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Difficulties Associated with the Management of Viral Hepatitis B in a Country with Limited Resources: The Case of Togo

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Abstract

Introduction: Hepatitis B remains an important public health issue, which management faces several difficulties in countries with limited resources. The aim of this study was to describe the problems encountered by chronic hepatitis B carriers at the University Hospital Center of Kara (CHU). **Methods:** This was a descriptive cross-sectional study conducted over a period of three years at the Kara University Hospital Center. All chronic hepatitis B virus (HBV) carriers aged over 18 years who had given their consent were included. **Results:** A total of 652 cases of HBV out of 2014 consultations were recorded, equivalent to 32% frequency. Patients were predominantly male, with a sex ratio of 1.4. The average age was 30 ± 13 years. One third of patients had no monthly source of income. Thirty-two percent of patients had health insurance. Ninety-seven percent of patients considered the cost of the initial pre-therapeutic HBV test to be too expensive, 17% had never been able to undergo the test due to lack of funds, and 35% had undergone it after a minimum delay of 3 months. Around 40% of eligible patients for treatment with nucleotide analogues had started this treatment. There was also a shortage of liver specialists, with only two for the whole Northern Togo. **Conclusion:** In our context, the difficulties in treating hepatitis B are financial and, above all, there is a shortage of qualified human resources, requiring state subsidies in order to reduce mortality linked to HBV complications.

Keywords

Hepatitis B, Difficulties, Diagnosis, Togo

1. Introduction

Chronic hepatitis B virus (HBV) infection is a major public health problem. The WHO estimates that there are 254 million chronic HBV carriers worldwide, with 1.3 million deaths per year, making it the 2nd leading cause of death in the world [1] [2]. Its prevalence varies, with areas of high, medium, and low endemicity. High-endemicity areas are represented by sub-Saharan Africa and South-East Asia, with a prevalence ranging from 5% to 10% [3]. Patients born in these highly endemic countries account for a significant proportion of chronic HBV carriers [4]. In Benin, the seroprevalence of HBV is 6% and the chronic carriage of the HBsAg is between 9 and 12% of studied populations in Côte d'Ivoire [5] [6]. In Togo, the prevalence of HBV varies depending on concerned regions and populations. The prevalence of viral hepatitis B in the Kara region varies from 10 to 15%, according to studies conducted in the student population and in mother-child couples [7] [8].

The complications of this disease are very serious, including cirrhosis and hepatocellular carcinoma (HCC). Viral hepatitis B is the leading cause of cirrhosis and is responsible for 50% of hepatocellular carcinomas worldwide [9]. Over the course of their lives, 15 to 40% of people with chronic HBV infection may develop HCC [10]. HCC is the 6th most common cancer worldwide and the second most common cause of cancer-related death [11].

However, there is an inequality in the management of HBV which is still fraught with difficulties, both diagnostic and therapeutic; varying from one region to another one. In terms of diagnosis, depending on the country, with or without access to diagnosis, only 10% of patients with positive hepatitis B surface antigen (HBsAg) are diagnosed [1]. In addition, despite vaccination and access to treatment, only 5% of the 94 million patients for whom treatment is indicated receive it [12]. These discrepancies in the treatment of hepatitis B maintain new infections and the perpetuation of the infection, compromising the objective of the WHO that aims at eliminating this infection by 2030 [13]. The aim of this study is to highlight the challenges associated with treating patients with hepatitis B virus in Togo, a country with limited resources in the West African region.

2. Materials and Methods

Type, setting and period of study

This was a descriptive cross-sectional study, conducted in the Hepato-Gastroenterology Department of the Kara University Hospital Center, from January 2021 to December 2023, a period of 3 years (CHU Kara). The CHU Kara is Togo's third university hospital and is located 400 km north of the capital.

Including criteria

All the patients aged at least 18 years were included, seen in consultation for management of viral hepatitis B, that have given their consent.

Excluded criteria

Excluded criteria were excluded from the study children aged less than 18 years

old and patients that have refused to participate in the study.

A questionnaire was submitted to patients after verbal consent was obtained. The parameters studied included socio-demographic data, level of knowledge about viral hepatitis B, costs and time taken to carry out paraclinical tests. Patients' VV recruitment was done from the consultation register of the Hepato-gastro-enterology at the Kara University Hospital and the sampling was random.

These data were collected on a form, entered in Excel and processed using R software version 4.4.1 in the RStudio environment.

3. Results

During the study period, 2014 patients were seen in consultation, 652 of them for management of viral hepatitis B, corresponding to a frequency of 32.37%. There were 377 men (sex ratio = 1.4). The median age of the patients was 30 ± 13 years, with extremes of 18 and 68 years. The most common age group was 20 to 40 years (65.91%). One hundred and fifty-eight patients (24.23%) were civil servants, while 39.2% were self-employed; 36.5% had no source of income.

Two hundred and eight patients (31.9%) had a health insurance. The circumstances in which hepatitis B was discovered were systematic voluntary screening (61%), jaundice (11%) and a health check (28%). As regards patients' level of knowledge about viral hepatitis B, 85% of patients said they had no idea about the virus, the disease, or its complications. Over the 512 patients, 97% felt that the cost of the initial pre-therapeutic HBV test was too expensive because of a lack of financial resources. Eighty-seven (17%) patients had never been able to undergo the initial test, and 35% had undergone the test after a minimum delay of 3 months. Some patients' characteristics are summarized in Table 1.

In terms of treatment, antiviral therapy (nucleoside/nucleotide analogues) was indicated for 248 patients (48.43%). Only 41.1% had benefited from Tenofovir, which is the only treatment for hepatitis B available in Kara and which costs between 6000 - 15,000 FCFA per month.

Table 1. Patient's characteristics.

		n (%)	Median (Q1 - Q3)
Age		652 (100)	30.24 ± 13.05 years
Gender	Male	377 (57.82)	-
	Female	275 (42.18)	-
Health insurance		208 (31.90)	-
ALT		647 (99.23)	30 (21 - 58) UI/l
AST		598 (91.71)	31 (24 - 49.43) UI/l
HBV-DNA		617 (94.63)	989 (59 - 14,225) UI/ml

4. Discussion

This study has helped to meet the challenges associated with the management of

the chronic infection by the viral hepatitis B at the Kara University Hospital Center in Togo in a context of limited resources in West Africa. Nevertheless, this study contains some selection and information biases. The study was carried out in a specialized hepato-gastroenterology department, and the estimated frequencies were exclusively hospital-based. This does not accurately reflect the data for the whole of country. The other weakness of this study was that not all patients underwent a complete initial HBV assessment, which made it difficult to estimate certain data.

The incidence of HBV which was 32.37%, remains higher than the national prevalence, estimated around 15% [8] and in some countries of the west African sub-region [5] [6]. This prevalence is also higher than that found in the study of women of childbearing age equivalent to 10.4% [14]. This high prevalence in our series is hospital-based, and CHU Kara is the only center specialized in the management of viral hepatitis in the north of Togo. Eighty-five percent of patients had no information about the virus. In the study by Lawson-Ananissoh *et al.* in Lomé, more than 2/3 (68.8%) had heard of viral hepatitis B [15]. This low level of knowledge compared with Lomé can be explained by the fact that Lomé, being the economic capital of Togo, is home to several health services and therefore benefits from several awareness-raising sessions compared with the town of Kara. In addition, the low level of knowledge about HBV, and hence the lack of screening, means that the population is at risk of being diagnosed with complications such as cirrhosis or hepatocellular carcinoma. The discovery of hepatitis B virus carriage was made during systematic screening in 61% of cases, and after an awareness-raising session. This underlines the vital role of awareness and screening campaigns in the early diagnosis and appropriate management of this infection. The cost of the pre-treatment check-up recommended by learned societies is 176,000 FCFA (269€) for patients without health insurance and 123,200 FCFA (188€) for patients with social security cover [16] [17]. This amount was higher than the one found by Kissi *et al.* in Côte d'Ivoire, which was 140,460 FCFA equivalent to 214.19€ [18]. This amount was considered high by 97% of patients in our study. The majority of our patients were farmers or craftsmen with low socio-economic status. The guaranteed minimum wage (SMIG) in Togo is 52,000 FCFA/month (87€), well below the cost of the pre-therapeutic assessment, making it difficult for patients to receive treatment. This financial difficulty is reflected in the fact that 17% of patients were unable to undergo the necessary assessment. It also explains why some patients had to wait too long for the assessment to be carried out. A state subsidy and universal social cover, equitable for all socio-economic strata, could help to remedy this situation. Social health insurance cover for civil servants through the National Institute of Health Insurance (INAM), set up in Togo by the government in 2012, has helped to reduce the cost of treating viral hepatitis in general and the cost of treating complications in hospital [19]. INAM is a state institution that operates based on a third-party payment system. The insured person pays only the co-payment, which is 20% of the expenses, while the

INAM covers 80% of the patient's expenses. The benefits offered under the compulsory health insurance scheme cover the cost of consultations, hospitalization, some tests and medicines. However, the cost of HBV DNA tests and non-invasive liver fibrosis assessments are not yet covered by INAM. Another difficulty encountered in the treatment of patients with HBV is the inadequacy of the technical facilities, both in terms of biology and morphology. Quantification of hepatitis B virus DNA and evaluation of hepatic fibrosis using non-invasive methods is not possible in the CHU Kara laboratory because of the inadequacy of the technical facilities, so patients are obliged to undergo this essential investigation either at the national reference laboratory in Lomé or in France. This explains the delay in carrying out the test (3 months on average). Another important factor in the management of viral hepatitis is the low number (08) of liver specialists in Togo, which has a population of 8 million. In the northern part of Togo, there are only 2 specialists for a population of approximately 3 million people. The training of doctors in hepato-gastro-enterology should therefore be encouraged, which would make it easier to treat patients suffering from liver diseases. The indication for treatment of hepatitis B is based essentially on 3 criteria: quantification of HBV DNA by PCR, Alanine Amino Transferase (ALT) levels, and the severity of liver fibrosis [16] [17]. Patients with a B viral load greater than 2000 IU/ml, ALT greater than normal (40 IU/L) and fibrosis greater than or equal to F2 are eligible for antiviral treatment according to the recommendations of the European Association for the Study of Liver [16]. The widespread inaccessibility of HBV DNA quantification in resource-limited countries has led to the introduction of secondary guidelines based on non-invasive scores for the treatment of advanced liver disease [20]. However, these guidelines have not been applied to treatment aimed at preventing HBV complications. Scores that do not include HBV DNA in the current HBV treatment criteria currently being validated could improve patient management in our context. In our context, non-invasive assessment of liver fibrosis was not feasible. This may underestimate the number of patients eligible for treatment and increase the risk of complications (cirrhosis, HCC). Tenofovir, the only nucleotide analogue available in Togo, is marketed at a world reference cost according to the WHO of 2.4 dollars, or 1500 FCFA per month [21]. In Togo, the cost varies from 6000 to 15,000 CFA francs, depending on the specialty, and it is not reimbursed by the current health insurance scheme. In Africa, despite an estimated 250,000 deaths a year from the B and C viruses, only 1% of chronically infected people have access to antivirals [22]. A state subsidy for this product would improve patient care. In addition, other actions could be envisaged by the health authorities, including the adoption of strategies such as community screening programmes or task-transfer approaches to improve access to and affordability of HBV care. Finally, the other major factor in the management of viral hepatitis is the low number (08) of liver specialists in Togo, which has a population of 8 million. In the northern part of Togo, there are only 2 for a population of around 3 million. The training of doctors in hepato-gastro-enterology should therefore be encouraged,

which would make it easier to treat patients suffering from liver disease.

5. Conclusion

Viral hepatitis B is a major public health problem because of its high prevalence and redoubtable complications. Its management in our context faces difficulties in terms of human resources and health funding. A better organization of health services in terms of technical facilities and qualified staff, as well as government subsidies, would make it possible to reduce mortality linked to the hepatitis B virus.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] FMC-HE (2023) Hépatite virale B: Rappel des fondamentaux. https://www.fmcgastro.org/texte-postu/postu-2023/hepatite-virale-b-rappel-des-fondamentaux/

[2] Liu, J., Zhang, S., Wang, Q., Shen, H., Zhang, M., Zhang, Y., *et al*. (2016) Seroepidemiology of Hepatitis B Virus Infection in 2 Million Men Aged 21-49 Years in Rural China: A Population-Based, Cross-Sectional Study. *The Lancet Infectious Diseases*, **16**, 80-86. https://doi.org/10.1016/s1473-3099(15)00218-2

[3] Pita, I., Horta-Vale, A.M., Cardoso, H. and Macedo, G. (2014) Hepatitis B Inactive Carriers: An Overlooked Population? *GE Portuguese Journal of Gastroenterology*, **21**, 241-249. https://doi.org/10.1016/j.jpge.2014.08.003

[4] Dhumeaux, D. (2014) Prise en charge des personnes infectées par les virus de l'hépatite B ou de l'hépatite C: Rapport de recommandations 2014. EDK, éditions médicales et scientifiques EDP sciences, Paris Les Ulis.

[5] Kpossou, A.R., Paraiso, M.N., Sokpon, C.N., Alassan, K.S., Vignon, R.K., Keke, R.K., *et al*. (2020) Hépatite virale B lors d'une campagne de dépistage en population générale au Bénin: Séroprévalence et facteurs associés. *Pan African Medical Journal*, **37**, Article 247. https://doi.org/10.11604/pamj.2020.37.247.26070

[6] Kra, O., N'Dri, N., Koné, D., Kadiané, N.J., Aba, Y.T., Ouattara, B., *et al*. (2015) Prevalence of HBs Antigen Carriage in a Population of Recruits of the National Gendarmerie of Ivory Coast in 2010. *African Journal of Infectious Diseases Research*, **2**, 80-83. https://www.internationalscholarsjournals.com/articles/prevalence-of-hbs-antigen-carriage-in-a-population-of-recruits-of-the-national-gendarmerie-of-ivory-coast-in-2010.pdf

[7] Dossim, S., EL-Hadji Yakoubou, R., Moumouni, A. K., Maba, D., Salou, M., Dagnra, A. Y., *et al*. (2023) Viral Load B among students at Kara Universityin Togo. *African Journal of Virology Research*, **17**, 1-4.

[8] Ekouevi, D.K., Larrouy, L., Gbeasor-Komlanvi, F.A., Mackiewicz, V., Tchankoni, M.K., Bitty-Anderson, A.M., *et al*. (2020) Prevalence of Hepatitis B among Childbearing Women and Infant Born to HBV-Positive Mothers in Togo. *BMC Infectious Diseases*, **20**, Article No. 839. https://doi.org/10.1186/s12879-020-05574-7

[9] Polaris Observatory Collaborators (2018) Global Prevalence, Treatment, and Prevention of Hepatitis B Virus Infection in 2016: A Modelling Study. *The Lancet Gastroenterology and Hepatology*, **3**, 383-403. https://doi.org/10.1016/S2468-1253(18)30056-6

[10] Abara, W.E., Qaseem, A., Schillie, S., McMahon, B.J. and Harris, A.M. (2017) Hepatitis B Vaccination, Screening, and Linkage to Care: Best Practice Advice from the American College of Physicians and the Centers for Disease Control and Prevention. *Annals of Internal Medicine*, **167**, 794-804. https://doi.org/10.7326/m17-1106

[11] Valery, P.C., Laversanne, M., Clark, P.J., Petrick, J.L., McGlynn, K.A. and Bray, F. (2017) Projections of Primary Liver Cancer to 2030 in 30 Countries Worldwide. *Hepatology*, **67**, 600-611. https://doi.org/10.1002/hep.29498

[12] Lok, A.S.F., McMahon, B.J., Brown, R.S., Wong, J.B., Ahmed, A.T., Farah, W., *et al*. (2015) Antiviral Therapy for Chronic Hepatitis B Viral Infection in Adults: A Systematic Review and Meta-Analysis. *Hepatology*, **63**, 284-306. https://doi.org/10.1002/hep.28280

[13] GBD 2019 Hepatitis B Collaborators (2022) Global, Regional, and National Burden of Hepatitis B, 1990-2019: A Systematic Analysis for the Global Burden of Disease Study 2019. *The Lancet Gastroenterology and Hepatology*, **7**, 796-829. https://doi.org/10.1016/S2468-1253(22)00124-8

[14] Gnatou, G.Y., Diallo, F.B.T., Gbeasor-Komlanvi, F.A., Agoro, S., Sadio, A.J., Adoli, L.K., *et al*. (2023) Prevalence of Viral Hepatitis B among Women of Childbearing Age in the Kara Region of Togo in 2022. *Open Journal of Preventive Medicine*, **13**, 319-328. https://doi.org/10.4236/ojpm.2023.1312021

[15] Lawson-Ananissoh, L.M., Bouglouga, O., Bagny, A., Kaaga, L., El Hadj Yakoubou, R. and Redah, D. (2015) Knowledge of Hepatitis B Virus among Outpatients Consulting in the Hepatogastroenterology Department at the Lome Campus University Hospital. *Médecine et Santé Tropicales*, **25**, 319-322. https://doi.org/10.1684/mst.2015.0489

[16] European Association for the Study of the Liver (2017) EASL 2017 Clinical Practice Guidelines on the Management of Hepatitis B Virus Infection. *Journal of Hepatology*, **67**, 370-398. https://doi.org/10.1016/j.jhep.2017.03.021

[17] Terrault, N.A., Lok, A.S.F., McMahon, B.J., Chang, K., Hwang, J.P., Jonas, M.M., *et al*. (2018) Update on Prevention, Diagnosis, and Treatment of Chronic Hepatitis B: AASLD 2018 Hepatitis B Guidance. *Hepatology*, **67**, 1560-1599.

[18] Anzouan-Kacou, H.Y.K., Dehinsala, M., Bangoura, A.D., Kouamé, D.H., Doffou, A.S., Mahassadi, A.K., *et al*. (2022) Socio-Economic Aspects of the Management of Chronic Viral Hepatitis in Côte-d'Ivoire. *Annales Africaines de Medecine*, **15**, e4770-e4778. https://doi.org/10.4314/aamed.v15i4.3

[19] Lawson-Ananissoh, L.M., Bouglouga, O., Bagny, A., Kaaga, L., El-Hadj Yakoubou, R. and Redah, D. (2015) Impact de l'assurance maladie sur le coût financier direct de la prise en charge medicale de la cirrhose au centre hospitalier et universitaire campus de Lomé, Togo. *Journal Africain d'Hépato-Gastroentérologie*, **9**, 7-11. https://doi.org/10.1007/s12157-014-0573-9

[20] Aberra, H., Desalegn, H., Berhe, N., Mekasha, B., Medhin, G., Gundersen, S.G., *et al*. (2019) The WHO Guidelines for Chronic Hepatitis B Fail to Detect Half of the Patients in Need of Treatment in Ethiopia. *Journal of Hepatology*, **70**, 1065-1071. https://doi.org/10.1016/j.jhep.2019.01.037

[21] L'OMS tire la sonnette d'alarme sur l'hépatite virale qui tue 3500 personnes chaque jour. https://www.who.int/fr/news/item/09-04-2024-who-sounds-alarm-on-viral-hepatitis-infections-claiming-3500-lives-each-day

[22] Actualités de l'Urgence—APM/Société Française de Médecine d'Urgence—SFMU. https://www.sfmu.org/fr/actualites/actualites-de-l-urgences/