plants. The plants used in illness management are known, from experience, not to be poisonous to humans. In modern medicine, the use of poisons as drugs is possible because weights, volumes and dosage regimens can be determined accurately, in absolute units. This was not the case in traditional African cultures and an important criterion for using a plant as medicine (or food) was that it was not overtly harmful. Any plants that produced dramatic toxicities when used in the treatment of illness would, therefore, have been rejected and, over time, excluded from the oral pharmacopoeia of traditional remedies. In general, the same process of trial and error that resulted in the selection of plants for food would have applied to the selection of medicinal plants. However, this should not be taken to mean that commonly used plant remedies in TAM would be free of side effects if used as we use drugs in modern medicine.

Traditional healers avoided known poisonous plants as therapeutic agents, whereas such plants, as we know, are the major sources of drugs now used in modern medicine. Examples are *Atropa belladonna* and *Physostigma venenosum*. This is consistent with the central theory in modern pharmacology, which is that the drug be selectively toxic to the cause of the disease. This point should serve to emphasise that plant remedies used in TAM are in general not directed at the specific cause of the illness. Notwithstanding, it does not mean that scientific analysis of traditional plant remedies may not yield drugs. For example, umckaloabo, a native South African herbal remedy is used as a respiratory medicine in Germany (see *PJ*, 24/31 December 2005, pp790–2). One must keep an open mind.

Plants known to traditional African communities can be grouped into three broad categories for the purpose of this discussion: plants used for minor ailments, poisonous plants and plants used for serious illnesses.

**Plants used for minor ailments** Most households in Nigerian communities know plants that can be used for treating minor ailments, such as aches and pains, headache, fever and bruises<sup>5</sup> and, when the need arises, these are used without divination or incantation. It is from among this category of plants that medicinal plant research may yield modern medicines similar in pharmacological property to the traditional experience. A cursory look at the journals *Phytotherapy Research*, *Ethnopharmacology* and *Planta medica* confirms this claim. Several plants with repu-

tations as antipyretic remedies do, in fact, show anti-inflammatory properties in conventional laboratory experimental models.<sup>6</sup> These kinds of plants need to be more carefully investigated; they contain cyclooxygenase inhibitors, flavonoids, diterpenes, immunomodulators, anti-tumour necrosis factor- $\alpha$ , antioxidants and many others. In malaria (probably the commonest cause of fever, aches and pains in Africa), inflammation mechanisms are known to contribute significantly to the pathology of the disease.<sup>7</sup>

**Poisonous plants** As discussed, poisonous plants are excluded from the pharmacopoeia of therapeutic agents in TAM. Many African communities have experience of such plants, either as a result of accidental poisoning or because they know these plants from centuries of use as poisons. Numerous examples of fish poisons, arrow poisons, ordeal poisons (used to detect witchcraft), or poisonous mushrooms are known in African communities and traditional healers do not use them as medicines. A familiar example from Nigeria is the calabar or esere bean (*Physostigma venenosum*) from which the powerful anticholinesterase physostigmine was eventually isolated. Investigators interested in developing medicines through exploiting indigenous knowledge can miss out a lot if they do not enquire about what plants the people know to be poisonous and which they, therefore, avoid as therapeutic agents.

**Plants used for serious illness** Some plants are used in the management of serious life-threatening illness where supernatural agencies are believed to be the cause. Some plants commonly used to treat minor ailments may also be used to treat serious illnesses. The essential feature of plant use in the management of serious illness is that the application of the remedy is accompanied by esoteric evocations addressed to the spirits and the plant itself. Here the objective is holistic treatment, the emotion being an important therapeutic target.

**Placebo effect** The problem for the investigator is that in using plant remedies in this way, the traditional physician makes no claims about specificity. His therapeutic objective is mainly the resolution of sustained emotional distress operating in the mind of the patient. Thus the plant medicine may be used in a non-pharmaceutical mode (eg, the medicine may be encapsulated and worn round the waist or ankle or placed above the lintel of the door or under the sleeping mat and accompanied by elaborate rituals). In TAM, therefore, there appears to be deliberate tendency to promote what we now call the placebo effect. From the way traditional healers use plant preparations in the management of serious illnesses, it can be said that the placebo effect is an important component of the clinical benefit, which the patrons of the system claim, accompany this form of therapy. The placebo effect and selective toxicity can

be said to be two extremes in a continuum in the mode of action of medicines. If, in TAM, serious illness is seen as having its origins in emotional distress, and the emotion is a therapeutic target, in this system the mode of action of plant medicines in life-threatening illnesses may veer more to the placebo side of the continuum than selective toxicity.<sup>8</sup>

### Impact on modern medicine

A second consequence of the interpretation of TAM given in this article is that it provides an explanation for some of the extraordinary behaviour of Africans towards modern drugs. Some of the misuse of modern drugs (eg, non-compliance) is believed to derive from ingrained attitudes acquired from a culture in which TAM is used, where adherence to dosage and unwanted side effects of medicines are not issues as they are with modern medicines.<sup>9</sup> In the African cultural environment the pharmacist's role in carefully explaining the prescription to the patient in order to ensure compliance is, therefore, crucial.

### Conclusion

Traditional African medicine is a fundamentally different form of healing from biomedicine. In the former, resolution of emotional distress is a major therapeutic goal. This idea is embedded in the African belief that serious life-threatening illness may be underpinned by the anger of supernatural agencies such as ancestor spirits acting to enforce community moral laws. In trying to exploit traditional knowledge in the development of medicines from African medicinal plants, the basic assumptions underlying the traditional use of such plants must not be ignored. Such understanding will help to steer medicinal plant research in Africa in a rational direction.

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