

STUDY OF PREVALENCE OF HIV INFECTION AND ITS EPIDEMIOLOGICAL VARIABLES IN PREGNANT WOMEN AT PLANTADORES DE CANA HOSPITAL, CAMPOS DOS GOYTACAZES, RIO DE JANEIRO, A REFERENCE IN HIGH RISK PREGNANCIES

ESTUDO DA PREVALÊNCIA DA INFECÇÃO PELO HIV E SUAS VARIÁVEIS EPIDEMIOLÓGICAS, EM GESTANTES ATENDIDAS NO HOSPITAL PLANTADORES DE CANA, EM CAMPOS DOS GOYTACAZES, RIO DE JANEIRO, REFERÊNCIA EM GESTAÇÃO DE ALTO RISCO

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ABSTRACT

Introduction: The prevalence rate of HIV infection is less than 1% in the general population. Among women, the rate was 13.2 cases per 100,000 inhabitants, leaving the presence of women more and more evident in the acquired immunodeficiency syndrome scenario. **Objective:** To assess the prevalence of HIV infection and its epidemiological variables in pregnant women treated at Hospital Plantadores de Cana (HPC), in the city of Campos dos Goytacazes, Rio de Janeiro State. **Methods:** This is a documentary, critical and analytical study of all pregnant women admitted from October 2012 to March 2013, using transcription of medical records, then tabulated and analyzed on the System for Statistical Analyses and Genetics. **Results:** We analyzed 1,795 medical records of pregnant women; 14 were HIV-positive, corresponding to a prevalence of 0.78%. According to epidemiological data obtained in data collection from medical records, pregnant women were mostly aged between 19 and 25 years (64.29%), all were single (100%), of black (50%) and brown (42.86%) ethnicity. Prenatal consultation occurred in 71.43%, with 7 to 10 appointments (35.71%). Cesarean delivery occurred in 71.43% of cases. **Conclusion:** HIV infection in pregnant women seen in reference hospital for high risk pregnancy in Campos dos Goytacazes showed a prevalence higher than the national average, and its epidemiological characteristics correspond to those mentioned in the literature.

Keywords: HIV; pregnant women; epidemiology.

RESUMO

Introdução: A taxa de prevalência de infecção pelo vírus HIV encontra-se menor que 1% na população em geral. Entre as mulheres, a taxa foi de 13,2 casos por 100 mil habitantes, deixando cada vez mais evidente a presença da mulher no cenário da síndrome da imunodeficiência adquirida. **Objetivo:** Avaliar a prevalência da infecção pelo HIV e suas variáveis epidemiológicas em gestantes atendidas no Hospital Plantadores de Cana (HPC), em Campos dos Goytacazes, no Rio de Janeiro. **Métodos:** Estudo documental, crítico e analítico de todas as gestantes admitidas no período de outubro de 2012 a março de 2013, por meio da transcrição dos prontuários médicos, sendo os dados coletados, tabulados e analisados pelo Sistema para Análises Estatísticas e Genéticas. **Resultados:** Analisamos 1795 prontuários de gestantes, das quais 14 eram portadoras do HIV, correspondendo a uma prevalência de 0,78%. Segundo dados epidemiológicos obtidos na coleta de dados dos prontuários, as gestantes caracterizavam-se, em sua maioria: pela idade entre 19 e 25 anos (64,29%); pela ausência de relato de união civil (100%); pela etnia negra (50%) e parda (42,86%). A realização de pré-natal ocorreu em 71,43% dos casos, com 7 a 10 consultas médicas em 35,71%. O parto cesariano ocorreu em 71,43% dos casos. **Conclusão:** A infecção pelo HIV nas gestantes atendidas no hospital de referência para gestações de alto risco em Campos dos Goytacazes apresentou uma prevalência maior do que a média nacional, e suas características epidemiológicas correspondem àquelas citadas na literatura.

Palavras-chave: HIV; gestantes; epidemiologia.

INTRODUCTION

From January 2000 to June 2015, 92,210 HIV-infected pregnant women were notified⁽¹⁾ in Brazil, and in the period from 2005 to 2014 there was an increase in the national rate of detection of contaminated pregnancies: from 2 to 2.6 cases for every 1,000 live births⁽¹⁾. The State of Rio de Janeiro shows a higher rate of HIV detection in pregnant women than the national rate: in 2014, 4 cases were recorded for 1,000 live births. Most infected women are of reproductive age, resulting in 2,100 new cases of infection detected per day in children, with almost of them all being due to mother-to-child transmission^(2,3).

Vertical transmission of HIV can occur during pregnancy (particularly in the third trimester of pregnancy), during delivery, and throughout the lactation period. The main transmission mechanisms involve intrauterine and intrapartum transmission⁽⁴⁾.

In a study called *Estudo Sentinela Parturiente*, of 2004, the prevalence of HIV observed in pregnant women in Brazil was of 0.41%, corresponding to an estimated total of 12,456 HIV-positive pregnant women for the year of 2004. Considering the total cases of HIV infections reported in pregnant women in 2010 (5,666), it a significant gap of around 50% can be estimated in the coverage of HIV testing in this population⁽⁵⁾.

OBJECTIVE

To evaluate the percentage of HIV-infected pregnant women at Hospital Plantadores de Cana (HPC), in the city of Campos dos

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Goytacazes (RJ), a reference hospital, and their epidemiological variables, thus confirming the need to study, report and research this pathology, with emphasis on the importance of prenatal care and on the implementation of assistance measures for pregnant women living with HIV.

METHODS

This is a documentary, critical and analytical study of all pregnant women assisted by the HPC Obstetrics Service, carried out from October 2012 to March 2013.

The study population consisted of 1,795 pregnant women.

Data from the medical records of pregnant women with HIV infection, confirmed prior to pregnancy, during prenatal care or during delivery, were analyzed by a revision of their records, specialty sheet and prenatal card, through which their clinical (pathological antecedents such as hypertension, diabetes mellitus, urinary tract infection, syphilis) and epidemiological aspects (age group, marital status, race, type of delivery, number of pregnancies, prenatal care and number of visits) were analyzed.

Based on the clinical history of the patient, we recovered the pathological history, the family history, the number of pregnancies and the diagnosis of syphilis. The number of prenatal consultations and the type of delivery were analyzed according to references from the Ministry of Health⁽⁶⁾ and the World Health Organization (WHO)⁽⁷⁾.

The epidemiological variables studied were: age group, ethnicity and marital status. The criteria for dividing the patient's age groups were categorized according to the prenatal card⁽⁶⁾.

The results of the research were tabulated in a database created in MS EXCEL 2010 and analyzed by the System of Statistical and Genetic Analysis (SAEG) version 9.1⁽⁸⁾, with which the frequencies and the statistical analyzes of the studied variables were obtained. The results obtained were demonstrated in the form of graphs and tables.

The respective confidence intervals (CI) of 99% of the patients were estimated.

The study was approved by the Research Ethics Committee of the School of Medicine of Campos.

RESULTS

A total of 1,795 records of pregnant women who were admitted to HPC during the study period were analyzed. Of these, 14 were carriers of HIV, corresponding to a prevalence of 0.78% (14/1,795).

According to epidemiological data, among the pregnant women infected, 64.29% (9/14) were aged between 19 and 25 years and none reported civil union (100% -14/14). 50% of them reported black color (7/14), and 42.86% reported brown color (6/14), according to **Table 1**.

The absence of pathological antecedents of arterial hypertension, diabetes and urinary tract infection was observed in 42.86% (6/14) of the infected pregnant women; 71.43% of them (10/14) presented a family history of comorbidities; all patients reported previous pregnancies; there was a predominance of cesarean delivery, occurring in 71.43% of the cases (10/14), and 42.85% (6/14) of the pregnant women did not report having undergone an abortion (**Table 2**).

Prenatal care was performed in 71.43% (10/14) of the pregnancies: an average of 7 to 10 medical consultations in 35.71% of the cases (5/14), according to **Table 3**.

Table 1 – Demographic variables of HIV-infected pregnant women seen at the HPC.

Variable	n	%	IL	SL
Age Group				
Up to 18	1	7.14	0.00%	20.63%
19 to 25	9	64.29	39.19%	89.39%
26 to 34	3	21.43	0.00%	42.92%
Over 35	1	7.14	0.00%	20.63%
Marital Status				
Single	14	100.00	100.00%	100.00%
Married		0.00	0.00%	0.00%
Stable union		0.00	0.00%	0.00%
Other		0.00	0.00%	0.00%
NR		0.00	0.00%	0.00%
Ethnicity				
White	1	7.14	0.00%	20.63%
Black	7	50.00	23.81%	76.19%
Brown	6	42.86	16.93%	68.78%
NR		0.00	0.00%	0.00%

IL: inferior limit; SL: superior limit; NR: no response.

Table 2 – Clinical characteristics of HIV-infected pregnant women.

Variable	n	%	IL	SL
Pathological Background				
None	6	42.86	16.93%	68.78%
HBP	1	7.14	0.00%	20.63%
HBP + Diabetes	1	7.14	0.00%	20.63%
HBP + UTI	1	7.14	0.00%	20.63%
NR	5	35.71	10.61%	60.81%
Type of birth				
Normal	0	0.00	0.00%	0.00%
Cesarean section	10	71.43	47.76%	95.09%
None	4	28.57	4.91%	52.24%
Pregnancy				
I	1	7.14	0.00%	20.63%
II	6	42.86	16.93%	68.78%
III	1	7.14	0.00%	20.63%
IV	4	28.57	4.91%	52.24%
V	1	7.14	0.00%	20.63%
VIII	1	7.14	0.00%	20.63%
Abortion				
0	8	57.14	31.22%	83.07%
I	5	35.71	10.61%	60.81%
II	1	7.14	0.00%	20.63%
Family History				
Diabetes + HBP	2	14.29	0.00%	32.62%
No alteration	10	71.43	47.76%	95.09%
NR	2	14.29	0.00%	32.62%
VDRL				
Positive	1	7.14	0.00%	20.63%
Negative	13	92.86	79.37%	106.35%

HBP: high blood pressure; UTI: urinary tract infection; NR: no response.

DISCUSSION

The prevalence of HIV infection among pregnant women was 0.78% (14/1795). In Brazil, the prevalence of HIV infection among pregnant women is 0.6% (Ministry of Health, 2007). From January 2001 to December 2003, the prevalence of HIV infection among pregnant women in the municipality of Campos dos Goytacazes was 0.5%^(9,10), very close to the national average of 0.6%. This high prevalence of 0.78% in this study can be explained possibly due to the fact that it was performed in a maternity that is reference in high-risk pregnancy and because of the greater uptake of pregnant women through the rapid test. It is noteworthy that the prevalence of 0.78% (7.8 cases for 1,000 births) is almost double the prevalence in the state of Rio de Janeiro in 2014⁽¹⁾.

This study demonstrated that the predominant age group of pregnant women infected with HIV is between 19 and 25 years. Data from the Ministry of Health published in the Epidemiological Bulletin of 2015 corroborate our findings, although an increase in the number of cases over 40 years has been observed in the last decade⁽¹⁾. Thus, most of these women are of reproductive age, which implies a greater concern about the effects of HIV infection on their health and the risk of mother-to-child transmission⁽¹⁾. In addition, none of the patients was married, which increases the chance of multiple sexual partners, the possibility of alcohol and drug use as a reflection of their greater vulnerability, and consequent increase in the risk of HIV acquisition⁽¹⁾.

Regarding race, there was a divergence of this study from the national data for 2014: predominance of black (50% - 7/14) and brown pregnant women (42.86% - 6/14). In the mentioned study, 45.1% were brown, 38.7% white and 15.3% black⁽¹⁾. This difference can be explained by the predominance of the black and brown races in the municipality, according to data from the 2010 IBGE Census⁽¹²⁾. In the mentioned Census, 50.7% of the Campos dos Goytacazes population is brown (36.6%) or black (14.1%). Those who declared themselves white in the same Census were 48.5%. The difference of 0.8% self-reported as yellow or indigenous⁽¹²⁾. Another aspect analyzed, which also agreed with the literature, was the type of delivery: of the total number of HIV-positive pregnant women, 71.43% (10/14) chose cesarean sections. According to Boer et al., the protective effect of the cesarean delivery scheduled before labor begins shows a 50% reduction in the risk of mother-to-child transmission⁽¹³⁾.

Table 3 – Prenatal care and number of consultations of pregnant women infected with HIV.

Prenatal				
Yes	10	71.43%	47.76%	95.09%
No	1	7.14%	0.00%	20.63%
NR	3	21.43%	21.49%	42.92%
No. Of consultations				
0	1	7.14%	0.00%	20.63%
1 to 3	1	7.14%	0.00%	20.63%
4 to 6	4	28.57%	4.91%	52.24%
7 to 10	5	35.71%	10.61%	60.81%
11 to 13	0	0.00%	0.00%	0.00%
NR	3	21.43%	0.00%	42.92%

NR: no response.

Regarding syphilis, national prevalence in pregnant women was of 1.6% (about four times higher than HIV infection), according to the 2004 *Estudo Sentinela Parturiente Study*⁽⁵⁾. Epidemiological surveillance of syphilis in pregnancy has revealed a decline in the prevalence of syphilis in pregnancy but points to failures in prenatal care, both in the serological test and in the treatment of pregnant women and their partners, indicating the loss of important opportunities for the strategic actions necessary to control the disease⁽⁸⁾. In the present study, 7.14% (1/14) of the HIV-positive pregnant women also presented positive VDRL. The use of rapid tests for the diagnosis of HIV infection and syphilis in pregnancy has been shown to be an effective strategy in implementing new measures to address these infections during prenatal care and delivery, thus reducing mother-to-child transmission^(14,15).

Of the pregnant women analyzed, 71.43% had undergone prenatal care, with a number of appointments ranging from 4 to 6 in 28.57% of cases (4/14), and from 7 to 10 in 35.71% (5/14). The main indicator of prognosis at birth is prenatal care, which aims to ensure the development of gestation, allowing for the delivery of a healthy newborn, without impact on maternal health, including psychosocial aspects and educational and preventive activities⁽⁵⁾. Pregnant women with HIV enter the classification of patients with gestational risk factors. They should be referred to high-risk prenatal and obstetric emergencies, and need to receive follow-up from the outreach team, with their returns monitored at the high-risk outpatient clinic⁽⁵⁾. Thus, pregnant women have access to a clinical priority, which facilitates the management of spontaneous demand and, consequently, causes an impact in the natural history of severe acute diseases, which can lead to death if not prioritized⁽⁵⁾. According to the World Health Organization (WHO)⁽⁶⁾, the appropriate number of prenatal visits would be equal to or greater than six. However, the results found in the present study were that 35.71% (5/14) of the patients performed 7 to 10 consultations. The others were close to the expected - 28.57% (4/14) with 4-6 consultations, or less than recommended in the WHO.

CONCLUSION

The evaluation of HIV infection among pregnant women treated with HPC demonstrated a higher prevalence than the national average, with the exception that the study was performed in a high-risk gestational health unit. Its epidemiological characteristics were similar to those observed in the rest of the country.

Conflict of interests

The authors declare there was no conflict of interests.

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