PROFILE OF HEPATITIS B PATIENTS IN A REFERENCE SERVICE: RETROSPECTIVE STUDY

Perfil de portadores de hepatite B em um serviço de referência: estudo retrospectivo

Perfil de portadores de hepatitis B de un servicio de referencia: estudio retrospectivo

ABSTRACT

Objective: To know the profile of patients with hepatitis B treated at the Liver Research Center (NEF) of the Federal University of Rio Grande do Norte (UFRN). **Method:** Descriptive, retrospective study that analyzed 433 medical records with serological confirmation for 279 of them. Authors collected information on sociodemographics, sexual behavior, history of transfusion, surgical/dental procedures previous and after history of hepatitis, and performed descriptive analysis of data. **Results:** All the participants (100%) tested positive for hepatitis B. The most determinant variables were male gender (77.8%; n=217), age (46-60 years), marital status (married: 56.63%; n=158), and 48.39 % (135) of the patients came from blood banks. Six in ten patients (38.7%; n=108) had undergone dental or surgical procedures, two in ten (20%; n=56) presented sexual promiscuity and only one in ten (10%; n=28) reported previous viral hepatitis. **Conclusion**: The profile identified included male, heterosexual, married individuals at working age who were blood donors and whose source of infection could not be precisely identified.

Descriptors: Hepatitis; Hepatitis B; Biological Markers.

RESUMO

Objetivo: Conhecer o perfil dos pacientes portadores de hepatite B atendidos no Núcleo de Estudos do Fígado (NEF) da Universidade Federal do Rio Grande do Norte (UFRN). **Método**: *Estudo descritivo, retrospectivo, que analisou 433 prontuários, tendo confirmação sorológica para 279 destes. Foram coletadas variáveis sociodemográficas, de comportamento sexual, histórico de transfusão, procedimento cirúrgico/odontológico anterior e passado de hepatite, sendo utilizada a análise descritiva dos dados.* **Resultados**: *Todos (100%) apresentaram sorologia positiva para hepatite B. Das variáveis, as mais determinantes foram sexo masculino (77,8%; n=217), idade (entre 46-60 anos), estado civil (casados: 56,63%; n=158), e 48,39% (135) eram procedentes de bancos de sangue. Seis em cada dez (38,7%; n=108) haviam realizado procedimentos odontológicos ou cirúrgicos, dois em cada dez (20%; n=56) apresentavam promiscuidade sexual e apenas um em cada dez (10%; n=28) relataram passado de hepatite viral.* **Conclusão**: *O perfil encontrado aponta para indivíduos do sexo masculino, heterossexual, casado, em idade produtiva, doador de sangue, cuja fonte de infecção não pôde ser precisamente estabelecida.*

Descritores: Hepatite; Hepatite B; Marcadores Biológicos.

RESUMEN

Objetivo: Conocer el perfil de los pacientes portadores de hepatitis B asistidos en el Núcleo de Estudios del Hígado (NEH) de la Universidad Federal de Rio Grande del Norte (UFRN). Métodos: Estudio descriptivo y retrospectivo, que analizó 433 historiales clínicos com confirmación serológica de 279 de ellos. Fueron recogidas variables sociodemográficas, de conducta sexual, historial de transfusión, procedimiento quirúrgico/odontológico anterior e historia de hepatitis a través de un análisis descriptivo de los datos. Resultados: Todoslas

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variables, las más determinantes fueron el sexo masculino (77,8%; n=217), edad (46-60 años), estado civil (casados: 56,63%; n=158), y el 48,39% (135) eran procedentes de bancos de sangre. Seis de cada diez (38,7%; n=108) habían realizado procedimientos odontológicos o quirúrgicos, dos de cada diez (20%; n=56) presentaron promiscuidad sexual y solamente uno de cada diez (10%; n=28) relataron haber tenido hepatitis viral.
Conclusión: *El perfil identificado sugiere individuos del sexo masculino, heterosexual, casado, de edad productiva y donante de sangre cuya fuente de infección no pudo ser exactamente establecida.*

Descriptores: *Hepatitis; Hepatitis B; Marcadores Biológicos.*

INTRODUCTION

Viral hepatitides are diseases caused by different etiological agents, with liver tropism, that present distinct epidemiological, clinical and laboratorial characteristics. The literature estimates show that billions of people have already had contact with the hepatitis virus and millions have the chronic disease. The epidemiological surveillance of viral hepatitis in Brazil is based on the compulsory notification of suspected cases. After that, there is a deadline of 180 days for the investigation and successful case closure. Thus, the data on viral hepatitis are organized according to the confirmed cases and the year of notification, the moment when the case became known by the surveillance. Between the years 2005 and 2010, 2167 cases of hepatitis A, 210 cases of hepatitis B and 306 cases of hepatitis C were notified and confirmed in Rio Grande do Norte[1,2].

Chronic hepatitis B is caused by the hepatitis B virus (HBV), whose main for form of transmission is through sex, followed by vertical transmission (mother to baby), parental and percutaneous contact with blood and body fluids[1]. This disease is a major public health problem worldwide, and there are circa two thousand million people infected by VHB and circa 400 million people with chronic hepatitis B worldwide. In Brazil, in general, 1% to 3% of the population is chronically infected by the hepatitis B virus[3].

Hepatitis B is a well-known disease considering the clinical, laboratorial and epidemiological characteristics. It is the most common type of infectious hepatitis and ranks ninth in worldwide mortality. In contrast to hepatitis A virus (HAV), the HBV remains in the blood during the last stages of a long-term incubation period (4-26 weeks) and during acute episodes of acute and chronic hepatitis. It is also present in all the physiological and pathological body fluids. Blood and body fluids are the primary way of transmission, and the virus can be spread through the contact with body secretion, semen, saliva, sweat, tears, breast milk and pathological effusions. Although the infection may occur in any individuals, some groups are particularly exposed to HBV due to risky behaviors or professional activity, including healthcare professionals whose risk of being infected is two times higher than the general population[1,3].

It is estimated that there are approximately 350 million people with chronic HBV throughout many regions of the world in addition to the number of deaths caused by chronic hepatitis every year, which accounts for one million people, with Asia, South Pacific and Africa presenting the highest incidence and prevalence in the world. In areas of endemic transmission of HBV like Asia, there is a prevalence of vertical transmission (mother to baby). In other regions, HBV is generally transmitted horizontally (cutaneous and sexual). In Brazil, the problem is concentrated in the Amazon Region, mainly in Western Amazon. The Amazon Region has an incidence that is similar to the highest world rates since 5% to 15% of its inhabitants have chronic HBV[3-5].

From 1999 to 2011, 11 017 cases of hepatitis B were notified in the Northeast Region, which accounts for 9.2% of the total cases in Brazil. In 2010, 1304 cases were notified, accounting for 9.9% of total cases in Brazil for this year; most of the cases were notified in Bahia (30.4%) and Maranhão (14.3%). In the year 2010, there was a rate of detection of hepatitis B cases of 2.5 per 100 000 inhabitants, which is below the national detection rate (6.9%). Additionally, the highest detection rates can be found in Sergipe (4.6%), followed by Alagoas (3.6%), Paraíba (3.4%), Maranhão and Bahia (2.8%). In 2010, among the capitals of the region, the highest detection rates per 100 000 inhabitants were found in João Pessoa-PB (10.9%) and São Luís-MA (7.7%)[6].

In 2010, excluding the cases registered as ignored/blank, the probable most common source/mechanism of infection is through sexual contact (60.4%), followed by home contact (5.6%), transfusion (4.0%), vertical transmission (1.9%), hemodialysis (1.4%), work accident (1.4%) and others (23.3%). In the period from 2000 to 2011 in the Northeast Region, there were 1257 deaths due to hepatitis B, with 770 as basic cause and 487 as associated cause, with most cases in Pernambuco (447 deaths; 22.5%) and in Bahia (442 deaths; 22.3%)[6].

Between 2005 and the first semester of 2010, there were 218 cases of hepatitis B distributed in 20% of the municipalities of the state of Rio Grande do Norte notified and confirmed in the *Sistema de Informação de Agravos de Notificação – SINAN Ministério da Saúde – MS – Brazil* (Brazil's Ministry of Health Notifiable Diseases Information System). Between the years 2007 and 2008, it was implemented the *Programa Estadual das Hepatites Virais* (State Program of Viral Hepatitides) which invested in the improvement of epidemiological surveillance in order to improve the quality of notification. The indicator

"proportion of hepatitis B cases confirmed by serology" is used by the *Pacto pela Saúde* (Brazil's Pact for Health) to monitor cases in SINAN regarding the use of specific serologic tests for laboratorial confirmation of cases. In Rio Grande do Norte, between the years 2005 and 2010, the mean for this indicator was 86%[2].

The prevalence of this aggravation in the population is classified as follows: high, when rates are equal or above 8%; intermediate, between 2% and 7%, and low when the rates are below 2%. Regarding associated complications, 15% to 40% of infected people will develop severe complications throughout life as HBV has accounted for 0.5 to 1.2 million deaths due to cirrhosis and hepatic carcinomas, although long-term treatment can prevent and delay the development of these complications. Thus, it is important to identify in which stage of natural history the patient is. This identification is made through the presence or absence of HBeAg, viral replication (HBV DNA), ALT values and hepatic histology. This evaluation allows to identify the profile of each patient in order to choose the best treatment strategy[3,6].

Data from the World Health Organization (WHO) reveal that one in 30 people in Brazil may be infected by the viruses of hepatitis B and C. When it comes to the world population, the statistics is even worse: one in 12 people is infected by one of these viruses. Hepatitis is the 10th leading cause of death worldwide. The B virus is highly contagious through sexual relation – 100 times higher than HIV. Only in Brazil, the Ministry of Health estimates more than two million people infected[7].

Since the 8th of December of 2003, viral hepatitides are considered a Compulsory Notification Disease (CND) in all the country by the Ordinance No. 2325 of the Ministry of Health. Data from blood banks in Latin America show that there are over six million people with hepatitis B virus (HBV), and Brazil and other countries of South America like Colombia, Venezuela and Peru are among the territories with high endemic rates. The variation of the frequency of hepatitis caused by HBV in Brazil ranges from 0.5% to 1.1% in the South Region while in Central-West and Northeast Regions it ranges from 1.5% to 3.0%, reaching 15% in the Amazon Region, revealing highly endemic rates[6].

Despite the serum prevalence of hepatitis B in several regions of the country, there are still gaps in the knowledge about the morbidity and mortality associated with this disease. Even with extremely careful anamneses, typical risk factors are not identified in significant percentages of individuals with chronic conditions, with levels of unawareness of these factors reaching 30% for this disease. Possibly, the lack of scientific knowledge about this issue by healthcare professionals and the fragility of the epidemiological surveillance system at many levels contribute to the low implementation of measures for disease control[8,9].

Heterogeneous socioeconomic conditions, poor distribution of health care services, unequal incorporation of advanced technology for diagnosis and treatment of diseases are a key to the evaluation of the endemo-epidemic process of viral hepatitides. When comparing Brazilian states and cities among themselves, the number of infected patients is most of the times unknown or not properly registered since the confirmation of hepatitis diagnosis requires complex laboratorial techniques of molecular biology, which raises costs and hinders the implementation of such services[9].

According to the Ministry of Health, the active search allows the identification of new cases, especially among people who had contact with infected individuals. The asymptomatic patients are individuals exposed to well-known infection sources, like hemodialysis, work accident with percutaneous or mucosa exposure, blood transfusion or hemoderivatives, dental surgery procedures, piercing and tattoos with non-sterilized materials, or sharing utensils during drug use. People who had contact with confirmed cases of hepatitis, regardless of clinical form and staging of index case, and individuals with altered levels of serum aminotransferase equal or higher than three times the maximum normal value of these enzymes, according to the method use, are the verdict for a new active search[10].

The markers that enable the diagnosis of hepatitis B appear in the blood at different times. Generally, the first one to be detected is the antigen HBsAg, which persists from one to three months and indicates the presence of the virus in the organism. The HBsAg, or AgHBs, is the first serological marker that appear, coinciding with the symptoms when it reaches maximum concentration, although it can be reactive even before the symptoms[2]. A bit later (sometimes simultaneously), comes the antigen HBeAg, indicating the multiplication of the infectious agent. At this moment, the risk of contamination is higher. Antibodies appear only after that, and the first one, in most cases, is the anti-HBc. Then, if the immunity defenses of the organism are working properly, the anti-HBe appears as a response to the antigen HBeAg. This means that there was a seroconversion in which the multiplication of the virus was reduced, and, if nothing changes the normal course, the HBs antigens will disappear and antibody anti-HBs will appear and remain in the organism for the rest of life providing immunity. The presence of the antigen HBeAg for more than eight weeks indicates that the hepatitis is heading to a chronic stage and the permanence of antigen HBsAg for more than six months confirms the transition to the chronic stage. The treatment of hepatitis B focus on symptoms, relative rest and avoidance of alcohol consumption[11,12].

Considering the magnitude of this problem and taking into account the big deficiency in professionals' knowledge about the pathology and the prevention policy of the Ministry of Health, it should be highlighted that the lack of knowledge hinders the implementation of public policies for the control and treatment of viral hepatitides[12,13].

It should also be highlighted the importance of the personal and family approach, taking into account that feelings and changes in daily life due to hepatitis reveal that having an infectious and transmittable disease cause concerns and uncertainties, especially when it is a silence disease with a slow course and changeable prognostic. The lack of knowledge about the disease by the population, especially about transmission, evolution, prognostic, side effects of the treatment, among other aspects, make individuals fragile and helpless to face it[14,15]. These psychosocial aspects reinforce the importance of this work. By knowing the profile of users, there are more possibilities for the proper follow-up. The importance and relevance of having a profile from a health promotion point of view are based on the chances created to follow up patients who tested positive in the first serology and monitor their return for the confirmation of diagnosis through complimentary exams, preventing them from infecting other people and having them control their disease.

Thus, taking into account the importance of the context of hepatitis B worldwide, in Brazil, in the Northeast Region and in the state of Rio Grande do Norte, as well as the forms of contamination and distribution of this disease, this current study aimed to know the profile of patients with hepatitis B assisted at the *Núcleo de Estudos do Fígado – NEF do Hospital Universitário Onofre Lopes – HUOL da Universidade Federal do Rio Grande do Norte – UFRN* (The Liver Research Center of the Onofre Lopes University Hospital of the Federal University of Rio Grande do Norte).

METHODS

This is a retrospective descriptive study conducted as part of the Specialization Course in Epidemiology. The authors, who work with hepatitis surveillance felt the need to know the profile of users in order to understand the flow from the patient's registration in the health system (Basic Health Units, Hemocentro, hospitals etc.) to his referral to the assessed reference center (NEF-HUOL-UFRN) of the city of Nata, RN. Natal is the capital of the state of Rio Grande do Norte, located in Northeastern Brazil. According to the data from the *Instituto Brasileiro de Geografia e Estatística – IBGE* (Brazilian Institute of Geography and Statistics), it had a population of 806 203 inhabitants in 2009, 46.87% men and 53.08% women, with a population density

of 4,734.07 inhab/km². The general Human Development Index (HDI) of the municipality is 0.788 (medium)[16].

Data were collected in 2011 through the analysis of medical records of patients assisted at the Liver Research Center (NEF) of the Onofre Lopes University Hospital (HUOL) of the Federal University of Rio Grande do Norte (UFRN) in the period from 2005-2009. This time series was chosen due to the fact that in 2005 the NEF became a reference center for the whole state (before that, it only assisted patients who were hospitalized at the HUOL), and the year 2009 was set as a limit because it is the year whose records were already filed and the information were consolidated and available.

The study population consisted of patients with hepatitis B referred to NEF who were classified according to the infection screening markers adopted by the Ministry of Health[10].

The HUOL was founded on the 5th of February of 1955 and included in the *Sistema Único de Saúde – SUS* (Brazil's National Health System) as a tertiary reference center by the *Lei Orgânica de Saúde* (Organic Health Law) No. 8.080 in 1988. NEF is a reference service of SUS in the state that was implanted at the HUOL in 1995 for the follow-up of outpatients with chronic hepatic diseases receiving care at the *Onofre Lopes* University Hospital in Natal. In 2005, its services were expanded to the other municipalities[17].

Regarding the service, in the period from 2005 to 2009 NEF received 2,603 patients. In all, 443 records of patients who were suspected cases of hepatitis B were analyzed and 279 of them were confirmed and constituted the sample selected for this study.

The inclusion criteria were the same used by the Ministry of Health and defined in the manual *ABCDE do Diagnóstico para as Hepatites Virais (*ABCDE of Diagnosis of Viral Heapatitides). Through these criteria it was possible to identify the presence of the following serologic markers: hepatitis B surface antigen (HBsAg) and/or IgM antibody against B virus (Anti-HBc IgM) and/or IgG antibody against B virus (Anti-HBc IgG) and/or HBeAg and/or Anti-HBe[10]. Exclusion criteria were: patients who were not referred to NEF and incomplete information about hepatitis B serologic markers in the medical record.

The instrument for data collection was the medical records of patients assisted at NEF. Initially, through a direct search in the service registration book, it was possible to gather preliminary information on all the records of possible hepatitis B cases, rejecting those who did not meet inclusion criteria. In addition to the 279 patients who had their records selected and continued treatment, 154 patients who tested positive in the initial serologic screening did not return to NEF to show the exams requested in the first

consultation. The medical records were paper files organized in folders according to the year they received care at the service, and the search was made manually. Therefore, these inconclusive cases were considered potential cases, although they did not present confirmation, accounting for 35.56% of treatment abandonment and impossibility of follow-up.

This research considered independent variables like sex, age, marital status, origin (the service where the patient came from), history of transfusion, parenteral use of drugs, surgical procedures, dental procedures, sexual orientation, number of partners, intimate contact with hepatitis case, previous history of viral hepatitis and presence of serologic markers for hepatitis B (HBsAg, Anti-HBc IgM, Anti-HBc IgG, HBeAg, Anti-HBs, HBV-DNA, Anti-HBe). The dependent variable is hepatitis B.

It is important to highlight that this study meets the guidelines of Resolution No. 196/96 of the National Health Council of the Ministry of Health that has been recently repealed by Resolution No. 466/2012, which provides for the regulation of researches involving human beings in the country. Although this study used secondary data, it obeyed the ethical standards for this type of research, ensuring anonymity and respecting the confidentiality of subjects. Therefore, this research had the consent of the direction of NEF-HUOL, whose authorization had been requested, and was approved by the Ethics Committee of the UFRN under Opinion No. 173/2011.

Data were analyzed using descriptive statistics.

RESULTS

The sample of this study comprised 279 medical records; however, 154 were excluded because they did not return to the service to perform serologic tests and complimentary exams required for the conclusion of the case and appropriate periodical clinical follow-up, resulting in a total of n=125.

The data are presented and discussed from the illustrations in Table I.

Among the assessed cases, there was a higher prevalence of hepatitis B among men.

Regarding the distribution according to age group, there was a predominance in the group from 46 to 60 years for male sex (77.8%; n=217) and in the group from 36 to 45 years for female sex (22.2%; n=62).

The distribution according to marital status revealed a predominance patients who were married (56.63%; n=158), followed by 87 single (31.18%), 21 widows/widowers (7.53%), 10 divorcees (3.58%) and 3 (1.08%) unknown.

Table I – Profile of hepatitis B cases assisted at NEF-UFRN in the period from 2005-2009. Natal-RN, 2011.

Variable	n	%
Sex		
Male	217	77.8
Female	62	22.2
Age group		
Up to 35 years	63	22.6
36 to 45 years	62	22.2
46 to 60 years	97	34.8
61 years and over	57	20.4
Marital status		
Married	158	56.6
Single	87	31.2
Widow/Widower	21	7.5
Divorced	10	3.6
Other	3	1.1
Sexual orientation		
Heterosexual	225	80.6
Homosexual	2	0.75
Bisexual	2	0.75
Not informed	50	17.9

Source: NEF medical records, Natal-RN, 2011

With regard to sexual orientation, 80.6% (n=225) are heterosexual and the minority, 1.5% (n=4), is homosexual or bisexual. The proportion of unknown information was 17.9% (n=50).

Concerning risk factors, it has been found that: 67.4% (n=188) of the cases underwent dental procedures, 55.2% (n=154) underwent surgical procedures, 20.0% (n=56) reported sexual promiscuity, 14.7% (n=41) had performed blood transfusion, 10.0% (n=28) have previous history of viral hepatitis and 7.1% (n=20) had intimate contact with a case of unspecified type of hepatitis.

Figure 1 shows the institution of origin of the user, id est, the service that referred the patient to NEF.

Regarding the origin, 48.39% (n=135) of the cases were referred from the two blood banks located in Natal (Hemonorte and Hemovida, with the first being a public institution and the latter a private one). After testing positive in the serologic screening for donation, 17.92% (n=50) were users assisted at HUOL, 11.83% (n=33) came from the Municipal Health Secretariat of Natal (SMS Natal) and 13.26% (n=37) came from other cities of the state in addition to the ones who came from other hospital and outpatient facilities in a lower proportion, 8.6% (n=24).

Figure 2 shows the referral of positive cases of hepatitis B from several municipalities of Rio Grande do Norte to

NEF-UFRN, with Natal standing out as the municipality that referred the largest number of cases. Other municipalities like Parnamirim, Currais Novos, Pau dos Ferros, Ceará Mirim, Pureza, São Gonçalo do Amarante and Extremoz

referred 17 cases, accounting for 6.09% of a total of 279 cases.

Figure 2 also shows that out of 167 municipalities that make part of the state 130 (77.84%) did not refer patients with suspected hepatitis B to NEF.
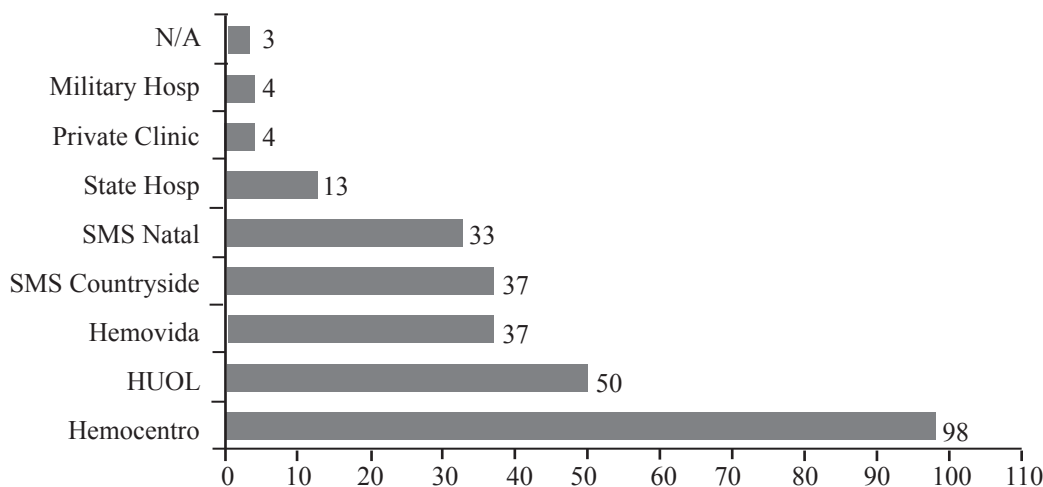

Figure 1 - Origin of hepatitis B cases assisted at NEF/UFRN in the period from 2005-2009. Natal-RN, 2011.
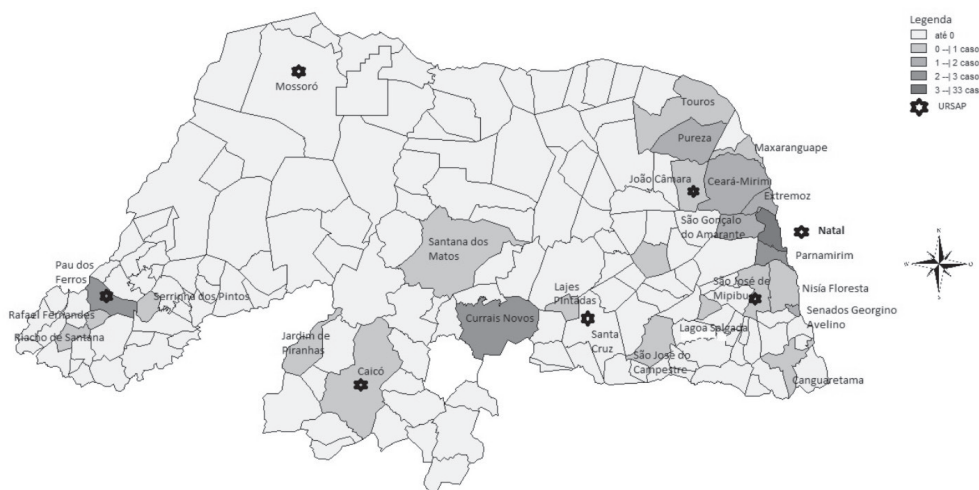

Figure 2 - Municipalities of Rio Grande do Norte that referred positive cases of hepatitis B to NEF-UFRN in the period from 2005-2009. Natal-RN, 2011.

DISCUSSION

According to the researched literature[1,3,5,7], the prevalence and incidence of HBV are a major public health problem worldwide even taking into account the demographic and socioeconomic characteristics of the different regions.

The advances in control measures like the vaccination of specific groups and educative campaigns against AIDS and viral hepatitis have contributed to a reduction in the number of patients. However, there is still a high number of cases worldwide and, despite all of that, there is a difficulty in the notification of cases, resulting in an under-reporting that occur even in quality services[7,13].

The results of this current research show that the epidemiological profile does not differ from the data obtained in worldwide and national literature[5,6,10,11,12,14].

A study conducted with 673 people seeking the Hematology and Hemotherapy Center of Acre showed, during serologic pre-screening for hepatitis B (total anti-HBc), an association between the variables sex, age group and education, with the highest reactive total anti-HBc found in 54.8% of older men with low education level[8].

Finding the highest prevalence of serologic markers among men of the sample suggest they may be more exposed to hepatitis B virus – probably due to their sexual behavior – or maybe it is a sampling bias since they are referred from hemocenters (hemotherapy and hematology centers) after testing positive in the serologic screening for blood donation. This can explain the predominance of male gender since most of the blood donators are men. This situation has been evidenced by studies that assessed serum markers of hepatitis B and C among blood donators, verifying that male blood donators present a seropositivity rate for hepatitis B that is three times higher[18,19,20]. Other studies[7,11,12] also showed a higher incidence of hepatitis B in men, which confirms the findings of this current work.

In this study, the predominant age group for hepatitis B was 46-60 years for men and 36-45 years for women. Thus, it is said[7,12] that there is a higher prevalence of cases in the economically active population since most of the people with the virus is in the age group from 20-40 years, probably due to sexual and transfusional transmission, which diverges from the findings of this study. The literature describes an association of HBV with aging and initiation of sexual activity since the most important mechanisms of transmission involve behavioral aspects acquired throughout life like risky sexual activity, use of illicit injectable drugs, exposure to blood and hemoderivatives, whose association reflect a cumulative effect of behavioral risks[11,12]. It is important to highlight that this current study did not find cases of people under 18 years old because the service hereby assessed provides care only to adult patients.

Regarding the risk factors assessed by this research, the way of approaching the patient may lead to a sampling bias, hindering the expected findings concerning the profile described in the worldwide literature, as it can be observed, for instance, in the variables "number of partners (promiscuity)" and "sexual orientation". Approaching the patient during the collection of some information like sexual orientation and number of partners was probably hindered due to the permission for the presence of a companion during the interview. Individual interview should be used for a greater reliability of information, avoiding the presence of other people in order to ensure privacy and obtainment of true answers related to variables that are important for determining the profile, like sexual practice, sexual orientation, number of partners and parenteral use of drugs.

Regarding the origin of patients in the service assessed, it has been found that 135 patients (48.39%) were referred from blood banks after testing positive in the serologic screening. *Hemonorte*, as a public service for collection of blood components in the state, referred 98 patients to NEF, which accounts for 72.5% of cases coming from hemocenters. It is also evident that the number of patients referred from public services (84.2%) is higher than the number of patients from private services (14.6%).

It is important to say that this study faced some difficulties during data collection due to the lack of computerization of the service. The variables "education level", "socioeconomic conditions" and "vaccinal status" were absent from the group of information required by the records despite studies[4,5,9,11] have shown the impact of these variables on the clinical laboratorial efficiency and their importance in the determination of the socio-demographic and epidemiological profile.

Another aspect that has been observed in this current study is that a significant number of referred patients (n=154), potential cases of hepatitis B, came to NEF in a first moment but did not return to continue the investigation. This shows a loss in the follow-up of these cases and an unsatisfactory articulation between the services that compose the system, which in an incidence study could hide the real situation of hepatitis B in the state since these inconclusive cases would not be computed. Considering that NEF-UFRN is state reference center of Rio Grande do Norte for the assessment of patients with hepatopathies, which has been accomplishing its mission and has a strong social insertion in SUS, there should be an implementation of a service for active search of patients who do not return in order to perform the appropriate monitoring for the confirmation of the diagnosis, follow-up and treatment. Concerning hepatitis B, a silent and severe disease, this would expand the service coverage, reinforcing its role, strengthening health promotion by feeding the official data systems and hence reducing the under-reporting and incompleteness of information that would certainly change the quality of life and profile of patients.

It is important to highlight that most of the people are unaware of their serologic condition, which worsens the chain of transmission of the infection. Hence the importance of the follow-up of infected patients. Since chronic hepatitis B is a major cause of morbidity and mortality worldwide and also one of the main causes of hepatic insufficiency, cirrhosis and liver cancer, it can cause stress and negative impacts on individual's quality

of life, social relationships and daily activities, regardless of the clinical hepatic symptoms, which are related to extra-hepatic manifestations and cognitive changes. Thus, hepatitides are a major problem for health services, not only for its high incidence but, mainly, for the increased chances of acute complications, long-term development of chronic forms and the consequences it brings to infected individuals[15,19,20].

Studies on educative public policies should be carried out in order to approach these individuals in their workplaces and within their families. Another perspective of this work is the conduction of further studies on hepatitis B in order to assess other issues, considering its magnitude, forms of transmission, distribution and severity.

CONCLUSION

The profile of the person infected in this study points to heterosexual married men who are at reproductive age and blood donors whose source of infection cannot be precisely defined, although they reported previous dental and/or surgical procedures, sexual promiscuity and previous history of viral hepatitis.

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