

Individual and social vulnerabilities to the occurrence of hepatitis A and B in traditional populations of the Paraense Amazon

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Abstract— *Introduction: Hepatitis A and B are infectious diseases that represent an important public health problem in Brazil. Objective: to analyze the epidemiological profile and possible behavioral and environmental factors that may be related to the occurrence of viral hepatitis A and B in riverside communities located in the Amazon region. Methodology: cross-sectional epidemiological, with a quantitative approach, carried out in the riverside communities of the Paraense Amazon. Results and discussion: The results reveal that the prevalence of hepatitis A and B in this population group is higher than that existing for the entire Brazilian population, it was found that 88.89% of the reported cases were of Hepatitis A and 11.11% of hepatitis B. The majority (53.73%) of the interviewees, never performed the examination for early detection of hepatitis, and part of the 8.96% did not have the vaccines and 35% shared personal objects, such as nail pliers and razors, in addition we have that only about 50% of individuals use contraceptive methods and most use condoms. Final considerations: The riverside populations have satisfactory conditions of basic sanitation, food, a fact that interferes not so much in the quality of life of these individuals, but also leads to a greater susceptibility to the development of health problems.*

Keywords— *Hepatitis A and B, epidemiology, public health.*

I. INTRODUCTION

Hepatitis A and B are infectious diseases that represent an important public health problem in Brazil. Hepatitis A and B are diseases caused by different etiologic agents, with primary tropism for hepatic tissue, which present similar epidemiological, clinical and laboratory characteristics, however, with important particularities [1].

Hepatitis A is transmitted via fecal-oral route, water, food and spread from person to person, being the most common cause of acute viral hepatitis in the world. According to an assessment by the Pan American Health Organization, approximately 130 new cases per 100,000

inhabitants occur in Brazil each year, and the country is considered a risk area for the disease [2]. In the North region, studies show that there is a high prevalence of the disease with an endemic pattern reaching 95% [3].

Hepatitis B, on the other hand, is the most serious type among viral hepatitis [4], with the main transmission routes being sexual, parenteral and vertical [5]. According to estimates by the World Health Organization, two billion people have already had contact with the hepatitis B virus (HBV) and 350 million have become chronic carriers [6].

In Brazil, the Ministry of Health reveals that at least 15% of the population has been in contact with HBV and

that 1% of the population has a chronic disease related to this virus [2], while only in the North region does the prevalence of HBV reach 24.1% in relation to the general population, characterized as an area of high endemicity [6]. Epidemiological studies carried out among indigenous, riverside dwellers, and immigrant populations in the Brazilian Amazon reveal that, in these places, the prevalence of HBV can vary from 0% to 20.6% [7].

Thus, hepatitis A and B are of great importance due to the number of individuals affected and the possibility of complications, which “depending on the etiologic agent, viral load and host conditions, can progress to chronic hepatitis, cirrhosis, liver cancer and acute fulminating forms”[8].

Research on the subject has become extremely relevant, especially among riverside populations in the Amazon region, given that it is a region more prone to the spread of viral diseases. Such problem can be related to several factors, such as the environmental characteristics of the place, behavioral habits of the riverside residents and the fact that studies addressing the issue with these populations, are infrequent or even, not disclosed.

This study aimed to analyze the epidemiological profile and possible behavioral and environmental factors that may be related to the occurrence of viral hepatitis A and B in riverside communities located in the Amazon region, in the municipality of Santarém, Pará, Brazil.

II. METHODS

This research is an epidemiological study of a transversal character, which is a modality of study in which we can investigate “cause” and “effect” simultaneously and investigate the existing association between exposure and disease. Its main advantage is to generate information necessary for understanding the endemic-epidemic process and thus subsidizing intervention strategies [9]. We use the quantitative approach, which is characterized by the quantification and use of statistical techniques in the treatment of information. We use descriptive statistics to analyze the collected data, which is conceptualized as an intelligible description of the collected data [10].

Data collection was carried out through a form with 21 questions that were asked and noted by an interviewer, the sample is composed of 67 individuals living in the riverside communities São Ciríaco and Campos do Urucurituba, both located on the banks of the Amazon River. These communities make up the municipality of Santarém, located in the west of the state of Pará, in the

northern region of Brazil. We used as inclusion criteria those who expressed their acceptance by signing the Informed Consent Form (ICF) as long as they were over 18 years old, the researchers guaranteed ethical commitment to the interviewees.

III. RESULTS

Among the population studied, the majority (67.16%) live with 3 to 5 people and when asked about personal and family history, of the reported cases of Hepatitis, 88.89% were of Hepatitis A and 11.11% of hepatitis B. Regarding their knowledge about these pathologies, 68.66% of the interviewees reported knowing what this disease is, however when asked what form of transmission, which signs and symptoms, they did not know how to answer, only when asked about some clinical manifestations, there was an association to have manifested in the period of the disease, among the individuals who mentioned that they already had.

Of the individuals interviewed, 22.73% of those interviewed had already lost their appetite, 46.97% had had diarrheal episodes, 16.67% had liver problems and 13.64% reported having eliminated dark colored urine, the majority (53 , 73%) reports that he never underwent the early detection test for the detection of Hepatitis A and B, as well as the rest of his family.

Regarding the use of preventive methods for Hepatitis B, it was found that only about 50% of individuals use contraceptive methods and that most of them use condoms. As for risk factors, we highlight that part of the study population (8.96%) did not take the necessary doses to prevent this disease and approximately 35% share personal objects, such as nail pliers and razors.

Regarding the knowledge about the forms of hygiene to prevent Hepatitis A, the majority of respondents (92.54%) claim to know what hygiene is and what to do to prevent waterborne diseases (washing hands, washing food), and inform that the basis of their diet is the consumption of cooked fish, for disease prevention, in 46.77% of the cases.

IV. DISCUSSION

The results of the present study reveal that the prevalence of hepatitis A and B in this population group is higher than that existing for the entire Brazilian population. According to data from the National Survey of Viral Hepatitis, in the Brazilian capitals and in the Federal District, the percentage of the population that has or has had hepatitis (prevalence) was 39.5% for type A and

0.37% for the virus B, while in this research, it was detected that 88.89% of the reported cases were of Hepatitis A and 11.11% of hepatitis B [11].

It is believed that some factors, such as low schooling, lack of knowledge about the disease, mainly in relation to the transmission mechanism, in addition to early sexual activity combined with poor adherence to condom use, are the primary determinants for the acquisition of viral hepatitis. In this study, it was observed that most of the interviewees have only incomplete elementary education, which hypothetically may imply that individuals had little access to health-related information that usually incorporates the basic curriculum of high school. When asked about their knowledge in relation to hepatitis, 68.66% of the interviewees reported knowing what this disease is, however, most of them revealed to be unaware of its form of transmission. Therefore, it is understood that they have heard of the disease, however, they do not know it faithfully.

In view of this situation, it is clear that there is a high probability of these people having hepatitis A and B, but they did not associate with these diseases, thus expanding the transmission chain. As the data shows, 22.73% of the interviewees have already had loss of appetite, 46.97% have already had diarrheal episodes, 16.67% had liver problems and 13.64% reported having eliminated dark colored urine. Despite having presented such symptoms characteristic of hepatitis, the majority (53.73%) of the interviewees never underwent an early detection test, as did the rest of their family.

The lack of information may also have influenced early sexual initiation. The results show that most of the interviewees became sexually active from the age of 16. Several authors associate the younger age of sexual initiation with a low level of education [12]. In his studies, the aforementioned author shows similar results, where most of the population had their sexual life beginning between 14 and 19 years old.

Another important factor related to sexual life is unprotected sex. In this research, it was found that only about 50% of individuals use contraceptive methods and that most of them use condoms. The other half of the population, however, may be a vehicle for the transmission of hepatitis B to their partners, taking into account that most of the interviewees said they were married or in a stable relationship. Faced with this situation, the presence of a vulnerability group is detected in the study population. Thus, there is a need to develop prevention strategies that aim to promote behavioral changes in these individuals who do not have safe sex.

These preventive measures can also focus on vaccination against hepatitis B and not sharing sharps, since part of the study population (8.96%) did not take the necessary doses to prevent this disease and approximately 35% shares personal objects, such as nail pliers and razors. HBV can remain infectious on inert objects / surfaces for up to one week, contributing to the expansion of a new transmission route: that of invasive aesthetic procedures, such as the cuticle extraction habit, the use of piercings and tattoos [3]. Regarding vaccines, we have that vaccination against hepatitis B and A achieves a reduction in its incidence among children in industrialized countries [13].

Three aspects may have influenced this situation, namely: geographical barriers (the fluvial distance from riverside communities to the nearest cities, making access to health services difficult), lack of adequate infrastructure for the conservation of immunobiologicals (highlighting the lack of water supply) electricity in most of these locations) and a low rate of health professionals to meet all existing demand. Such aspects were found in the locality under study, revealing the fragility in public policies aimed at riverside communities and traditional peoples.

Taking into account that hepatitis A is a disease of fecal-oral infection, hygiene practices, food preparation, as well as basic sanitation conditions, are of fundamental importance for the occurrence or not of this pathology in a population. The study reveals that the majority of respondents (92.54%) claim to know what hygiene is, moreover, it shows that 46.77% consume fish in cooked form. Such a situation becomes a positive point, since with prior knowledge about hygiene, the individual tends to adopt preventive measures that will bring benefits to his health, such as, for example, boiling foods that, even after going through a wash, still contains a minimum rate of microorganisms.

Despite the adoption of these practices, it was noticed that the prevalence of hepatitis A was still very high for those communities. Faced with this problem, we sought to identify what other risk factors could be contributing to the proliferation of this disease. From this, it was found that the hygienic-sanitary conditions that the interviewees had were precarious: the water they used daily for consumption came directly from the river that bathes the community; there is no selective garbage collection, which leads residents to give inappropriate destinations for their household waste; in addition, they did not have an infrastructure with a sewage network, allowing the discharge of their organic waste in the river present there and also in "black tanks".

The absence of such minimum basic sanitation conditions, coupled with the fact that the majority (67.16%) of the interviewees live with 3 to 5 people, becomes a worrying factor, since all these vulnerabilities contribute largely to the transmission of Hepatitis A. Brazil has a National Policy for the Sustainable Development of Traditional Peoples and Communities, which has among its objectives: to implement adequate infrastructure to the socio-cultural realities and demands of traditional peoples and communities and to ensure access to quality food, based on health-promoting food practices. , that respect cultural diversity and that are environmentally, culturally, economically and socially sustainable. Given the existence of this policy, it is clear that little or nothing has been done to improve the quality of life of the study population.

V. CONCLUSION

The study made it possible to identify the possible behavioral and environmental risk factors that are related to the occurrence of viral hepatitis A and B in the two riverside communities located in the Amazon region. We consider poor socioeconomic conditions, low level of education and difficulty in accessing health services as the most relevant points for the high rate of hepatitis A and B in these locations.

The investigation also allowed us to perceive the weaknesses in public health policies aimed at traditional populations that do not have satisfactory conditions for basic sanitation, food, a fact that interferes not only in the individual health of riverside dwellers, in addition, these populations are lacking in knowledge. on the transmission of these viral hepatitis, in addition to other diseases and their forms of prevention, making the problem not only preventive, but also due to the number of health professionals working in these areas, demonstrating a deficiency in treatment-related interventions, preventing infection from other people within the community.

Academics, health professionals and public managers should play a role in facing this situation with the communities, which have few resources to combat HAV and HBV, guidelines and compliance with effective measures, supported by public policies that should act to reduce or eradicating the risks of infection and hepatitis viruses within traditional communities.

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