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Promoting and teaching endogenous black African therapeutic knowledge: A reflection through the case study of Gabon

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Abstract

Indeed, the history of civilizations teaches us that one of the first needs felt by our ancestors was the need to ensure their survival, the purpose of life being to prolong it, to reproduce and to postpone the expiry of the dead. So-called traditional African medicine is as old as the African societies which, from the outset, constituted, developed and transmitted it from generation to generation. This contribution seeks to answer the following questions: What is the anchoring of traditional medicine in the health care systems in Gabon? What is the level of integration of traditional therapeutic knowledge and practices in the Gabonese education system?

The results show that in Gabon, there are several diseases that are treated by traditional medicine, in particular: *Aucoumea klaineana*; *Cassia occidentalis*; *Cassia occidentalis*; *Citrus limonum*; *Costus lucanusianus*; *Cyperus articulatus*; *Enantia chlorantha*; *Euphorbia hirta*; *Irvingia gabonensis*; *Manihot esculenta*; *Milletia versicolor*; *Tetrapleura tetraptera* and *Vernonia amygdalina* for the treatment of intestinal parasites. *Adhatodalati bracteata*; *Enantia chlorantha*; *Gentiana lutea*; *Isolona campanulata*; *Staudtia gabonensis*; *Tetrapleura tetraptera*; *Uvaria versicolor* and *Vitex madiensis* for the treatment of malaria and inflammation. *Amaranthus rectrolexus*; *Rawolfia serpentina*; *Rawolfia serpentina*; *Solaneum anguivi* for the treatment of high blood pressure. *Sclerocarya birrea* for the treatment of diabetes. *Adansonia digital*; *Aucoumea klaineana*; *Crococ nucifera*; *Mangifera indica* and *Psidium guajava* for the treatment of diarrhea. *Acanthus montanus*; *Lantana camara*; *Lea guineensis* and *Palisota hirsute* for the treatment of venereal diseases (syphilis and gonorrhoea). Traditional knowledge of Gabonese medicine is acquired orally. The perception of medical students on traditional medicine comforts and pleads for its teaching in medical schools in Gabon.

Traditional medicine is a very important cultural element in the lives of the majority of Africans in general and Gabonese in particular. The integration of the teachings of traditional medicine into the current conventional training system is the only guarantee of the sustainability of endogenous practices and the improvement of African health systems in line with the deep perception of society. Africa would benefit from developing its knowledge in health care.

Keywords: Teaching endogenous, therapeutic knowledge, Gabon

Introduction

"Treatment is at the crossroads of what makes life and what makes death, of what makes it possible to live and what compromises life, and taking care of life is at the origin of all cultures" (Collière, 1996). Indeed, the history of civilizations teaches us that one of the first needs felt by our ancestors was the need to ensure their survival, the purpose of life being to prolong it, to reproduce and to postpone the expiry of the dead.

Also, since its origins, man has had to face, among other things, a problem that still concerns each of us today, and that the progress of science has not managed to deal with in its entirety: that of being well. To preserve his health. Indeed, there are organized knowledge systems in health care in orality societies. So-called traditional African medicine is as old as the African societies which, from the outset, constituted, developed and transmitted it from generation to generation. This contribution seeks to answer the following questions: What is the anchoring of traditional medicine in the health care systems in Gabon? What is the level of integration of traditional therapeutic knowledge and practices in the Gabonese education system?

1. Theoretical frame: The concepts of "African civilization", of "negro thought" too

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unilaterally oriented during the periods of hegemony of the European powers and even beyond, must today be rethought, redefined. The civilizing mission promoted Western civilization as a civilization in black Africa. It has denied, despised, distorted, obscured African knowledge and know-how, striving to impose their mode of operation through the policy of assimilation or association.

This policy contributed to the strengthening of Western civilization in sub-Saharan Africa and, on the contrary, undermined the foundations of indigenous societies. Africa has been limited since this period and until recently the learning of Western civilization in all areas and the implementation of public policies for its development was modeled on the West in the form of copies -paste without objective criticism.

The book "African Thought" ^[1] published in 2012 recommends that we revalorize black knowledge, because we would risk in the long term, mortgaging the chances of survival of the young generations by renouncing African thought, the only one likely to screen the dominant model. Which has alienated, for nearly five centuries, the material and immaterial interests of the black world.

It is more than urgent to sweep away the notions of the superiority of so-called scientific knowledge. It is simply a matter of a difference of thought, of frame of reference, of culture on which one cannot issue a judgment of values.

At the end of a period of domination, we now observe that the decision-makers of development policies in the field of public health are increasingly oriented towards endogenous therapeutic knowledge.

This article seeks to present the local dynamics of Gabonese society (knowledge and practices) to the study of the relationship between men/diseases/knowledge/therapeutic practices and finally to provide knowledge on a local reality and contribute to reflection on the general problem. Around sustainable development and its popularization.

Although the importance of black endogenous knowledge and practices seems to be recognized today, the observation is that their transmission in schools remains marginalized in Africa.

After having been suppressed for a long time, traditional medicine and traditional pharmacopoeia are coming back into the consciousness of the health authorities of the various African countries thanks to the advent of the primary health care system. Since 2003, WHO Africa has established, every August 31, the "African Day of Traditional Medicine", following the adoption in the year 2000 of the resolution "to promote the role of traditional medicine in the health: strategy for the African region".

This resolution was itself part of the action plan for the decade of traditional medicine "2001-2010" endorsed at the summit of Heads of State and Government of the African Union held in July 2001 in Lusaka, in Zambia.

Plants in the treatment of diseases

The use of plants in the treatment of diseases is very old because nature shows us that even wild animals instinctively use certain medicinal plants to heal themselves. Also medicinal plants are part of the history of all continents. Today, the use of herbal medicine is experiencing a resurgence of interest in the world. According to the WHO,

about 80% of people in developing countries use medicinal plants to meet their health needs (Jiofak *et al.*, 2010). This remedy is daily, and not exclusively for the treatment of illnesses but also for prevention.

Unlike Westerners who are focused on the active principles of plants, Africans in general and Gabonese in particular base their therapeutic mode on the link that would exist between the disease or the diseased organ and the pictorial representation of the plant that will be used as an antidotal drug. This partly explains the multiplicity of uses of the same plant essence according to the societies, even the closest ones. For example, a plant with red sap will be used for the problem of anemia; a plant in the shape of a heart will be used for the treatment of the heart. This form of medicine is based on the theory of signatures. This one was made famous by the Swiss doctor Théophraste Bombast dit Paracelse in 1493. According to this practitioner, the plant testifies to a message of divine order, message carried by the morphology of the plant.

The latter is supposed to help cure an illness because its shape and functioning, for example, have certain similarities with the affected organ or similarities with certain diseases. These resemblances are always based on signs related to human anatomy or physiology, and certain particularities of animal organs in order to be able to treat diseases.

Thus, we can affirm that the effectiveness of many plants or animals does not reside exclusively in their chemical composition. Some plants or animals have symbolic value. Without this context, these essences would lose their effectiveness. This does not mean that these plants and animals are without importance for the medical world. They can in particular contribute to the study of the therapeutic action of symbolism on the unconscious of man.

In this regard, Lolk J Van Der Veen (1995) speaking of Eviya, argues that: "the *strombosiopssisrigida tree* (ALACACEES) named moghèba in ghéviya, has a bark which would have certain properties allowing to cure kidney ailments and body aches. The name of the plant itself has become opaque: it cannot be compared to any other lexical element of the language. But among the semantic properties included in the local definition of this plant, we find the (physical) straightness of the trunk and the hardness of the wood. It is precisely these semantic traits that underpin the therapeutic use of plants. The bark of this straight, hardwooded tree would therefore transfer its characteristics to the patient who ingests it".

We can therefore affirm that the morphology of the plant associated with that of the organ that we propose to treat is not enough. There are other essential parameters that must be put in place for the treatment to have its effect "The nganga or oganga as it is called in certain Bantu languages, it is the priest, the man initiated into the cult ancestors. Nganga is endowed with the knowledge of occult forces, plants, animals. He is both the doctor and the exorcist. While healing the sick with plants, the nganga strives to ward off the action of the sorcerer" (1993) ^[2].

The forest is not a seasonal shelter. The Gabonese do not live there temporarily. He attaches himself to it despite the potential dangers because the forest is for him a kind of pharmacy, an inexhaustible mine for making everything that

¹ MBOG Bassong, 2012, la pensée africaine: essai sur l'universisme philosophique, kiyikaat, 358p.

² KOUMABILA. JR. 1993, on some aspects of the history and civilizations of equatorial Africa (Congo-Gabon) from around 1300 to 1960, Libreville, Omar Bongo University.

domestic uses require.

Gabonese territory is 85% covered by forests. The Gabonese people live in permanent contact with this environment whose floristic riches are a breeding ground for the health care of the populations.

In African medicine in general, all parts of a plant are useful, namely: seeds, fruits, leaves, stems, barks, roots or the whole plant.

2. Methodological approach

To answer the problem posed above on the anchoring of traditional medicine in Africa and the modes of transmission of endogenous knowledge, we will rely both on the literary review in connection with black medical knowledge and practices, on the approach dialectic of history as a method of investigation as well as on the anthropological approach. This is a descriptive cross-sectional study.

In this study, the method used to apprehend our subject was essentially qualitative. The information was collected through interviews with traditional therapists and medical students.

About ten interviews with traditional healers from the Tsogho, Pové and Nzébi ethnic groups, mainly from southern Gabon, were conducted. These interviews focused on the main pathologies treated by traditional medicine in Gabon and on the mode of acquiring knowledge in this field. About ten other interviews were also possible with health science students to find out their motivations for medical studies and to understand their perception of traditional medicine.

3. Results

3.1 In Gabon, there are several diseases that are treated by traditional medicine

Intestinal parasites

They are numerous in Gabon (roundworm, whipworm, hookworm, tapeworm, amoeba, etc.) and children represent the most vulnerable group.

For their treatment, traditional healers use fruit infusions such as lemon (*Citrus limonum*). These fruits can be dried and powdered (*Tetrapleura tetraptera*). The leaves are used in decoction (*Milletia versicolor*) or in maceration (*Vernonia amygdalina*). Either the leafy stems are taken and used as an infusion or decoction (*Cassia occidentalis*), or the stem alone from which the juice is extracted (*Costus lucanusianus*). The whole bark is also used (*Enantia chlorantha*), or its grates (*Irvingia gabonensis*); In some cases, the sap, latex or resin of Okoumé (*Aucoumea klaineana*) is used. Pierre) which is collected by incising the bark of the tree. Okoumé is a resinous tree, very widespread in Gabon. Decoctions are often made with the bark. The cleaned and cracked roots are used in infusion, in decoction (*Cassia occidentalis*) or in maceration (*Manihot esculenta*); they can also be chewed when green (*Cyperus articulatus*) or the entire plant (*Euphorbia hirta* it is also called the malnommée or the rougette) of the *Euphorbiaceae* family. It is used in infusion, maceration or decoction.

Malaria

Malaria is an infectious disease caused by a parasite of the Plasmodium genus, spread by the bite of certain species of Anopheles mosquitoes. The "malaria crisis", also called "malaria attack", can lead to death.

This disease is attacked in the Gabonese environment by

what is commonly called the steam bath based on dried banana leaves, which is a method of administration of choice for treating malaria (*Tetrapleura tetraptera*). *Gentiana lutea*, the purple gentianella African variety, which is found around the shores of the sea. This plant was used in Africa very early for its febrifuge action. Before the diffusion of cinchona and its derivatives, gentian was commonly used to fight fevers, especially malaria.

It is also used externally as an anti-inflammatory and for its healing action in infected wounds. We can nevertheless confirm the antiplasmodial activity of extracts of some medicinal plants such as *Vitex madiensis* Oliver. (Lamiaceae), *Staudtia gabonensis* (Myristicaceae), *Adhatodalati bracteata* (Acanthaceae), *Enantia chlorantha*, *Isolona campanulata*, *Uvariaversicolor* (Annonaceae), traditionally used by people to treat the symptoms of malaria (Ondo *et al.*, 2012; Lekana-Douki *et al.*; 2010, Akendengue *et al.*; 2005)^[19, 17, 1].

Antihypertensives

Arterial hypertension deserves special attention because of the regularity of its progression. It is equally deadly and the cause of a large number of deaths. This disease has become a real public health problem.

The plants most likely to be used in Gabon are

Rawolfia serpentina (*Rawaulfia*) its therapeutic properties are numerous, but it is mainly used for its action against hypertension, and in cardiac disorders.

Solaneum Anguivi is a plant in the *Solanaceae* family. Apart from its culinary use, *Anguivi* is a traditional remedy for high blood pressure and gout. The juice recovered after cooking the fruit is used. Another recipe is to dry the fruit, grind it and mix the resulting powder with food.

Two food plants regularly consumed by the Gabonese population show a beneficial effect on the management of cardiovascular diseases. Indeed, the consumption of aqueous extracts of *Amaranthus rectrolexus* (folong) and *Gnetum africanum* (nkumu) significantly decreases plasma sodium concentration to the benefit of potassium in rats (Padzys *et al.*, 2015)^[20].

Hypoglycemics

There are several plants called "anti-diabetics for example": *Sclerocarya birrea* (African plum) fruit tree, it is its leaves made up of flavonoids and tannins that are used. In addition to their hypoglycemic properties, they also have antihypertensive properties.

The onion, which, in addition to its hypoglycemic side, is reputed to be diuretic, antimicrobial, anti-asthmatic and expectorant. Use is recommended for diabetics and for cardiovascular prevention.

Anticancer

The works of Ngoua meye misso show that several Gabonese plants have anticancer and anti-inflammatory properties (Ngoua Meye Misso *et al.*, 2020; Ngoua-Meye-Misso *et al.*, 2019, 2018a, 2018b).

Antidiarrheals

Mangifera indica (mango), *Psidium guajava* (guava tree), *Aucoumea klaineana* stone (okoumé) the thin plates, which are removed from the bark itself, are considered antidiarrheal and astringent. For the rehydrating properties,

we have *Adansonia digita* (baobab) and *Crococ nucifera* (coconut).

Venereal diseases: Syphilis and gonorrhea

***Lantana camara*:** A root decoction taken as a drink treats gonorrhoea. A leaf decoction taken as a drink treats cough or flu. Sometimes mixed with lemongrass or lemon.

***Lea guineensis*,** a leaf decoction of which is drunk against gonorrhoea. The leaves serve as a massage against rheumatism.

***Palisota Hirsuta*:** The stems soaked in a bottle of water and exposed to the sun give a beverage frequently used against gonorrhoea. The scrapings from the stems are used to heal wounds, especially that of the umbilical cord. The heated leaves are applied to the lumbar region, against kidney ailments. Cooked with peanuts, they are intended to purify nurses' milk.

***Acanthus montanus*:** Macerated stems are used as a remedy against syphilis. While the maceration of the leaves serves as an emetic for the grandchildren. The infusion of these same leaves is administered against cough.

Among the species mentioned above, some of them, such as *Aucoumea klaineana* and *Tetrapleura tetraptera* the subject of pharmacodynamic tests at the University of Sciences and Techniques of Masuku (USTM) in Franceville (Gabon). The results showed the effectiveness of these plants against parasites (*Plasmodium falciparum*) and several microbial germs. Other pharmacodynamic analyzes of Gabonese medicinal plants also confirm the therapeutic power of some of them (NSI AKOUE, 2017).

3.2 Modes of acquisition of traditional knowledge on Gabonese medicine are done orally

Traditional medicine is a set of knowledge and know-how, acquired through observation and practical experience, transmitted from generation to generation. The transmission of a technique can range from the communication of the name of a medicinal plant to learning in order to exercise a medical profession. Mallard Guimera (1977) cited by Pither Medjo Mvé (1996, p.75) distinguishes four types of transmission of medical knowledge: by inheritance, by exchange, by a master, and by revelation (variant of transmission by inheritance).

This knowledge is made according to an oral, discontinuous transmission. This technique is not free, it requires a payment whose importance and nature depend on the person who transmits the drug generally, a plant, the bark of a tree, the leaves, the roots, a food based plant or animal. According to information collected from traditional healers, in the Gabonese understanding, the transmission of medical knowledge is acquired by learning from a master, by revelation in dreams and by initiation.

During our interviews in Libreville ^[3], we were able to observe that one of the possibilities for acquiring therapeutic knowledge is direct transmission via animals. The story of respondent number 1 ^[4] depicts two animals of different

species which, during a fight, will put man in contact with certain plant essences. The interviewee drew something from it because through her personal empirical observations, she already had an idea about the two animal species. For her, the two animals are venomous animals, if with each bite, the animal moves and returns, this implies that it is seeking treatment.

Another means of acquiring medicinal knowledge is the way of the ancestors who would transmit it in dreams. This is what respondent number 2 says ^[5] therapist met in a district of Libreville. Initiation is also one of the modes of acquisition of therapeutic knowledge among the ethnic groups of Gabon. People get started for several reasons:

One of them is the search for a cure, the person suffering from a disease that so-called modern medicine cannot cure will then learn the traditional rites (bwiti, mabundi, nyembè, ndjobi, etc.). During this ordeal, the spirits reveal to the patient a certain amount of information concerning, among other things, the healing of certain illnesses. The initiation therefore marks a break with the previous life. This rapture can be materialized by the gift of "healing" that the initiate receives.

The story of respondent number 3 ^[6] shows us that her knowledge comes from her ancestors. Many are the patricians of traditional medicine who have inherited their talent from a father, a mother, a grandfather, a grandmother, a stepfather, etc. They received their know-how from a person with whom they were in daily contact within the family unit. Otherwise there was also a more formal apprenticeship.

Our respondent number 4 ^[7] reveals to us that several elements are linked and necessary for the administration of care in Gabonese society in general and more particularly

to myself, I have already seen what the fox took as a leaf but not the snake yet, so I will follow it too. Following him, I caught him picking leaves too. I chased the snake to approach the plants it had taken, I found that they were different from those used by the fox. I took all these leaves and mixed them together to make a therapeutic product. One day I treated a woman bitten by a snake. So far I am treating snakebites. I had my knowledge thanks to the snake and the fox.

^[5] Nyangui J, 40 years old, met in Nzeng-Ayong "I didn't learn it from anyone, it was in a dream that I was told to take care of the children. At first, I neglected but a pregnant woman passed by me, I felt attracted by the child. When I refuse a patient, I don't sleep at night. My mother explained to me that I had a grandmother who gave birth and that she wanted to pass it on to me.

^[6] Mademi B, 45, met in Bel-air. "For my medicine, I was sick, I couldn't give birth. E it had been 7 years that I was married without catching a single delay which earned me problems with my husband and my in-laws, my parents brought me to be initiated so that I discover the cause of the disease from which I suffered. So, it was during the astral journey that I was going to meet my grandmother, my grandmother's grandmother, who was going to show me two tree barks. A bark to be used as an enema and another to macerate and drink for infertile women.

^[7] Mambo P, 35, met in the Paris- bifoun village "Until now, the forest is our hospital, it provides us with our medicine. We cure our illnesses with plants. A single plant alone cannot cure all diseases. Each plant has its disease(s). For us "nganga", each plant has a name and it is this name that tells us about the virtues of the plant (...). But knowing the names of plants is not enough, you must above all know the meaning of the plant. Also, we are not going to look for the medicine in silence, which is why it is always important to tell the plant by talking to it the reasons for which you are taking it to have the blessing.

³ See the people surveyed

⁴ Mayatsi A, therapist, 53 years old met in the PK7 district "I got my medicine by chance. It could be that my parents pushed me to go to the bush that day. Arriving in the bush, I see a fox in front of me. I stood up, sometime later the black snake appeared and bit the fox, it withdrew. Just out of curiosity, I followed the fox and caught him picking leaves. Then he went back to join the snake. I followed the fox. This time, it's the fox who attacks the snake by biting its tail. The snake had no more strength, it still moved. I said

within the Pové society (ethnic group from southern Gabon). This is the name of the plant and speech. The name of the plant can provide information on the use and also on its collection for therapeutic purposes. Once the name of the plant is known, the word here has the power to awaken all the therapeutic virtues that a plant can possess depending on the orientation given to it.

3.3 Perception of medical students on traditional medicine comfort and advocate for its teaching in medical schools in Gabon

At the end of the interviews ⁸we had with health science students in Gabon, it appears that traditional medicine is still a living reality. It was able to preserve the health of African populations throughout the pre-colonial period. Traditional medicine is therefore an integral part of the ancestral heritage. It is therefore not surprising that today, nearly 80% of the population resorts to traditional medicine ⁹. The students questioned think in a relative majority of the effectiveness of traditional medicine and the fact that it is less expensive than Western medicine. The students think the «nganga -healer» is the one who has the best profile of a good teacher of traditional medicine. They believe that the teaching of this medicine is essential in medical studies. They consider that it would be necessary to introduce the teaching of traditional medicine in medical schools in Gabon.

Discussion

For Africans in general and for Gabonese in particular, the universe is divided into two concomitant dimensions: the visible world and the invisible world. Traditional Gabonese medicine is part of the country's cultural identity. Endogenous knowledge in the field of medicine is therefore to be valued. Gabon has three public universities: the Omar Bongo University which brings together the faculties of human sciences and law and economics, the University of Health Sciences, the University of Sciences and Techniques of Masuku. Our investigations around these three (3) institutions and the examination of the training modules provided in these places demonstrate the virtual non-existence of the teaching of traditional knowledge and practices. This finding is worrying for the survival of black culture in medicine because the only teachings valued today are those of Western medicine.

The Gabonese public authorities have begun to understand this by making traditional medicine one of the components of the national health system, as evidenced by Ordinance No. 001/95, on the orientation of health policy in the Gabonese Republic in its section 3, in articles 107 and 108. This recognition of traditional medicine was further materialized by the creation in 1976 of the Institute of Pharmacopoeia and Traditional Medicine (IPHAMETRA). Decree No. 1161/PR/MRSEPN of December 11, 1976 establishes this institute. Despite these beginnings, the legal framework for traditional medicine is still embryonic in Gabon. The Ministry of Health is slow to adopt laws regulating the practice of traditional medicine as in other countries of sub-Saharan Africa such as Benin, Côte-d'Ivoire and Burkina-Faso. Its practice becomes a paradox

in itself: it is the most widespread and the least officially recognized.

Conclusion and Perspectives

Most health systems in Africa have been designed after the Western model. This legacy of colonization, although having helped to control several pandemics and continues to demonstrate its usefulness and effectiveness in the context of many other ailments today, has proved incapable of ensuring the satisfaction of the needs of the major part of the populations by the very fact that it misunderstands in its essence the sector made up of traditional medicine which is a very important cultural element in the life of the majority of Africans in general and Gabonese in particular. They attach considerable importance to the metaphysical dimension of their existence and attribute to it the source of certain illnesses, hence their faithful attachment to traditional medicine.

The main determinants of health are embedded in the environment with a strong component of representations and social behaviors. Doing preventive care in African countries requires taking an interest in the practices, behaviors and representations of the populations. This is why, although healthcare plays an important role in improving the state of health of a population, the presence of an appropriate physical, socio-economic and cultural environment remains the key to improving the indicators. health and the health system. Indeed, it would therefore be important to work on the intercultural in order to understand all the richness of the traditional health care system in Africa.

The action of traditional healers and the study of their practices can only be conceived if one is able to penetrate the system of thought of this culture specific to Africa. The objectives of a health program based on traditional African herbal medicine could be summarized as follows: to classify plants according to their activity and effectiveness; list the plants used in a given region; study the conception of diseases in this same region; deepen the understanding of the mechanisms of action of a given extract, of a given plant; assess the efficacy and toxicity of the remedy in question; establish a concordance between the clinical efficacy and the chemical composition of the plant.

The integration of the teachings of traditional medicine into the current conventional training system is the only guarantee of the sustainability of endogenous practices and the improvement of African health systems in line with the deep perception of society. Africa would benefit from developing its knowledge in health care.

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Conflict of interest

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⁸ See list of medical students met

⁹Obenga Th. 2003, the Bantu peoples: Migrations, expansion and cultural identity, volumes 1 and 2, CICIBA, Paris l'Harmattan.

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