

# Knowledge, Attitudes and Practices of Heath Traditional Practitioners (TP) Deal with Viral Hepatitis in Bobo-Dioulasso in Burkina Faso

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**Abstract:** Viral hepatitis is a major public health problem worldwide and in Burkina Faso. Traditional healers are widely involved in its therapeutic management. The aim of our study was to investigate the knowledge attitudes and practices of traditional healers on viral hepatitis. This is a descriptive cross-acted study of February the 1st to April the 30th, 2015 with 100 traditional practitioners affiliated to the two associations of traditional practitioners in Bobo Dioulasso. The knowledge on viral hepatitis appeared generally insufficient in 95%. We recorded a good level of knowledge on the definition in 57% of viral etiology in 8.8%, on the kinds of viral hepatitis in 3.5%. The main routes of contamination pathways namely sexual and blood were known to 44.4% and 11.1% respectively. The mother-child transmission was known only 5.5%. Regarding the clinical, jaundice and fever were known only to 14,03% and 3.5% respectively. Vaccination was only known to only 26.4%. Literacy has been associated with a good overall knowledge of viral hepatitis ( $p=0.01$ ) as opposed to anciently in practice (0.16). The plants are central to the therapeutic arsenal for 91.5% of TP. Most cited were *Chrysantheliumamericana*, *Combretummicranthum*, *Cochlespermumtinctorium*, *Anogeissusleiocarpus*, *Terminaliamacropter*. The leaves were the most used (62.5%). The form of the most common presentation was decoction (82.6%). The route of administration the most recommended was oral (91.3). Medical Analyses were the main reason for reference to modern medicine (62.5%). This study demonstrated a knowledge of TP deficiency on viral hepatitis. The knowledge was associated with literacy. The plants dominate in the armamentarium of the TP, some found in our study should be the subject of pharmacological studies.

**Keywords:** Knowledge, Practices, Viral Hepatitis, Traditional Medicine, Burkina Faso

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## 1. Introduction

Viral hepatitis is a group of diseases characterized by inflammation of the liver parenchyma secondary to a viral infection hepatotropic the 5 viruses such as hepatitis viruses A, B, C, D and E [1].

Viral hepatitis is a major public health problem worldwide and hepatitis viruses B and C are even more, so because of

their possible risk of chronicity and severe complications. According to the world Health Organization, more than 240 million people are infected with hepatitis B (HBV) in the world, and mainly in the developing countries [2]. The prevalence of chronic hepatitis B is estimated to more than 8% in West Africa in 2012 [3]. That of hepatitis C in highly endemic areas (Japan and South Europe) is estimated to 1.2 to 1.5%. In Burkina Faso, a study published in 2014 on the seroepidemiology hepatitis B and C the general population

reported a prevalence of carriage of antigen Hb to 14.47% and the porting of anti-HCV antibodies to 1.00% [2].

The diagnosis of chronic viral hepatitis in our context is often late to see the stage of complications. The modern treatments have little or no access in our context justifying the frequent use of traditional medicine. Today, nearly 80% of the world's population depends on traditional medicine for their primary health care needs and in particular countries with low economic income [4, 5, 6]. From this, the traditional healers (TP) are at the center of an environment where their best services almost become both for economic reasons, but especially by the fact that the Traditional Medicine is part of the culture of our people. Offering various treatments, liver disease cannot be outdone including viral hepatitis. [7]

Several studies on the field of traditional medicine consisted mostly in ethno botanical studies or ethno-pharmacological plants used by traditional healers but few studies have examined the knowledge even of these healers on the diseases they treat in general, and particularly viral hepatitis.

The aim of our study is the assessment of knowledge of traditional healers, determining their attitudes and practices deal with cases of viral hepatitis they encounter, to bring out the concordance and discordance with modern medicine to offer a training program adapted from the perspective of articulation between the two systems and improve earliness and quality of the management of cases of viral hepatitis.

## 2. Materials and Methods

### *A Framework*

It acted in a quantitative descriptive study of transversal type prospective collection spread over a 3 months period from February the 1<sup>st</sup> to April the 30<sup>th</sup> 2015.

Our study population was made up of all traditional healers living in Bobo-Dioulasso for at least 6 months and present during the period of the survey, available and who agreed to answer our questions. We privileged those gathered in the framework recognized by health and political authorities primarily. This is the association of traditional healers and herbalists of the province of Houet and Relwendé association.

Were excluded from our study healers specialized in trauma pathology and those using both divination technical in the field of mysticism which is difficult to assess.

A purposive sample of traditional healers met our inclusion criteria and was established consecutively. The total number of traditional healers at the end of our investigation was 100.

The information collected focused on the sociodemographic characteristics of traditional practitioners, knowledge on viral hepatitis, attitudes and practices in the management of viral hepatitis.

To evaluate the TP level of knowledge on viral hepatitis, an answer key using criteria of modern medicine, with different topics such as: the definition, different causal virus, modes of transmission, symptoms, and prevention measures have to assign a score to each topic. The total of scores (32

points) allowed us to define three global knowledge levels which are: good (score 25-32 points); average (score 16-24 points) and low (score between 0-15 points).

The data collection technique was the individual interview and a questionnaire was designed for this purpose. The questionnaire included a combination of open questions and closed questions. It was written in French and administered in French, Dioula or Moré according to the language mastered by the traditional healer. The names of the plants were collected in the national language and scientific names found thanks to multilingual dictionary of African medicinal plants.

Before each interview, informed the participant written consent was obtained after explanation about the purpose of the study, its importance and the method of investigation.

Data were entered using the EpiData Manager version 2.0 software. After cleaning, the data were exported and analyzed using Stata software and Epi-info 6.

Quantitative variables have been averaging object and those qualitative calculating proportions. Pearson chi2 test and The Fisher exact test were used as appropriate to compare the proportions and significance level was  $p < 0.05$ .

## 3. Results

### *Sample Description*

In total 100 TP were glimpsed during the study period. The sample consisted of 66% male. The average age was 48.51 years old [ $\pm 14.04$ ] with extremes of 18 and 88 years old. More than half (52%) were between 40 and 60 years old. The average period of practice of traditional medicine was 18.28 years old [ $\pm 11.43$ ] with extremes of 2 and 53 years old. The majority (83%) were more than 10 years of experience. The informative level, less than half (41%) were literate; 34% had attended a Koranic school and 25% did not attend school. The training was part of family type for the majority (73%) of TP and 7% reported that their knowledge came from a donation (dream). Around two thirds (64%) were practicing the only profession of traditional healer. Only 18% had a year of authorization from the Ministry of Health. On average they treated 5 diseases [ $\pm 7$ ]. Malaria was the first disease treated by TP in our study (68% of TP) followed by hemorrhoidal disease (52%). Only 9% were taking care of viral hepatitis as a specialty.

### *Knowledge of traditional practitioners on viral hepatitis*

Only half of TP (57%) gave a good definition of hepatitis. There was a statistical link between the knowledge of the definition of hepatitis and TP study level ( $p=0.006$ ). We did not find any statistical link between the knowledge of the definition of hepatitis and the age of TP ( $p=0.3$ ).

Regarding the different types of viral hepatitis, half of TP did not know the definition. Moreover hepatitis viruses D and E were the least known. Then the level of knowledge of the types of viral hepatitis was good in 3.5% (2).

With regard to the causes of viral hepatitis, the virus had been raised by 8.8% (5) of the TP. It was clear and the level of knowledge of the causes of viral hepatitis was bad at 91%.

As for contagious viral hepatitis, it was known only by 18

(31.6%) of the 57 TP knowing the definition of viral hepatitis. The main routes of infection mentioned by them were, saliva (61.1%) and sexual intercourse (44.4%). The bloodstream and transmission from mother to child were quoted respectively by 11.1% and 5.5% of TP. It appeared that the level of knowledge on viral hepatitis modes transmission was low in 79% of TP and good in 1.7% of them.

Regarding preventive measures, they were known by about 2/3 (38) of the 57 TP knowing hepatitis. However, such preventive measures, immunization, safe sex and hygiene were known respectively by 26.3%, 13.1% and 10.5%. We concluded therefore that only 10 TP (3.5%) had a good level of knowledge on the prevention of viral hepatitis.

Clinically, the most cited symptoms were asthenia by 15TP (26.3%), pain in the right upper quadrant by 13TP (22.8%). Jaundice was cited by less of TP (14.03%) and fever by less of TP (3.5%). Almost all of the TP (95%) who knew the definition of hepatitis had a low level of knowledge on clinical symptoms and 53 (93%) of them had little knowledge of the evolutionary complications.

On the whole, 95% of TP sample had a low level of knowledge about viral hepatitis. There was a statistical link

between the overall level of knowledge on viral hepatitis and literacy of TP (Test of Fischer:  $p=0.01$ ) but statistically there is no significant difference between the overall level of knowledge on viral hepatitis and the number of TP years of experience (Fisher test:  $p=0.16$ ).

TP on the attitudes and practices of management of viral hepatitis

Of the 57 TP knowing viral hepatitis, 47 (82.5%) of them claimed to support hepatitis. The monthly average of the cases treated by them was 7.94 [ $\pm 7.21$ ]. Among them, 43 (91.5%) used the plants as sole therapeutic means. The part of plants commonly used as a remedy by TP in this case was the sheets 25 (62.5%), followed by the roots 23 (57.5%), and the bark by 16 (40%). The decoction was the form of the most common preparation (82.6%), followed by the powder (13%). The route of administration of the remedy was oral for 91.3% of TP. Other modes of use were bath (43.5%) and washing (2.2%).

To this 35 plant species belonging to 21 different families were identified (among 47 TP healing hepatitis) and are used as a remedy against viral hepatitis. Table 1 is a summary of the plants used by TP for the treatment of viral hepatitis.

**Table 1.** Summary of the plants used by the TP for the treatment of viral hepatitis.

Family	Genus and species	Local language name		parts used	Number of times cited
		Dioula	Moré		
Asteraceae	<i>Chrysanthelium americana</i>	Furakuna	Waltuko	P	14
	<i>Combretum micranthum</i>	Ngolobe	Ranga	F, R	9
Combretaceae	<i>Anogeissus leiocarpus</i>	Ngalama, kérékété	siiga	F, R	7
	<i>Terminalia macroptera</i>	wolon	Kôdpôko	F, R	6
	<i>Guiera senegalensis</i>	Kounguiè	Wilinwiga	F	1
Cochlospermaceae	<i>Cochlospermum tinctorium</i>	N'dribala	Sôasga	R	8
Caricaceae	<i>Carica papaya</i>	Mande	Budebalod	F	4
Mimosaceae	<i>Entandaafricana</i>	Samanèrè	Sinnego	R	3
	<i>Parkia biglobosa</i>	Nere	Roaaga	Bark	1
Rutaceae	<i>Citrus auratifolia</i>	Lemurukumuni		F, f	3
Meliaceae	<i>Khaya senegalensis</i>	Diala	Kouka	E	2
	<i>Trichillia emetica</i>	Sulafinsan	Kinkirstaanga	R	1
Euphorbiaceae	<i>Phyllanthus niruri</i>			P	2
	<i>Manihot esculenta</i>	Bananku		F	1
Burseraceae	<i>Commiphora africana</i>	Built	Kodentôabga	F	2
	<i>Desmodium adscendens</i>	Tahé		F	2
Fabaceae	<i>Burkea africana</i>	siri	Sega	E	2
	<i>Erythrina senegalensis</i>	Their	Kulem-tiiga	E	1
	<i>Pterocarpus erinaceus</i>	Guénou	Nwega	F	1
Sapotaceae	<i>Vitellaria paradoxa</i>	shi			2
Rubiaceae	<i>Mitracarpus scaber</i>	Kuguruba	Yoadda	F	2
	<i>Mitragyna inermis</i>	Dum	Yiilga	F	1
Annonaceae	<i>Anon senegalensis</i>	Mandensunsun	Bakudi	F, R	2
	<i>Tamarindus indica</i>	Tomi	Pousga	f	1
Caesalpinaceae	<i>Cassia occidentalis</i>	Sumakala	Kinkilba	F	1
	<i>Cassia sieberiana</i>	Sindian			1
	<i>Piliostigma reticulatum</i>	Niama	Teenga	Party	1
Olacaceae	<i>Ximenia americana</i>	Ntôke	Leenga	R	1
Anacardiaceae	<i>Spondias mombi</i>	Minkon		F, f	1
	<i>Sclerocarya birrea</i>	KUNA	Noabga	E	1
Malvaceae	<i>Hibiscus sabdariffa</i>	Dâwuleni	Wegderé	F	1
Moraceae	<i>Ficus on</i>	Toroba		F	1
Bombacaceae	<i>Adasonia digitata</i>	Sira	Twèga	E, R, G	1
Poaceae	<i>Zeamays</i>	kaba	Kamana	Leaf	1
	<i>Oxytenanthera abyssinica</i>	bo		Leaf	1

P=whole plant; R=Root; F=Leaves; Fruits=f; E=Bark

The average length of treatment was 7.02 weeks [ $\pm 6.28$ ] with extremes from 01 to 24 weeks. The 4 week period represented was given by 30.43% of the TP and 93.5% of TP had processing times of less than 24 weeks or six months.

The cost of treatment varied from TP to each other and dependent on the duration of treatment. For our sample of 47 TP supports of viral hepatitis, 41 (87.23%) charged a fixed price for treatment and the other 6 (12.8%) were receiving nature's gifts (pets, shopping...). The average cost of treatment was 13,139.5 CFA francs (20 euros) [ $\pm 16033.3$ ] and ranged from 1,000 CFA francs (1.5 euros) and 60,000 CFA francs (91.5 euros). The costs were lower or equal to 10,000 CFA francs (15.2 euros) to 70.73% (29) of the TP.

Side effects were reported by 14.9% of TP treating viral hepatitis. They were diarrhea, insomnia, nausea or vomiting, abdominal pain...

For a collaborative perspective, 48 TP (92.3%) referred to modern medicine for their patients: medical tests, severe cases deemed, parallel processing or treatment failure are part of the collaboration.

## 4. Discussion

### Demographics

In this study, the average age of TP was 48.51 years old, which is superimposed with the results of Ashu M Agbor in Cameroon who found an average age of 46 years and those of Sombié in Bobo Dioulasso in 1994 which brought 51 years of average age [8, 9]. More than half (52%) of the TP in this study were aged between 40 and 60 years old. This same observation was made by Sangaré who reported 62% of TP [10]. These ages could be explained by the slow acquisition of knowledge and skills for independent practice of the profession. The TP spend years learning under the guidance of another TP before starting to practice alone.

The sex ratio in our sample was 1.9. This is comparable to that of Sombié in Bobo Dioulasso in 1991 which was 1.7. [9] In contrast, Drissa Diallo instead reported 63.9% women and 36.1% men (sex ratio=0.6). [11] This is explained by the fact that the study of Drissa Diallo was on the treatment of pregnant women and this support is provided by more female than male TP.

In this study, 37% of the TP went to modern schools and 34% at the Koranic school. These results are similar to those of Thiane Fallou Mbacke in Senegal in 2004 which reported 45.5% enrolled in the modern school and 36.3% in the Koranic school. [12] The percentage of 41% of scholars of this study is higher than the 9.7% reported 21 years earlier by Sombié in Ouagadougou and Bobo-Dioulasso. [9] This finds an explanation in the increasing of the literacy rate in our country over the past two decades. This rate increased from 18.9% in 1994 to 28.2% in 2009 in 15 years and more. [13]

This study reported an average age of 18.28 years of experience which is close to 21 years reported by Ashu M. Agbor in Cameroon [8]. In this study 44% of the TP had a number of years of experience including between 10 and 20

years. Toudji-Bandje in Togo in 2007 found 54% with between 10 and 20 years of experience [7]. Don't we say that the reputation is acquired through ancienty?

This study reported that 73% of TP acquired their knowledge from a close relative and in most cases by direct parents or grandparents. This same observation was made by Toudji-Bandje in Togo in 2007 [7] who reported 84%. This finding can be explained by historical and sociocultural realities that support the practice of traditional medicine. Traditional healers and herbalists, especially in Africa, have an expert knowledge base that is transferred orally from one generation to another by professional healers and elders through learning that is at the core of the family (from father to son). Similarly, the lack of training school in the field is another explanation. Note that 7% of TP in this study acquired their knowledge through a donation by dreams of revelation. Toudji Bandje k. Togo reported 3% of acquisition by dream. [7] The inferiority of his numbers could be explained by the size of his smaller sample than ours. These results reflect surnatural aspects of traditional medicine.

In our study the TP treated on average 5 diseases. This is higher than the average 3 diseases found by Sombié in Burkina in 1994 [9] and that could be justified by the emergence of new diseases in the last 20 years that traditional healers have added to their catalog of treated diseases.

Among the diseases treated, malaria and hemorrhoids occupied the predominant places with 68% and 52% of TP. Toudji Bandje in 2007 made the same observation with 29% and 32% [7]. This could be related to the place occupied by malaria among the population health problems.

### Traditional practitioners knowledge of viral hepatitis

This study shows that some TP had a good level of knowledge on viral hepatitis both in terms of the definition (57%) of sorts (3.5%), of etiology (8.8%) of sign (0%), contamination pathways (1.7%) and prevention (3.5%). There is a link between knowledge of the definition of hepatitis and comprehensive knowledge on viral hepatitis. Njoya O. in 2013 in Cameroon mentioned the same link in his study but he found higher levels of awareness (signs and symptoms (82.7% to 95.9%), sexual transmission (17.6%), transmission from mother to child (14.6% of all pregnant women and 64.6% of pregnant women with a high level of education). [15] This can be explained by differences in the level of investigation of the two samples; indeed Njoya O reported that 98% of the sample attended a modern school with all levels.

Any TP in our study had a good knowledge of the signs of viral hepatitis. Only 14.03% of those who know the disease cited hepatitis jaundice as a sign and 3.5% fever. This result is lower than that reported by Toudji Bandjewith 100% herbalists who cited jaundice as a sign and 35% fever. [7] This significant difference could be justified by the fact that the sample of Toudji Bandje was composed of specialists in treatment of viral hepatitis.

This study showed that 30 (52.6%) of the TP posed

diagnosis of viral hepatitis on the basis of symptoms and medical analysis and the remaining 27 (47.4%) symptoms alone were used to establish the diagnostic. This result is higher than Toudji Bandje which reported 26% of TP claiming medical analysis for the diagnosis [7]. This inferiority could be explained by the smaller size of the sample (31) relative to ours (100). It is clear here that some refer to modern medicine to diagnose.

The signs of viral hepatitis found in conventional medicine and cited by the TP in our study were asthenia (26.3%), pain in the right upper quadrant (22.8%), jaundice (14.03%), anorexia (14.03%), weight loss (14.03%) and fever (3.5%). These signs were also reported by Sangaré (2012) and Toudji Bandje (2007) [7, 11]. This similarity shows that the TP had some notions about the signs of viral hepatitis and the diseases they treat in general.

The healing practices deal with viral hepatitis

This study shows that 91.5% of TP used only the plants as therapy against viral hepatitis. Thiane Fallou Mbacke in 2004 in Dakar reported 100% use of associated plants or not. [16] This result demonstrates the prominence of plants in the therapeutic arsenal of TP. Only 2.1% associated incantations to the plant treatment in our study. Thiane Fallou Mbacke, reported 31.25% of plant association and incantations. [16] This inferiority of our numbers could be explained by the fact that viral hepatitis is considered as a natural disease by TP unlike epilepsy which is considered as a mystical disease, especially since no one cited a spell as a cause of hepatitis in this study.

The plants most cited in this study for the treatment of viral hepatitis were: *Chrysantheliumamericana*, *Combretummicranthum*, *Cochlospermumtinctorium*, *Anogeissusleiocarpus*, *Terminaliamacroptera*, *Caricapapaya*. These results confirm those of Sangaré (2012) in Benin who reported *Cassiaoccidentalis*, *Parkiabiglobosa*, *Cochlospermumplanchonii*, *Anogeissumleptocarpus*, *Terminaliamacroptera* and *Entendaaficana* and Cesar Fernandez in Burkina who cited the same plants in the treatment of hepatitis (*Anogeissusleiocarpus*, *Chrysantheliumamericanum*, *Cochlospermumtinctorium*, *Combretummicranthum*, *Commiphoraaficana*, *Entadaaficana*, *Terminaliamacroptera*) [10, 17].

Leaves were the most used (62.5%) and the shape of the most common presentation was decoction (82.6%). These results are similar to those of Sangaré (2012) also found in his study that the leaves were mostly used by the GST (35.29%) and the most requested method of preparation was the decoction (45.5%) [10]. This certainly is the fact that the leaves are more accessible and carry a higher concentration of active ingredients and the décoctée form is easily achievable.

Treatment (regardless of viral type) of a duration of 1 month (4 weeks), were the most reported (30.43%) and 93.5% of TP related processing times of less than 6 months (24 weeks). Toudji Bandje in 2007 in Togo made the same observation for the duration of treatment equal to one month by reporting 29% nevertheless he found that 70% of

treatment lasted less than 6 months [7] which is lower than ours (93, 5%). This difference could be explained by the fact that in his study it was about TP specialized in the treatment of viral hepatitis and many of them were trained in herbal medicine centers. This relatively short duration of treatment compared to modern treatment was based on the confidence of herbalists on their drugs and their definition to the healing that is mostly based on the disappearance of clinical symptoms unlike modern medicine that makes involve other parameters.

The TP reported treatment side effects such as diarrhea, nausea, vomiting, insomnia, abdominal pain. Toudji Bandje reported the same or similar side effects (diarrhea, vomiting...) [7].

Regarding the cost of treatment, in this study 87.2% of TP required a fixed financial amount and the average cost of treatment was \$13.139,5F CFA (20 euros). The costs were lower or equal to 10.000F CFA (15.2 euros) to 70.7% (29) of the TP. The predominance of this amount 10000F CFA (15.2 euros) was reported by Toudji Bandje in 2007 but although with a average price higher 23.040F CFA (35.1 euros). [7]

For a collaborative perspective with modern medicine, it is clear from our study that 48 (92.3%) were using modern medicine. This figure is comparable to that reported by Toudji Bandje 84% of the use of modern medicine. [7]

## 5. Conclusion

It appeared from this study that the TP generally have a low level of knowledge on viral hepatitis (95%) and that low knowledge was related to illiteracy. However, they have little knowledge on viral hepatitis which must be improved and strengthened.

For the management of viral hepatitis, plants occupy a central role in the therapeutic arsenal.

For better management of viral hepatitis, a more formalized and structured collaboration between traditional and modern medicine is needed. In Burkina Faso, the creation of a Directorate for the Promotion of Traditional Medicine and Pharmacopoeia testifies this desire to value traditional medicine and medicinal plants.

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