

The persistence of spleen sickness culture in Cameroon: A comparison between a remote village in the Eastern Region and an urban area of the Central Region

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Abstract:

‘Spleen sickness’ is a pathology characterised by a set of abnormal abdominal swelling and pains affecting the human body that is uniquely recognised by traditional medicine. This sickness continues to affect diverse categories of the country’s population. Our objective is to describe the varied ways of perception and management of ‘spleen sickness’ by local peoples in the different contexts of health care development and urbanisation. Of the informants, only two living in Yaoundé (1.7%) replied that they had found a solution to their problem by receiving care in biomedical health facilities. The others (98.3%) stated that their health had been restored by receiving care from traditional healers. Whereas the rural population tended to use more diverse plants for management than urban populations, they commonly depended on medicinal plants. However local knowledge related to ‘spleen sickness’ tends to be closed within each community of hunter-gatherers and farmers in Ndongo, it is more open in Yaoundé. Ethnomedicinal recipes are exchanged and hybridised between different cultures in the urban area. The commonalities and differences identified between the two sites illuminate the common patterns of a culturally constructed disease, but also the dynamics of therapeutic knowledge under the urbanisation.

Keywords: cultural diversity, ethnomedicine, health care development, urbanisation, Cameroon

1. Introduction

Conventional medicine conceives of disease as an exogenous entity breaking into the patient's body and of medicine as the healing of that health problem. Major causes include genetic factors; infectious agents (viruses, bacteria, or parasites); poisons and drugs; pollution in its various forms (e.g. atmospheric, habitat-related), and immunological factors. To cope with these health problems, it is recommended that local 'healers', 'herbalists', and 'birth attendants' compensate for the shortcomings of national health systems (WHO 1978). According to the World Health Organisation (WHO), 80% of the population of developing countries are dependent on traditional medicine, mainly using extracts of plants to meet their needs. This situation can be explained by the poverty of the populations, their socio-cultural habits, the isolation of rural areas, the absence of sanitation or rudimentary infrastructure, the high cost of pharmaceutical remedies, and low incomes (Dibong *et al.* 2011), and is experienced differently in urban and rural areas. In this respect, the city of Yaoundé has a large number of health facilities and qualified personnel (ONU-HABITA 2007), while the populations of rural areas have enormous difficulty accessing health care. Indeed, the Ndongo locality, for example, has an Integrated Health Centre with a health staff that for various reasons is not always on site. The local population sometimes spends one or two weeks without access to quality health services.

This situation increases the health vulnerability of these populations, who can suffer from common diseases falling within the expertise of conventional medicine. In reference to biomedicine, Boltanski (1971) makes it clear that familiarisation with morbid and symptomatic taxonomies, as well as the acquisition of new categories of perception of the body, are essentially the result of attendance of professional health services by the population. In South-East Cameroon, for example, several studies have shown that migration from the forest and increased contact with nearby ethnic groups have contributed to poor Baka health and increased disease prevalence in general (Froment 2014, Ndembi *et al.* 2003) and newfound illness in particular (Carson *et al.* 2019). According to Mbonji (2009), new diseases are born while others disappear; new drugs are being manufactured to replace those less effective or less available. As regards the asymmetric relationships between diseases and drugs, it should be noted that they are not always due to the emergence of new pathologies, resistance of old ones, or incompleteness of the care offered. In Africa, these relationships are explained in particular by the existence of a certain number of morbid cases that do not necessarily fall within the official categorisation of the disease, a categorisation based more on a biomedical and institutional vision than the ethnographic conception of health or disease.

'Spleen sickness' in this regard is not a pathology recognised by scholarly medicine, while the local populations consider biomedicine incompetent to find effective solutions. According to Eloundou (2009), 'spleen sickness', known as *tsite* among the Ewondo population, is a health problem that they hold can only be solved at the level of traditional medicine. In daily life, any society develops methods to cope with a disease, a set of means to stop it and explain its appearance (Meziane 2003: 65). By

consulting literature on the most recurrent diseases in our contemporary society, we realised that what rural and urban populations in Cameroon call ‘spleen sickness’ has not been the subject of much research in social science. At this stage, some studies have focused on plants used against this health problem in Cameroon (Adjanohoun *et al.* 1996), among the Baka of Cameroon (Brisson 2011) and Gabon (UNESCO 2009), and among the Baboua population of the Central African Republic (Jacqueline 1959). Our objective in this work is not necessarily to justify the relevance of social practices, but to explain how people live and express this reality. In this movement, Fainzang (2000) considers that what is important from the anthropological point of view is not whether such a practice is effective, but why it is thought to be so by the society studied, what its meaning and social significance are and how this is constructed in practice. The main question at the centre of this research is: What are the sociocultural considerations that the population has regarding ‘spleen sickness’ and its management practices in rural and urban Cameroon? To achieve this goal, we aim in this work to describe multiple ways of perception and management practices of ‘spleen sickness’ by local peoples in the different contexts of health care development and urbanisation.

2. Material and methods

2.1. Study area

We conducted this research in two localities of Cameroon: Ndongo in the Eastern region and Yaoundé in the Central region.

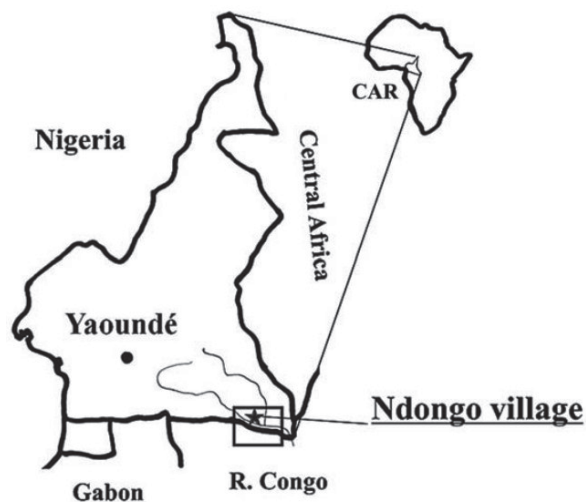


Figure 1. Study areas

2.1.1. Ndongo village

Ndongo is a village situated in the Moloundou subdivision of the Eastern region. It is located along the Dja River, which forms the international border between Cameroon and the Republic of the Congo. Ndongo is located at 650km southeast of Yaoundé, the capital of Cameroon. The Ndongo villagers belong to more than 10 ethnic groups, including the Baka, Bakwele, Djem, Bangando, Konabembe,

Hausa, Fulbe, Kotoko, and Bamileke. Ndongo inhabitants can be classified into three categories based on lifestyle and ethnic identity: the Baka are hunter-gatherers, the Bakwele are farmers, and the Hausa, Bamileke, and Bamoun are merchants. Their respective populations number around 300, 250, and 50 persons, giving a total population of approximately 600 (Oishi 2016a). We focused only on the Baka and Bakwele, who constitute the majority of the population. This situation afforded us the opportunity to meet the maximum number of informants, and also allowed us to cross check the names of plant specimens before leaving the field.

2.1.2. Yaoundé city

Yaoundé is the capital of the Mfoundi Division in the Central Region and the political capital of Cameroon. The city is located at latitude 3°90 North and longitude 11°50 East (Aimé *et al.*, 2015). This area is a little larger because as there are few ‘spleen sickness’ traditional therapists, this allowed us to obtain the same number of practitioners as at the rural site. It is also a multi-faceted town with a strong diversification of activities and a high concentration of populations originating from various localities of the country (Hirano 2014, Porto 2012). The average density of the population in relation to the territory of the CUY is 45.25 hab/ha, and that relative to the urbanised area is about 153 hab/ha (CUY 2008).

2.2. Data collection method

2.2.1. Focused population

The focused population for this research consisted of persons who have experienced ‘spleen sickness’. Regarding the first category, the choice focused on the victims and their relatives (patients, parents, accompanying persons). When a case of illness occurs in the community, the patient’s entourage mobilises itself to help the patient through this delicate moment of life. This means that in many cases, the victim does not follow the pattern they lay down. The second category comprises health practitioners who recognise this reality as a health problem. These are traditional healers, and any member of the community may master the therapeutic knowledge and apply it to ‘spleen sickness’ patients. This study was conducted with 120 informants, 40 in Ndongo and 80 in Yaoundé. The difference in number is due to Yaoundé being larger and more populous than Ndongo. Thus, in Ndongo we consulted 20 Baka and 20 Bakwele, while in Yaoundé the 80 respondents interviewed consisted of 29 Ewondo and 51 allogens (i.e. 17 Bagam from the Grass Field region, 17 Mabi from the coastal region, and 17 Toupouri from the Sahelian region of Cameroon). Given the cosmopolitan character of the city of Yaoundé, we tried to do this to take into the population waves of the great cultural changes of Cameroon. This justifies the use of the concept of ‘allogen’ used to designate inhabitants not living in their birthplace. The respondents in our sample voluntarily agreed to take part in the study. Apart from the general population, four anthropological criteria borrowed from De Rosny (1981: 164) by which populations identify true healers

guided the inclusion of that category of informants in our sample: their stability in the community where they were born; the origin of their power/healing knowledge (the inhabitants of their respective villages must be able to testify to the reality of their vocation); the duration of the cures they have made; and good knowledge of medicinal plants and the proper use of therapeutic rites (Wamba *et al.* 2017: 168).

2.2.2. Data collection and processing

We organised home interviews with the holders of knowledge on their conception of ‘spleen sickness’ and the medicinal species their therapies use. We then went with them into the forest or the gardens around their houses, where we identified with them the species they used, the privileged parts as well as the instructions for use. In this context, we started by collecting specimens, which were well preserved in the Plank and protected from moisture. After the fieldwork, the different species collected were identified at the National Herbarium of Yaoundé. We subsequently constructed an Excel database with such items as family names; scientific names; biological types; parts used; modes of care administration; and sources of therapeutic knowledge. These different elements afforded us a global idea of the management strategies of this disease in traditional societies and the dissemination of related therapeutic knowledge. Data interpretation was based on cultural ecology theory, which has the aims of ‘the study of dynamics, active human behaviour in the context of a changing environment, [and] interconnections among the dynamic components of our system’ (Jochim 1981: 5). This perspective allows us to demonstrate how populations use their environmental resources to solve human health problems.

3. Results

3.1. Contrast between the sociocultural conception of ‘spleen sickness’ and biomedical considerations

3.1.1. The sociocultural conception of ‘spleen sickness’

In Ndongo, ‘spleen sickness’ is conceived mainly as the result of the consumption of the animal's liver, a part of the wild animal, which is considered harmful to children's bodies among the local populations (both Baka and Bakwele). We illustrate our remarks through a consideration of the expression *kò na ngéndè-so*, which means the ‘disease of the animal's liver’ in the Baka language. We also have the expressions *epial-ε-tsite* and *epial-ε-zock*, meaning ‘animal's liver’ and ‘elephant's liver’, respectively, in the Bakwele language. What is important to observe here is that these populations sincerely believe that the consumption of the ‘animal's liver’ is one of the main causes of ‘spleen sickness’. According to them, this organ contains toxic agents responsible for the appearance of this health problem once this nutriment enters children's bodies or their mothers'. In this area, while all meat (liver) species suitable for consumption are incriminated among the Bakwele community, the Baka focus only on the doe and the hare, whose livers they consider harmful to children and to pregnant and lactating women.

In Yaoundé, several populations gave us an understanding of the local meaning of this health

problem in relation to their environmental resources. For the Ewondo, the indigenous population of the city, for example, *tsite* ‘meat’ is the denomination used to express ‘spleen sickness’. According to them, this health problem is caused by the consumption of banned meat and is manifested by an inflammation of the abdomen that resembles a piece of meat to the touch. The Bagam informants (from the Western region) used the term *bagyec* ‘cricket’ to describe this reality, these populations explaining that the movements of the chest of a person suffering from ‘spleen sickness’ is like the normal movements of a cricket’s chest. Also, when the disease gets worse, the patient loses weight and becomes skinny like a locust, often described as meat without flesh. Mabi (coastal populations) used the expression *tchiri* ‘animal’ and *tchiri da'a* ‘crab spleen’ to describe the same pathology. In substance, within these various communities mentioned, the populations explained the disease with reference to the behaviour of animals and insects and their similarities with the characteristics or forms of ‘spleen sickness’ that may justify the name at the local level. Here as elsewhere, the natural environment has always been a source of inspiration for people in their daily lives (Table 1).

Table 1. Summary of local denomination of ‘spleen sickness’

	Local denomination	Meaning in English	Link of causality
Baka	<i>kò na ngéndè-so</i>	‘disease of meat liver ‘	The consumption of the liver of animal by the baby, mother, or a pregnant woman predisposes children to ‘spleen sickness’
Bakwele	<i>epial-e-tsite</i> <i>epial-e-zock</i>	‘disease of animal liver’ ‘disease of elephant liver’	The consumption of the liver of an animal by the baby, mother, or pregnant women predisposes the child to ‘spleen sickness’. Also, the two denominations are used to indicate the size of the sickness as small (or simple) or large (or dangerous)
Ewondo	<i>Tsite</i>	‘animal’ or ‘meat’	The ‘spleen sickness’ is manifested by the presence of a ball at the level of the patient’s ribs; said ball is compared to a piece of meat buried in the body. It may have been the result of consuming a snail or the liver of the animal.
Mabi	<i>tchiri</i>	‘Animal’	The movement of the patient is compared to that of an animal in a trap (fighting death). This disease can be the result of the consumption of a snail.
Bagam	<i>Bagyec</i>	‘Cricket’	The movement of the infected side is comparable to that of a cricket. Although crickets are not implicated in the genesis of the disease, they are nevertheless a well-known therapeutic element in the community.

3.1.2. Contrast with the biomedical conception

From the biomedical perspective, the spleen is an organ located on the left side of the abdomen that plays the special role of ‘cleanser’ of the blood. It is the main site of the destruction of red and white blood cells at the end of their lives (Orphanet 2010), which increases the volume of this organ (spleen) as a consequence of the intensification of its work. In the literature, several researchers have provided explanations of spleen pain, a situation that can create confusion in the mind of the population. Thus, a link between malaria, schistosomiasis, and inflammation of the spleen has been clearly established (Gentilini 1995). In the same direction, Greenwood *et al.* (1987) conducted research on ethnic differences in the prevalence of splenomegaly and malaria in three populations (Mandinka, Wolofs, and Fulas) in the Gambia, where they identified a high prevalence among Fulas, suggesting that this community is predisposed to this health problem. We have also noted an abundant literature on the pathological ‘wandering’ spleen, which is a rare malformation due to hyperlaxity or agenesis of the suspensory ligaments of the spleen arising from a congenital or acquired anomaly (Germain *et al.* 2018, Dème *et al.* 2016). In Cameroon, Mbanya *et al.* (2008) observed in a study carried out in Yaoundé that an imbalance in the level of haemoglobin in a patient is a risk factor that promotes splenomegaly cases. Bernard *et al.* (2001) highlighted the relationship between the existence of splenomegaly, a marker of a state of chronic parasitism, and the saturo-weight growth of a population of young children in southern Cameroon.

Globally, ‘spleen pain’ is perceived by health professionals as a symptom of a variety of pathologies (malaria, cancer, sickle cell anaemia, various infections). Based on this clinical reality, biomedical practitioners believe that the good management of these causes can generate the disappearance of pain and inflammation. In the context of our study we observed that the choice of treatment of the population, as indicated above, is traditional medicine. Of the 120 respondents at both sites, only 2 informants in Yaoundé (1.7%) reported that they had found a solution to ‘spleen sickness’ by receiving care in health facilities. Almost all of the informants estimate that their state of health has been restored thanks to the care received from traditional healers (98.3%). This information is more significant because the respondents belong to all social classes (rich and poor, children and adults, men and women, religious and nonreligious)

3.2. Species used for treatment

In this work, 88 species have been identified from the two research sites, with 63.6% from Ndongo and 36.4% from Yaoundé. From the Ndongo informants, 35 plants were found among the Baka and 21 among the Bantu population. In this locality the most commonly used species are *Cylicodiscus gabunense* (8.9%), followed by *Schumanniohyton magnificum* and *Anchomanes difformis* (7.1% each). Among the least common, 16 species were mentioned once, among which are *Ceiba pentandra* (1.8%) and *Afzelia bipindensis* (1.8%). From Yaoundé, 32 species were cited by the informants, 15 species by

the Ewondo and 17 by members of the other cultural groups interviewed. The most important species are *Ageratum conyzoides* (12.5%), *Carica papaya* (9.4%), and *Aframomum melegueta* (9.4%), while 16 species were mentioned once (see Table in appendix section). Of the 88 plants identified in this work, only 3 appeared in the lists from both Yaoundé and Ndong (*Aframomum melegueta*, *Elaeis guineensis*, and *Carica papaya*).

3.2.1. Biological type and part used

3.2.1.1. Biological type

Generally, the main species used by populations come from trees (58%), grasses (36.4%), and liana (5.7%). In the Ndong locality, trees made up a high proportion (70.9%) of the responses, followed respectively by herbs (21.8%) and liana (7.3%). On the other hand, there was a preponderance of herbs (62.5%) among the informants in Yaoundé, followed by trees (34.4%) and liana (3.1%). This situation can be explained by the adaptation of populations to their immediate environment in the city as in the countryside.

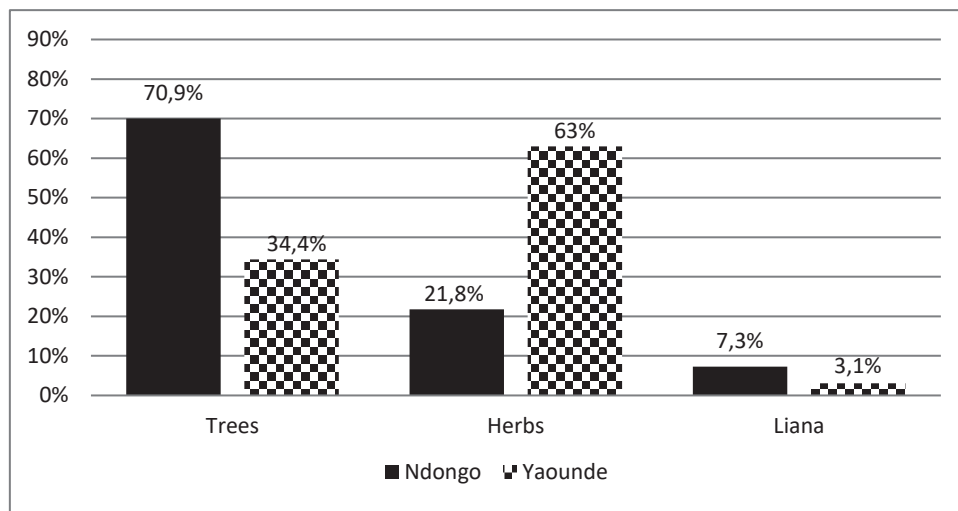


Figure 2. Biological types

3.2.1.2. Parts used

Globally, the main parts used by population to treat ‘spleen sickness’ are bark (47.1%) and leaves (26.4%), while the least common are fruit/seed (8.1%) and stalk (3.4%). According to Ndongo respondents, the most popular parts are bark (58.2%), followed by roots/tubers (21.8%). For informants in Yaoundé, we noted the use of leaves (59.4%) followed by bark (28.1%). These different parts are chosen for their virtues backed by the experience accumulated by the population regarding their use. The bark and the leaves are the most popular parts among the Ndongo and the Yaoundé, respectively, which also reflects the predominance of trees and leaves in the primary choices of informants in their respective localities.

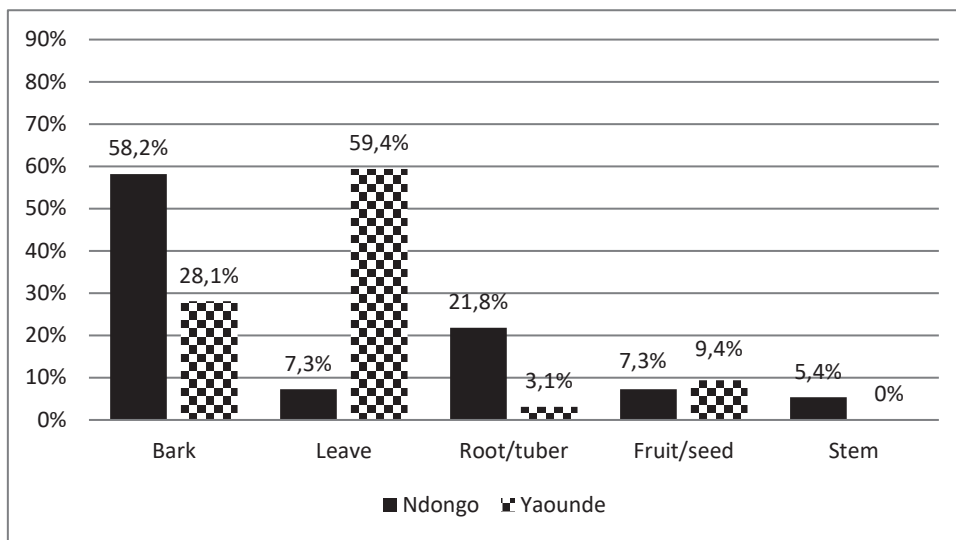


Figure 3. Parts used

4. Modes of care administration

Globally, the main methods of care administration revealed by our informants from both sites are scarification-massage combination (39.8%), bleeding (25%), single massage (18.2%), and oral administration (10.2%). In Ndongo specifically, the most commonly used modes are scarification-massage (47.3%) and bleeding (23.6%), while in the city of Yaoundé, the major modes of administration are scarification-massage (25%) and bleeding (25%). According to these populations, scarification and massage can easily destroy the ‘spleen sickness’ from the outside while purging and oral intake are responsible for the destruction of the disease from the inside. The high demand of care applying scarification at both sites (47.3% for Ndongo and 25% for Yaoundé), for example, is justified by the belief shared by the populations that contact between the remedy and the patient’s blood is a direct means of counteracting an affection. According to them, through this method the medication can treat the illness both at that moment and in the future by affording direct access to the deep pain of the patient. Whether in Yaoundé or in Ndongo, the management of ‘spleen sickness’ involving scarification associated with massage has proved to be a sure and lasting solution, according to the testimony of many informants. It offers the opportunity to access the ‘root of the evil’ in the body for some, but also and especially in the blood.

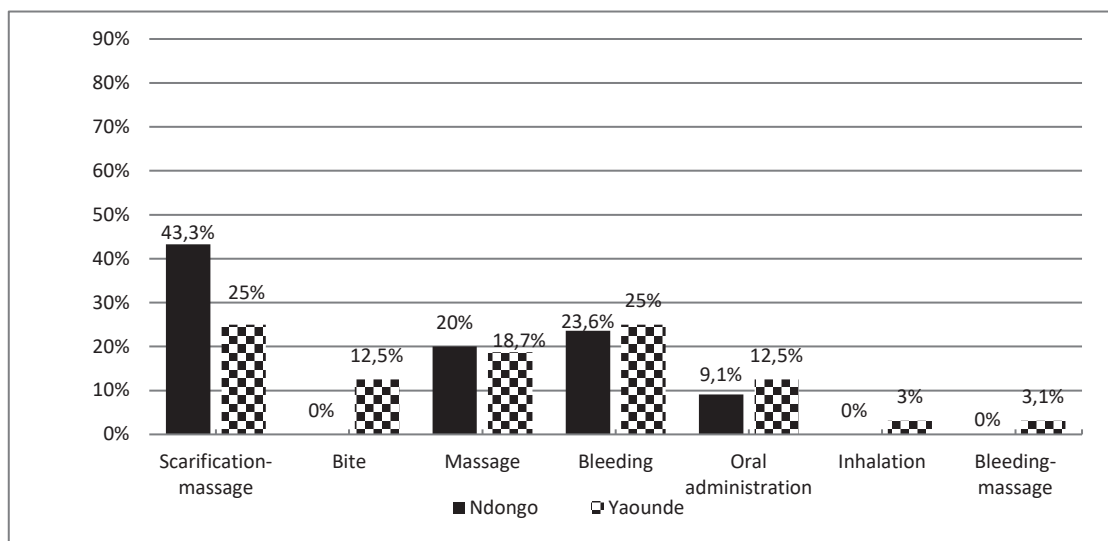


Figure 4. Modes of care administration

5. Influence of the natural environment on ‘spleen sickness’ management

During our stay in the field, informants of both sites allowed us through their narration to understand the close relationship they have with their natural environment. Among the 88 plant species identified for medicinal use for ‘spleen sickness’ treatments, 56 were collected from rural informants and 32 from urban informants, as mentioned above. Apart from the diversity of the vegetal therapeutic resources revealed in the field, we also observed the regular solicitation of some animal species for the same purpose. Within the Bakwele community for example, we noted that snails and the liver of the hare are used by populations as therapeutic element to neutralise ‘spleen sickness’. The Baka informants for their part used the nails and skin of the elephant to solve this health problem. In Yaoundé, cows’ hooves, crickets, and dragonflies were recorded among the Bagam, lizards, frogs, and snails among the Ewondo, and snail slime among the Mabi and Ewondo informants. All these elements of the animal world are taken from the daily environment of the populations (Table 2).

Table 2. Animal resources used to cure ‘spleen sickness’ in the population

Locality	Therapeutic elements	Synthesis	Community
Ndongo	Snail	Burial of the living snail at the end of the patient’s massage	Bakwele
	Hare liver	Scarify and embalm the chest of the victim with the powder of the liver of the hare	Bakwele
	Nail of elephant	Massage of the patient’s rib by pressure from the elephant’s nail	Baka
	Skin of elephant	Massage with charred skin, associated with bark	Baka
Yaoundé	An aquatic insect (Gyrinus natator)	Gyrinus natator is returned to the water at the end of the bite care.	Bagam
	Beef hoof	Massage of the patient’s rib using powder from a charred cow’s hoof.	Bagam
	Shell of the snail	Massage of the patient with powder from the charred shell	Ewondo
	Frog	Burial of the living frog at the end of the patient massage	Ewondo
	Snail slime	Scarify and embalm with snail slime	Ewondo, Mabi

6. Cultural transmission of local knowledge at both sites

Therapeutic knowledge is transmitted through (1) dreams, (2) from parents to children, and (3) between members of the community at both sites. Here we describe how each knowledge transmission process occurs.

6.1. Dreams

Dreams emerge as an essential means of access to the therapeutic knowledge regularly mobilised for the management of this health problem. The populations explain that during sleep, a spirit presents itself to reveal to a family member a recipe that will enable him to neutralise ‘spleen disease’. Generally, this spirit explains the composition and the mode of administration. At both research sites, 10 people admitted to have acquired some therapeutic knowledge via this channel. This was much more common among the eight Ndongo respondents (six Baka and two Bakwele) who attested to this, while in Yaoundé, only two people gave the same testimony. Several studies have highlighted this means of access to therapeutic knowledge (Nkonmeneck 2007, Mbonji 2006). On the whole, the density of know-how acquired through this channel testifies to the nature of the relationship between the living and their ancestors. According to Mbonji (2006) for example, those who contributed during their lifetime to the well-being of their fellow man have the responsibility to continue their good works in the afterlife. Based on this consideration, some informant from Grass Field region of Cameroon believed that it is therefore necessary for the living to remain in harmony with this higher entity in order to arouse its awakening and sympathy when passing through difficult times. Through this harmony, this entity looks after the health and destiny of family members and society in general.

6.2. Transmission from parents to children

To achieve this, elders are accompanied in their activity by the youngest to gradually instil knowledge and therapeutic practices. In fact, 18 out of 20 caregivers in Ndongo stated that they received therapeutic knowledge from their parents. Here we note a strong connection, with 100% among the Baka and 80% among their neighbours, the Bakwele. In Yaoundé, this trend is generally maintained, with 13 of 20 carers interviewed reporting having benefited from their parents’ know-how, 7 among the Ewondo (35%) and 6 among the non-indigenous groups (30%). This means of transmission has been mentioned in several studies (Nyeyambe 2017, Mve Belinga 2011). For parents, not all children have the same potential at birth that can promote their cooptation into the circle of traditional healers. Indeed, some children have a more open mind and the skills to master the herbs, barks, and objects that can heal a victim of this pathology. On a day-to-day basis, the caregiver looking for a successor starts by observing his children or his family closely in order to identify the one who has the most aptitude to serve his family and perpetuate his therapeutic knowledge in the long term. Whatever the community and practice, the responsibility of adults in this case is to channel young children and aspirants ‘endowed with gifts’

so that they can better express their genius.

6.3. Acquisition from a third party who is not automatically a member of the family

The study also revealed a significant openness of therapeutic knowledge to learners of all backgrounds who meet the basic requirements instituted by the ancestors. In Ndongo, 2 ‘spleen’ caregivers out of 20 interviewed (10%) mentioned having received additional training from a third party with whom they are not related, though this was only noted by Bakwele informants. In Yaoundé, 7 out of 20 ‘spleen’ caregivers (35%) reported having received training from a person to whom they were not related. The fact that this type of knowledge transmission is less common among the Baka is explained by the diversity of knowledge within this community. On the other hand, the significant proportion observed in Yaoundé reflects the adaptive dynamics of people in search of effective therapeutic formulas applicable to victims of the ‘spleen sickness’ in a multicultural context.

7. Discussion

7.1. Biological types and parts used

Our results revealed a preponderance of trees as the source of the therapeutic elements used in Ndongo, unlike Yaoundé, where herbs are most common among the populations. This variation can be explained by the judicious exploitation of environmental resources by the rural and urban populations. In this sense, the large equatorial forest that predominates in southeastern Cameroon has a significant influence on the way of life of local populations. It has been shown that the Baka, for example, are still highly dependent on forest resources despite having been sedentarised fairly recently, starting in the 1950s (Lueong 2016, Hewlett 2014). Similarly, the majority of the Bantu for their part depend on agriculture for sustenance (Hattori 2014, Neumann *et al.* 2012). This may explain the orientation of their therapeutic knowledge centred on the abundance of herbs in the fields. All this happened in the context where more than two-thirds of the world’s plant species have medicinal value (Sofowora 2010). Among these species, some studies have found a strong preponderance of woody species in traditional pharmacopoeia (Nana 2005, Olivier and Sanou 2003).

Regarding the plant parts used in the management of ‘spleen sickness’, the populations explain that each part of the plant contains specific therapeutic substances that effectively counteract this health problem. The choices by the population are guided by the experience acquired by the ancestors regarding the effectiveness of each specimen targeted by the therapists in the locality of Ndongo (among the Baka and Bakwele) or Yaoundé (among the Ewondo, Bagam, Mabi, and Toupouri). From this perspective, some studies have demonstrated that certain plant organs such as leaves, barks, and roots are used in traditional medicine in the treatment of common diseases in many African societies (Mbonji 2009, N’Guessan *et al.* 2009). In general, herbal medicines include whole plants, parts of plants, plant-based materials, herbal preparations, and herbal finished products, which contain as active ingredients parts of

plants, other materials, or their combination (Nacoulma 1996). ‘Spleen sickness’ is a health problem that affects mostly young children and requires the rapid response of parents, but also the mobilisation of appropriate therapeutic resources adapted for their age. In this perspective, Flahaut (1999) observed that leaves are more widely used in the treatment of childhood diseases, while Burgund (2002) found that the peripheral organs (leaves and roots) play a protective role and are consequently used in the prevention of childhood diseases. The strong preponderance of barks among Ndongo informants and leaves in Yaoundé are also explained by the initial choices recorded among biological types, with a preference for trees in rural areas and herbs in urban areas. Regarding the reasons for these choices, Betti (2001) highlighted that leaves are easily accessible and contain metabolites responsible for their therapeutic properties. The preponderance of this peripheral part of plant has been noted in many recent studies in Cameroon (Etame *et al.* 2018, Ngoule *et al.* 2015).

7.2. Hybridisation of ‘spleen sickness’ cultures

The hybridisation of the therapeutic practices used to cope with ‘spleen disease’ can be observed at two levels, the patient and the caregiver, though we only observed this phenomenon in the urban area. Its absence in Ndongo can be explained by the diversity and density of therapeutic knowledge within the local communities (among the Baka and the Bakwele), a situation that has so far given satisfaction to their respective members. As regards the manifestation of hybridisation in Yaoundé level, we found a strong commitment on the ground on the part of the population to seek care with the nearest therapist regardless of their socio-cultural background. Here what matters for the patient without a family member entitled to perform treatment is the search for an effective solution. This can be understood in that when the populations migrate towards urban centres like Yaoundé, they do not move systematically with their local healers, and those practitioners who do settle in the city are faced with the difficulty of accessing certain species they need. Given their instinct for survival, all the patients who thought that they were suffering from ‘spleen disease’ struggled to find a solution to this crisis. It is thus possible to see an Ewondo patient from the Central Region being treated by a Mabi therapist from the Southern Region, a Bagam from the Western Region by a Toupouri from the Far-North Region, a Mabi by a Bagam or a Toupouri by an Ewondo, and vice versa. According to the testimonies recorded in the field, it is customary to observe the same patient soliciting the services of several practitioners in succession before finding the cure. This itinerary is explained by the belief shared by the people about the omnipotence of traditional medicine, whatever the origin of its practitioner.

The second dimension is that of the caregivers of ‘spleen sickness’ themselves. At this level, there is also the circulation of a category of therapeutic knowledge between the different existing cultural communities. Our research reveals that 35% of ‘spleen sickness’ caregivers working in Yaoundé reported to have received training from people from the same socioculture. Their local know-how, now shared by the community, contributes to strengthening the capacity of certain practitioners, but also and

above all the cultural proliferation of care for this condition. Indeed, each technique and medication is backed by a cultural base of design that gives it meaning and coherence and is the trademark of a community of practitioners who at one time in history integrated a practice into their repertoire of tricks to remedy health problems. With reference to the substantial questions inherent in human communities, Sigaut asserts that learning transmits effective knowledge, meaning, and identity together (Sigaut 1988:24). What usually happens in the case of ‘spleen sickness’ is that when an insider meets a person of good character and believes that the latter can use it as a ‘gift’, to support his fellow citizens, he transmits some of his knowledge to him. Some access conditions are the disbursement of material and financial resources, so that any person who satisfies this request is eligible to benefit from knowledge of ‘spleen sickness’ care practices. What is common and constant in this process is the favourable social context of transmission marked by the good relationship between the holder of the knowledge and those who desire. Sabinot (2008: 307) notes that intimacy and social proximity between learners and teachers is an essential dimension of learning.

7.3 Influence of the natural environment on ‘spleen sickness’ management

The disease is first of all indicative of the sense of the world of a given human society that is at the symbolic or ideological level meditated by language (Meziane 2003: 66). On the subject of ‘spleen sickness’, the Cameroonian people adopt various denominations to qualify it by putting a particular emphasis on the environmental reality. In this context, the informants of our two sites explicitly adduce connections between this ‘evil’ and the elements of nature. We have therefore collected the names *kô na ngéndè-so* ‘animal liver disease’ in the Baka language, *epial-ε-tsité* and *epial-ε-zock* ‘disease of the liver of the animal’ and/or ‘Elephant liver disease’ among the Bakwele, *tsité* ‘meat’ among the Ewondo, ‘*tchiri*’ ‘animal’ among the Mabi, and *bagyec* ‘cricket’ among the Bagam. The adoption of these concepts to describe the ‘disease of the spleen’ raises a part of the veil covering the relations that these different peoples maintained in the past with the fauna around them.

The multiple names recorded for ‘spleen sickness’ both in urban and rural areas reflects the history of populations, but also express the context within which this health problem occurs. In this perspective, Mebenga (1988: 19) observed that verbal symbols constitute the sources of knowledge, the screens of people’s lives, and the retrospective knowledge of their civilisations. If the historical proximity between humans and animals is unmistakable in the south-east in the heart of the equatorial forest, several works have highlighted that the denominations of many quarters of Yaoundé city have direct links with animals or environment (Essono 2016, Pondi 2012). The relationship with wildlife is not limited only to the level of denomination, and the conception of the origin of this health problem also indicates the people’s views of therapeutic potentialities. We noted in this context in Ndongso the use of nails and elephant skin by the Baka and hare liver and snails by the Bakwele to cope with this disorder of the ‘spleen’. The same observation holds in Yaoundé, notably the use of snail slime by the Mabi and Ewondo, dragonflies,

locusts, and cows' hooves by the Bagam, and frogs by the Ewondo. Each cultural group applies its fund of knowledge to its members but also to all outsiders who seek their health services. These are traditional practices that have been perpetuated from generation to generation since they were first invented. This rapprochement between the animal kingdom and the field of health is a current issue for many researchers. Indeed, the use of fish or animal resources to treat current health problems has been studied among the Bakwele population (Oishi 2016b), the Baka of Central Africa (Brisson 2011, Sato 1998), the coastal populations of central and western Africa (Mvetumbo 2013, Sabinot 2008), and by other African peoples (Maindo *et al.* 2017).

Other recipes (the majority) are concocted from materials from trees, herbs, and lianas, all essential components of the plant cover. The Rubiaceae appeared to be the most representative with 12 occurrences, followed by Asteraceae with 6 appearances. Concerning the first group, Lachenaud (2017) revealed that Rubiaceae family is one of the largest families of flowering plants and it is very diverse in the tropics, where the vast majority of its representatives are trees or shrubs. Several studies conducted in Benin revealed the preponderance of the Rubiaceae family (Adjakpa *et al.* 2013, Sangare 2012). On the other hand, the predominance of the Asteraceae family has been reported by Betti *et al.* (2013) in a survey of plants used in the treatment of malaria in the Dja Reserve and by Etame *et al.* (2018) in a study of medicinal plants and their traditional uses in Lom and Djerem (Eastern Region-Cameroon). The density of these families supports their importance to the population for medical purposes. Several researches have investigated the medicinal plants used against 'spleen sickness' by populations in Cameroon (Brisson 2011, Adjanohoun *et al.* 1996), in Gabon (UNESCO 2009), and in Central African Republic (Jacqueline, 1959). This indicates the extent of this health problem both inside and outside Cameroon and the necessity of carefully understanding the dynamism of 'spleen sickness' culture.

8. Conclusion

'Spleen sickness' is a social disease rather than a clinical health problem in many Cameroonian and African societies, while biomedical practitioners consider this health situation a symptom that can disappear if the disease in which it originates is fully treated, as mentioned above. The populations attribute its source to heredity, mysticism, or violations of dietary prohibitions. They also believe that this health problem can be solved only at the level of traditional medicine. Of the 120 respondents in our two sites, only 2 informants in Yaoundé stated that their problem had been treated by receiving care in health facilities. Almost all of the informants consider their state of health to have been restored thanks to the care they received from traditional healers. Overall, therapeutic practices are denser and more diverse in Ndongo than Yaoundé. This situation is due to the proximity of local populations to the forest, which is their main source of supply of therapeutic resources, while the city is marked by a coexistence between hospitals and culturally diverse local therapists. In the city and in the countryside, the strong cultural anchoring of health perceptions and practices related to 'spleen sickness' is an ambient reality.

It is therefore imperative to perpetuate the transmission of the therapeutic knowledge employed by African populations and to foster better collaboration between traditional and conventional medicine in order to limit both juvenile and adult mortality risks. Also, concerns about the harmful effects of chemical drugs and the high costs of care in hospitals are in favor of the growing success of traditional medicine (Dibong *et al.* 2011, Mpondo and Dibong 2012).

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Appendix 1.

Table 3. List of plant

Scientific name	Family	Vernacular name/commercial name
Ndongo		
Baka		
<i>Azelia bipindensis</i>	Leguminosae-Caesalpinioideae	<i>Timi</i>
<i>Alstonia boonei</i>	Apocynaceae	<i>Guga</i>
<i>Anonidium mannii</i>	Annonaceae	<i>Mbe</i>
<i>Ceiba pentandra</i>	Bombacaceae	<i>Coulo'o</i>
<i>Cordia platythyrsa</i>	Boraginaceae	<i>Mbwabi</i>
<i>Cylicodiscus gabunense</i>	Leguminosae-Mimosoideae	<i>Bolouma</i>
<i>Desplatsia dewevrei</i>	Tiliaceae	<i>Liamba</i>
<i>Dracaena sp.</i>	Dracaenaceae	<i>Bingi</i>
<i>Erythrococca sp.</i>	Euphorbiaceae	<i>Ndoukou</i>
<i>Erythrococca sp.</i>	Euphorbiaceae	<i>Ndoukou</i>
<i>Milletia sanagana</i>	Leguminosae-Papilionoideae	<i>Ngada</i>
<i>Myrianthus arboreus</i>	Cecropiaceae	<i>Ngata</i>
<i>Persea americana</i>	Lauraceae	<i>Avocado</i>
<i>Picralima nitida</i>	Apocynaceae	<i>Motokotoko</i>
<i>Pycnanthus africana</i>	Myristicaceae	<i>Tombè</i>
<i>Rourea obliquifoliolata</i>	Connaraceae	<i>Toukoussa</i>
<i>Schumanniohyton magnificum</i>	Rubiaceae	<i>Gogologo</i>
<i>Strombosiopsis tetrandra</i>	Olacaceae	<i>Bobongo</i>
Bakwele		
<i>Aframomum melegueta</i>	Zingiberaceae	
<i>Anchomanes difformis</i>	Araceae	<i>Deuleuzock</i>
<i>Boerhavia cf. coccinea</i>	Nyctaginaceae	<i>Naleke</i>
<i>Carica papaya</i>	Caricaceae	<i>Papaya</i>
<i>Citrus reticulata</i>	Rubiaceae	<i>Mandarin</i>
<i>Citrus sinensis</i>	Rutaceae	<i>Orange</i>
<i>Elaeis guineensis</i>	Arécaceae	<i>Palm oil</i>
<i>Mangifera indica</i>	Anacardiaceae	<i>Mango</i>
<i>musa paradisiaca</i>	Musaceae	<i>Banana</i>

<i>Pausinystalia johimbe</i>	Rubiaceae	<i>Ngorgue</i>
<i>Persea amer</i>	Lauraceae	<i>Avocado</i>
<i>Theobroma cacao</i>	Sterculiaceae	<i>Cocoa</i>
<i>Uncaria sp.</i>	Rubiaceae	<i>Becoline</i>
Yaoundé		
Ewondo		
<i>Aframomum melegueta</i>	Zingiberaceae	<i>Mvonlo</i>
<i>Ageratum conyzoides</i>	Asteraceae	<i>King grass</i>
<i>Annickia chlorantha</i>	Anacardiaceae	<i>Nfouol</i>
<i>Carica papaya</i>	Caricaceae	<i>Papaye</i>
<i>Chenopodium ambroides</i>	Chenopodiaceae	
<i>Combretum micranthum</i>	Combretaceae	<i>Gometane</i>
<i>Dichrocephala Integrifolia</i>	Asteraceae	<i>Midzala</i>
<i>Erythropheleum suaveolens</i>	Ceasalpiniaceae	<i>Tali</i>
<i>Gnetum africanum</i>	Gnetaceae	
<i>Morinda lucida</i>	Rubiaceae	<i>Akeng</i>
<i>Vernonia amigdalina</i>	Asteraceae	<i>Bitter leaf</i>
<i>Voacanga africana</i>	Apocynaceae	<i>Etoam</i>
Allogen population (Bagam, Mabi and Toupouri)		
<i>Aframomum melegueta</i>	Zingiberaceae	<i>so'o</i>
<i>Ageratum conyzoides</i>	Asteraceae	<i>King grass</i>
<i>Azandirachta indica</i>	<i>Azandirachta indica</i>	<i>Gaillé</i>
<i>Canarium schweinfurthii</i>	Burceraceae	<i>Bé</i>
<i>Carica papaya</i>	Caricaceae	<i>Papaye</i>
<i>Clerodendron aff. Anomala</i>	Lamiaceae	<i>Queen of herbs</i>
<i>Elaeis guineensis</i>	Arécaceae	<i>Palm oil</i>
<i>Euphorbia hirta</i>	Euphorbiaceae	<i>Boungmon</i>
<i>Harungana madagascariensis</i>	Hypericaceae	<i>Ntounyé</i>
<i>Khaya senegalensis</i>	Meliaceae	<i>Bagué</i>
<i>Palisota ambigua</i>	Commelinaceae	<i>Mbolimbo</i>
<i>Rauvolfia vomitoria</i>	Apocynaceae	<i>Touna</i>
<i>Triumfetta cordifolia</i>	Malvaceae	<i>Chimbelè</i>

Appendix 2. Photographs



Figure 5. (A) Massage of a 'spleen sickness' patient (Yaoundé, 2017), (B) Care administration by inhalation (Yaoundé, 2017), (C) Care administration by scarification (Ndongo, 2017), (D) Care administration by scarification (Ndongo, 2018)