

# Therapeutic itineraries of patients with chronic hepatitis b and c in benin: the wanderings in search of care towards the therapeutic impasse

## Abstract

**Introduction:** Viral hepatitis B and C are endemic in the Republic of Benin. However, no national strategy is in place to support patients and to control these diseases. This study aims to trace the therapeutic itineraries of patients seeking care and to assess the cost of treatment steps.

**Patients and Methods:** This is a descriptive and analytical prospective, cross-sectional study, conducted from January to June 2010 in the Department of Gastroenterology and Hepatology of the National and University Hospital of Cotonou. Information on the therapeutic management was collected from patients with hepatitis B or C in direct interview.

**Results:** One hundred and two patients were included. For the first visit, 73.5% of patients were using modern medicine against 20.6% for traditional medicine. In contrast, 58% of those who consulted a second line and more made use of traditional healers. The average number of practitioners consulted by each patient was  $2.72 \pm 1.84$  with a maximum of seven practitioners consulted. The alleged curative treatments offered were not antiviral. The average cost of these treatments was illusory 112,000 FCFA while the minimum wage is only 31,600 FCFA in Benin.

**Conclusion:** This study highlights the shortcomings of the national health system response to the issue of hepatitis, and the need to make the fight against these endemic diseases a public health priority.

**Keywords:** therapeutic itinerary, hepatitis b and c, republic of Benin

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## Introduction

Viral hepatitis B and C represent a major public health problem worldwide. The number of chronic carriers of the virus, which is responsible for one million deaths annually and 78% of cases of primary liver cancer, is estimated at 500 000 000.<sup>1</sup> Therefore, hepatitis B and C have a considerable impact on the health and development because they weaken the workforce, they kill productive adults, they block the resources of households and the state. Sub-Saharan Africa, with a prevalence rate of between 8% and 18% for chronic hepatitis B, is a high endemic area.<sup>2</sup> As for chronic hepatitis C, the average prevalence is 3% in sub-Saharan Africa.<sup>3</sup> In Benin, the chronic carrier rate in the general population is not known; estimates and published works give prevalence rates of 8% for the B virus,<sup>4</sup> respectively 5% for the C virus,<sup>5</sup> which therefore makes Benin a high endemic area for these infections. Although faced with these epidemiological data, no national strategy is in place for the care of patients and control of these diseases. In these circumstances, there is reason to question the fate of diagnosed patients. This study aims to trace the therapeutic itineraries of patients seeking care, and assess the cost of treatment steps.

## Patients and methods

This was a descriptive and analytical cross prospective study, which took place from 25 January to 27 June 2010 at the University Clinic of Hepato-Gastroenterology of the National and University Hospital Centre (CNHU) in Cotonou. The study population was represented by patients with chronic hepatitis B or C. Recruitment

was exhaustive: All patients aged over 15 years who were admitted to consultation because of chronic hepatitis B or C were included in the study, if they consented. The diagnosis of hepatitis B was based on the persistence of HBsAg for more than six months, or on the presence of the HBsAg on the one hand, and the absence of anti - HBc IgM class on the other hand. The diagnosis of hepatitis C was made on the basis of the presence of antibodies to HCV associated with intermittent or permanent elevated aminotransferases without other cause. The information regarding the selection of consulted caregivers, elements of care, therapeutic prescriptions and costs were collected from patients during an interview based on a questionnaire. Data were entered using the software Epi DATA and analyzed by Epi INFO Version 3.3.2.

## Results

### General characteristics of patients

In total 102 patients were included. Their socio - demographic characteristics are reported in Table 1. More than a half - 69 (67.6%) - were employed. Of the 102, there were 75 men, the sex ratio therefore 2.8. Of the 102 patients, 83 (81.38%) were infected by hepatitis B with a sex ratio of 2.6 in favor of men. Nineteen patients (18.63%) had anti-HCV antibodies. Among them, there were 4 women, the sex ratio was 3.75. The average age of patients was 39.8 years  $\pm$  13.1 years. The average age of patients with chronic hepatitis B was 36.38  $\pm$  11.17 years, that of patients with chronic hepatitis C was 54.63 years  $\pm$  11.28 years. HR: Hear Rate.

**Table 1** Clinical and biochemical variables of individuals with overweight-obesity

| Variable                 | Effective | (%)  |
|--------------------------|-----------|------|
| Age (years)              |           |      |
| 15-25                    | 13        | 12.7 |
| 25-35                    | 30        | 29.4 |
| 35-45                    | 26        | 25.5 |
| 45-55                    | 18        | 17.6 |
| ≥ 55                     | 15        | 14.7 |
| Level of study           |           |      |
| Superior                 | 67        | 66.3 |
| Secondary                | 27        | 26.7 |
| Primary                  | 6         | 5.9  |
| No schooling             | 1         | 1.0  |
| Socioprofessional status |           |      |
| Employee or official     | 69        | 67.6 |
| A pupil or student       | 13        | 12.9 |
| Liberal profession       | 7         | 6.8  |
| Artisan                  | 5         | 4.9  |
| trader                   | 5         | 4.9  |

SD, standard deviation; BMI, body mass index; WC, waist circumference; AC, abdominal circumference; HC, hip circumference; RER, respiratory exchange ratio

### Therapeutic routes

Places of seeking care at the first consultation were public or private health facilities attended by 75 patients (73.5%), and traditional medicine centers attended by 21 patients (20.6%). Sixty-nine patients had consulted several practitioners. 32.35% of patients consulted only one practitioner; those with complex itineraries made an average of consulting  $2.72 \pm 1.84$  practitioners per patient, with a maximum of 7 practitioners consulted (Table 2).

**Table 2** Distribution of patients according to the number of practitioners consulted

| Number of practitioners consulted | Effective | (%)   |
|-----------------------------------|-----------|-------|
| 1                                 | 33        | 32.35 |
| 2                                 | 16        | 15.68 |
| 3                                 | 18        | 17.65 |
| 4                                 | 11        | 10.78 |
| 5                                 | 8         | 7.84  |
| 6                                 | 8         | 7.84  |
| 7                                 | 8         | 7.84  |

**Quality of the practitioners consulted in the first place and treatment results:** Seventy-five patients (73.5%) had consulted a doctor first line, 21 patients (20.6%) a traditional therapist, and 6 patients (5.9%) a nurse. The various reasons for these choices were in 42.6% of cases (43 patients) the recommendation of a relative, in 32.3% (33 patients) the practitioner's reputation, and in 24.8% (25 patients) the media.

In terms of hospitality, the practitioner consulted first line was a good listener according to 74 patients (72.54%); more than half of

the patients (55.88%) were satisfied with the explanations given to them about their disease. Apart from screening tests, additional examinations before treatment were limited to research anti - HBe: 17 cases (16.67%), anti-HBc: 6 cases (5.88%) for hepatitis B, and to conventional liver function tests such as aminotransferase: 42 cases (41.17%), prothrombin time: 17 cases (16.67%). Furthermore blood count and platelets were requested in 28 cases (27.45%) and other unspecified examinations in 19 cases (18.62%).

The used therapeutic means were: dietary advice which consisted in 74.5% avoid alcohol, fat food, and red meat; to eat lots of vegetables and fruit; drinking enough water. Drugs prescribed to 33.33% of patients were: anti - asthenic (Vitamin C®, Immu C®); securinine (hépantivir®); plant extracts (chophytol®, rocmaline®). Decoctions and infusions based on plants and artificially prepared such as elixir-foie®, najja®, have been proposed in 17.64% of cases, and food supplements not specified in 7% of cases. At this stage, the duration of treatment ranged from one week to 208 weeks, with a median of 6 weeks, and the cost of FCFA 5,000 to FCFA 1.8 million, the average value of 15,000 f CFA. Ultimately, 22 patients (21.56%) reported being satisfied with the treatment received and the person who had treated them; 33 patients (32.35%) were disappointed, and 40 were partially satisfied (39.21%).

**Quality of the practitioners consulted in the second (or further on) place and treatment results:** 69 patients (67.64%) had consulted a second practitioner and more. The practitioners consulted were: general practitioners in 13 cases (18.84%), traditional healers in 40 cases (57.97%), hepato-gastroenterologists in 57 cases (82.6%). Some patients (18.63%) had seen persons in other care centers who support the effectiveness of active products on viral hepatitis and ensure its sale (Chinese centers, Forever, Tianshi ...). Additional tests requested and therapeutic methods used by practitioners after consultation 2nd line were identical to those used in first intention. The review supplements requested by hepato-gastroenterologists were limited to the determination of alpha-fetoprotein and abdominal ultrasound.

At this stage, the cost of treatment varies according to the practitioners consulted from 5,000 FCFA to 220 000 FCFA (average 60,000 FCFA) for general practitioners, from 7,000 FCFA to 1 000 000 FCFA among traditional healers (average 72,500 FCFA) and from 20 000 CFA to 500 000 FCFA among specialists (average 105,000 FCFA), from 5000 FCFA to 1 200 000 FCFA in other informal centers.

### Discussion

Of the 102 patients, 69 (67.6%) were employed. In a developing country without universal coverage by health insurance, and in which the guaranteed minimum monthly wage is 31,600 francs CFA, this status facilitates access to health care. The media has played a guiding role for the use of a doctor in a quarter of cases because the information-education-communication programs (IEC) on hepatitis in general public places and populations risk are poorly developed, not funded by the state. The result is sub-information of infected persons about their disease concerning the detection, the possibilities of prevention, the care and treatment.<sup>6</sup> That's why four out of ten patients had consulted someone on the recommendation of a relative.

Thirty-three patients (32.35%) had consulted a sole practitioner, sixty nine patients several practitioners. Of these, 25 visited at least 5 practitioners and 8 consulted 7. This is a hint of the dissatisfaction of patients, because of the frequent change of caregiver. Moreover, the proportion of patients who used a second-line consulting traditional healers more than doubled, from 20. 6% to 57. 97%. This reflects

a loss of confidence and disaffection of the sick for conventional medicine.

These observations are the result of the lack of training of general practitioners in the screening<sup>7,8</sup> and the management of viral hepatitis.<sup>9</sup> This is aggravated by the lack of Anonymous and Free Screening Centres, and the lack of treatment centers of patients. Under these conditions, the sick, left to themselves in their search for care, are attracted by false advertisements supplied on the media (written press, radio, public and private television) by merchants of illusion, extolling the virtues of such drugs or medicinal preparations, promising they would ensure a cure. The disappointment is all the more distressing as the signs of the disease persist. At the end of their wanderings in the quest care, patients “ fail ” finally coming to the hospital on the occasion of the complications of cirrhosis. The issue of viral hepatitis is worrying for several reasons: they are the leading cause of cirrhosis;<sup>10</sup> cirrhosis is the leading cause of hospitalization in the Service with a prevalence of 22. 6%;<sup>11</sup> finally, hospital mortality in cirrhotic cases (42. 3%) is too high.<sup>10</sup>

Before treatment, with exception of the serological tests and conventional liver function tests, examinations to assess the histological activity (puncture - liver biopsy, noninvasive serum markers of fibrosis or transient elastography) and the intensity of viral replication ( and qualitative PCR viral load) have not been requested; yet they are essential to the therapeutic indications. Apart by hospital practitioners intervening at CNHU, the prescription of these examinations - that are not available in Benin and inaccessible because made in France at an impossible prize - is not rooted in the practice of general practitioners because of deficiencies in their training in the domain.<sup>9</sup>

Finally, among the therapeutic means, no reference had been made to antivirals. Besides the general measures on the lifestyle and diet, medications were not specific and the patients were kept in the false belief to follow a cure. Furthermore, the risks of traditional medicines for health are even greater as most of these products have not been controlled by therapeutic trials or toxicological analysis. This is all the more depressing as patients seeking quality care, whose financial resources are very modest, gobble up large sums of money without obtaining satisfaction. These findings reflect the inadequacies of the national health system that has not set up either an information and orientation system, or a support structure of patients with viral hepatitis, contrary to what is done concerning tuberculosis, HIV and malaria. Furthermore doctors have not benefited from training for the treatment of hepatitis; they are not subject to mandatory continuing education and retraining, and their practices are not supervised by guides to good practice as is the case in so-called priority diseases mentioned above.

## Conclusion

Studies on the therapeutic itineraries of patients infected by viral hepatitis in Francophone Africa are virtually nonexistent. This study has shed light on the issue in Benin. It highlights on the one hand the information needs of patients and the training needs of health professionals, and on the other hand the failures of the national health system, and the adverse consequences that result for patients with hepatitis B and C. The reported situation is probably the same in viral endemic countries that have not made the fight against these

diseases a priority. Facing the “ weight ” of hepatitis B and C in the world in general and in Africa in particular, it is necessary to make the fight against these endemic diseases a public health priority, as recommended the WHA63R18 resolution of the WHO. It is up to states to effectively translate this priority into national health policies. Still, the fight against hepatitis has to be effectively integrated and added to the Global Fund to fight against HIV-AIDS, malaria and tuberculosis. Because without financial means of support, the decision to make viral hepatitis a global public health priority would remain wishful thinking.

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## Conflicts of interest

The authors declare no conflict of interest.

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