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THE PREVALENCE OF HTLV IN PREGNANT ADOLESCENTS OF A REFERENCE UNIT IN MATERNAL CHILD HEALTH

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ABSTRACT

Objective: To know the prevalence of HTLV I and II in pregnant adolescents in a Maternal and Child Health Specialized Reference Unit. **Methodology:** This is a descriptive epidemiological study with a quantitative approach, carried out by collecting medical records of adolescents attended at a Reference Unit Specialized in Maternal and Child Health, located in Belém–PA/BRAZIL. A form was used as the data collection instrument following a script to collect information. **Results:** through the data analysis, we verified that from 2013 to 2016 the prevalence of HTLV I and II among pregnant adolescents increased significantly, the prevalence in 2013 was 3.13%, reaching the value of 9.76% in 2016.Three HTLV I cases occurred in pregnant adolescents per year. Overall, on average six pregnant women presented HTLV I and II, per year. **Conclusion:** By the end of this study, it was observed the need for public policies and preventive measures of the necessity of compulsory notification to trace the prevalence of HTLV.

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INTRODUCTION

HTLV-I virus was discovered from its isolation in 1980, in which it was obtained from a lymphoblastoid cell line from a patient with cutaneous T-cell lymphoma in the United States of America, and HTLV-II was isolated in 1982 from a patient who had tricholeukemia. Since then, its tropism has been defined by T cells, CD4 and CD8, and HTLV II is less pathogenic than the first (CAMPOS *et al.,* 2015). Some epidemiological evidence points to HTLV-I as an agent of associated diseases such as adult T-cell leukemia/lymphoma, HTLV-I associated myelopathy/tropical spastic paraparesis, uveitis, dry keratoconjunctivitis, infective dermatitis, psychiatric and psychological disorders, and rheumatologic diseases. HTLV-II is rarely associated with neurological diseases. Transmission of HTLV occurs through sexual contact, vertically from mother to child through breast milk, through blood transfusion and by sharing syringes and needles. The infection of this virus has an extended period of latency and can last for years or a lifetime (FERREIRA *et al.,* 2010).

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HTLV has a worldwidedistribution that varies by geographical area. It is estimated that 15 to 20 million people are infected worldwide. In Brazil, it is estimated that 2.5 million people are infected with prevalence in the regions of São Paulo, Rio de Janeiro, Recife, and Salvador, which has the highest blood donors HTLV seropositive population (BRAZIL, 2013). The Amazon region is particularly prevalent in the state of Pará where it is highlighted as the third most prevalent in case numbers. A study aiming specific Amazon communities and populations registered a prevalence of 1.8% for HTLV-I among Japanese immigrants, with a0 to 2.6% variation for HTLV-I and 0 to 1.06 variation for HTLV-II in remnant communities in the Marajó Island. HTLV was found in up to 30% of indigenous Amazonian communities and in 29% of all sera fromblood donors in the state of Pará (FERREIRA *et al.,* 2010). Despite being a virus of high prevalence in the world, are scarcity studies evaluating the presence of the virus in the state of Pará. Therefore, the present study intends to analyze the prevalence of HTLV-I and II infection in pregnant adolescents in a Reference Unit Specialized in Maternal and Child Health and to build an epidemiological profile among the participants before the research.

MATERIALS AND METHODS

This is a descriptive epidemiological study with a quantitative approach. The survey was conducted in the Reference Unit Specialized in Maternal and Child Health, subordinated to the State of Pará Public Health Secretariat. A form was used to collect information from medical records of pregnant adolescents with HTLV I and II diagnosed from January 2013 to December 2016, who underwent screening and performed prenatal care at the unit, in the age group of 10 to 19 years, and positive HTLV testing. The data collection took place after authorization from thefirst Regional Health Center (SESPA), along with the Reference Unit Specialized in Maternal and Child Health (UREMIA) and then the approval from the University of Amazônia (UNAMA) Ethics Committee with opinion nº 2,012,351. Soon after approval, the prenatal screening books were ordered, the medical records numbers were sent for opening, starting data collection for the form. In this study, it was used for data analysis the G test (independent samples) for trend and association was used the exact Fisher test. In this way, the data collected were tabulated, interpreted, processed and analyzed through descriptive and inferential statistics. For the data analysis were used computer resources, through processing in the system Microsoft Excel, Statistic Package for Social Sciences (SPSS) version 22.0, all in Windows 7 environment.

RESULTS

Table 1shows that the highest frequency of HTLV-infected women in the period from 2013 to 2016, attended in prenatal care at UREMIA, is aged between 15 and 19 years (8; 36.36%). The mean age of these women is 25 years (μ = 25.18). The group has a minimum age of 10 years and a maximum of 39 years. The age of the patients was normally distributed (p> 0.05). The variance indicates how dispersed are data are from the sample mean value, smaller the variance, the closer the values are to the mean; but the higher it is, the more values are far from average. In general, each woman has distanced herself 69 years from the group average age. The sample consisted of 22 women. The patient group is at least 10 years old, with a maximum age of 39 years. The median points out that 50% of women are over 24 years of age. Q1 shows that 75% of patients are over 19 years old (Q1 = 18.75). The mean age varies in the 95% confidence interval, between 21.49 and 28.86 years. Q3 indicates that 25% of women are between 32 and 39 years old or that 75% of patients are under 32 years of age.

Table 1. Distribution of HTLV infected women from 2013 to 2016, attended at the Maternal and Child Special Reference Unit (UREMIA), according to the age group

Age group	N	%	P-Value[(1)]
10-14	1	4,55	0.394^{ns}
15-19	8	36,36	
20-24	3	13,64	
25-29	2	9,09	
30-34	4	18,18	
35-39	4	18,18	
Total	22	100,00	

Source: Data resulting from the survey (2017).
(1)Test G for trend (p-value <0.05).
**Values Highly significant;* Significant Values; NS Non-Significant Values.
H0: There was no significant difference between the frequencies (p <0.05).

Table 2 shows the distribution of HTLV I and II infected women, according to the marital status and the division of adolescents or not. Observing that women over the age of 19 and the adolescents (10 to 19 years) are predominantly in the civil condition of consensual union so that six adolescents and eight adults live in a consensual union. The G test used to verify the association between these variables indicates that there is no significant association (p> 0.05) between the marital status and the fact of being adolescent or not, that is, the consensual union is a characteristic of both groups, both adolescents as adults

Table 2. Distribution of <u>women</u> undergoing HTLV infection in the period from 2013 to 2016, attended in prenatal care at the Maternal and Child Specialized Reference Unit - UREMIA, according to marital status

Marital status	Age				P-Value[(1)]
	Adolescent		Adult		
	n	%	n	%	
Single	3	13,64	5	22,73	0.805^{ns}
Consensual Union	6	27,27	8	36,36	
Total	9	40,91	13	59,09	

Source: Data resulting from the survey (2017).
(1)Fisher's Exact Test (p-value <0.05).
** Values Highly significant;* Significant Values;NS Non-Significant Values.
H_0:There was no significant association between the frequencies (p <0.05).

Table 3 shows the distribution of HTLV I and II infected women, according to schooling and the division of adolescents or not. It was observed the predominance of primary schooling I (PS I) among women older than 19 years, and among adolescents (10 to 19 years old), so that four adolescents and six adults have this level of schooling. The G test used to verify the association between these variables indicates that there is no significant association (p> 0.05) between the degree of schooling and the fact of being an adolescent or not, that is, PS I is a characteristic of both groups, both between adolescents as well as among adult women.

Table 3. Distribution of women undergoing HTLV infection in the period from 2013 to 2016, attended in prenatal care at the Maternal and Child Specialized Reference Unit (UREMIA), according to schooling

Education	Age				P-Value[(1)]
	Adolescent		Adult		
	n	%	n	%	
PS I	4	18,18	6	27,27	0.941^{ns}
EF II	4	18,18	5	22,73	
EMC	1	4,55	2	9,09	
Total	9	40,91	13	59,09	

Source: Data resulting from the survey (2017).
(1)G test for association (p-value <0.05)
**Values Highly significant;* Significant Values; NS Non-Significant Values.
H0: There was no significant association between the frequencies (p <0.05).

Table 4. Distribution of adolescents affected by HTLV in the period from 2013 to 2016, attending prenatal care at the Maternal and Child Specialized Reference Unit - UREMIA, according to their feelings when diagnosed with the disease

Adolescent'ssentiment	n	%	P-Value
Fear of contaminating the child and of telling his partner	1	11,11	<0.0001**
Problems with medication and cramps	1	11,11	
Feeling of repentance and guilt	1	11,11	
Fear of contaminating the child	6	66,67	
Total	9	100,00	

Source:Data resulting from the survey (2017).
(1)Test G for trend (p-value <0.05).
**Values Highly significant;* Significant Values; NS Non-Significant Values.
H0: There was no significant association between the frequencies (p <0.05).

Table 4 shows that the significant majority of adolescents stated that they feared that the child would be contaminated by the disease (6; 66.67%), was shown to be a significant trend ($p < 0.05$) among adolescents.

DISCUSSION

The study consisted of data analysis of 3240 medical records of pregnant women attended in the prenatal sector, with 1049 medical records of pregnant women, among them 22 had positive HTLV serology, of which 9 were adolescents between the ages of 10 and 19, highlighting the most prevalent age group 15-19 (36.36%) of all pregnant adolescents. Sequeira et al (2012) found that 13,382 pregnant women initially involved in their study, 43 (0.3%) had the reagent result of an anti-HTLV serological test. This population represents the 10.7% of the pregnant women who participated in the public prenatal programs in the state of Pará, Brazil, in 2008. Also according to them, a possible explanation for this high index is given through the early initiation of sexual relations and by the large number and variability of partners. According to Gloria et al (2015), 53.07% of pregnant women had fixed partners (married, single), 54.21% initiated sexual life between 15 and 18 years, this data resemble our study. Evidencing that the most prevalent age group was 15 to 19 years,and among the women, surveyed most were in a stable union. According to research conducted by Guerra (2010), the most prevalent level of schooling was 65.4% incomplete elementary school, 2.8% complete elementary school, 28.7% attending secondary school, 2.8% finished secondary school and only 0.3% started to higher education, agreeing with this study, where the majority was in the primary schooling I and II. For Rivemales(2013), the discourses of men and women affected by HTLV also indicate thatthe couple's complicity and the existence of love in the affective-sexual relationship give meaning to the experience of sexuality. However, in the narrative of HTLV seropositive women the importance of love is linked to the pleasurable experience of sexuality, by the moment of this study most women were in a stable union and experiencing the same feelings agreeing with the author's thesis. For Fernandes (2009), the prevention of maternal HTLV-I transmission relies mainly on the contraindication of breastfeeding in the case of infected pregnant women, either by pasteurizing or by boiling breast milk. When these measures or artificial milk supplementation are not possible, early weaning should be done. Disagreeing with this study where breastfeeding was inhibited, indicating artificial breastfeeding in all cases beyond indication of cesarean delivery.

Barmpas *et al.* (2010), in her research states that women's feelings about breastfeeding, in this sense, it becomes fundamental to understand that a woman, being prevented from breastfeeding, may experience emotional, social and even financial problems, due to the high cost of artificial feeding agreeing with this study which reaffirms feeling concern and fear regarding breastfeeding. This evidence is identified with this research because no women were found to be breastfeeding in our study. All of them received artificial breastfeeding and care in the risk neonate. For Santos (2017), the lack of knowledge of common people and health professionals, as well as the lack of health policies directed at people affected by HTLV, compromises the assistance provided to these people, either asymptomatic or symptomatic. In this way, the importance of building specific theoretical and practical knowledge about the virus for a more effective and specific assistance to the needy is reiterated. Testing policies for HTLV I and II in prenatal routine in the state of Pará occur through the Gestar program, due to the need to know more about the prevalence of this infection in our state and thus to establish health policies that can prevent vertical transmission. In Brazil, the prevalence of HTLV I and II has a tendency to increase in high-risk populations (Laurentino *et al.,* 2005). According to Vilhena *et al.* (2010), the high prevalence in the Amazon region, especially in the state of Pará, stands out as the third largest number of cases among blood donors in Brazil. In the population studied, the sample consisted of 22 women with HTLV infection. It is verified that the greater frequency of HTLV-infected women in the period from 2013 to 2016, attended in prenatal care at UREMIA, is between 15 and 19 years old (8; 36.36%). The average age of these women is 25 years. The group has a minimum age of 10 years and a maximum of 39 years. The study sample revealed that pregnant adolescents have characteristics that justify the screening of HTLV I and II virus during prenatal care, but more extensive studies are needed to identify the real situation of the virus in the State of Pará, due to the shortage in literature has limited our debate.

Conclusion

The study confirms the existence of a considerable prevalence of HTLV I and II in pregnant adolescents, demonstrating the profile of the studied population, compared to adult women. However, in Brazil, HTLV seroprevalence studies with pregnant women are still scarce compared to studies conducted with blood donors, since the latter group reflects the infection situation in a specific population. No HTLV-associated diseases were found because positive serology was defined through early prenatal care, however, STDs were found as one single case of HIV/HTLV where the main concern was to avoid vertical transmission. This sample also revealed that pregnant adolescents present an epidemiological profile compatible with the exposure behavior and possibility of HTLV transmission. Another very important and evidenced factor is the lack of knowledge about of this infection, thus impairing the correct management of the cases; this neglect refers to the reality of a disease with a long period of latency and uncertain prognosis.

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