# SOCIO-DEMOGRAPHIC AND HEALTH PROFILE OF SEROPOSITIVE WOMEN IN HIGH-RISK PRE-NATAL CARE*

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**ABSTRACT:** This transversal, descriptive and documental study describes the socio-demographic and health profile of 47 pregnant women, seropositive for the Human Immunodeficiency Virus in high-risk prenatal care, between 2008 – 2012. The profile is characterized by pregnant women with a mean age of 27 years old, non-whites, with an educational level of Junior and Senior High School, in stable relationships, housewives, living in non-metropolitan parts of the state, primigravidas or secundigravidas and primiparous, with a mean of five prenatal consultations, initiated at the 14th week of pregnancy or later, using Biovir® and Kaletra®, and who denied taking drugs and being diagnosed for the virus prior to the current pregnancy. It is concluded that it is necessary to know the profile of the seropositive pregnant woman with a view to: planning actions promoting care; standardizing the records, and; re-adjusting high-risk prenatal care in accordance with Brazilian Ministry of Health guidelines.
**DESCRIPTORS:** Mother and child nursing; Vertical transmission of infectious diseases; pregnant women; HIV.

## PERFIL SOCIODEMOGRÁFICO E DE SAÚDE DE MULHERES SOROPOSITIVAS EM UM PRÉ-NATAL DE ALTO RISCO

**RESUMO:** Estudo transversal, descritivo e documental, o qual descreve o perfil sociodemográfico e de saúde das 47 gestantes soropositivas para o vírus da imunodeficiência humana em um pré-natal de alto risco, com corte temporal de 2008 a 2012. O perfil caracterizou-se por gestantes com idade média de 27 anos, não brancas, com escolaridade entre o Ensino Fundamental e Médio, em união estável, donas de casa, residindo no interior do Estado, primigestas ou secundigestas e primíparas, com média de cinco consultas pré-natais, iniciado com 14 semanas de gestação ou mais, em uso de Biovir® e Kaletra®, e negaram uso de drogas e diagnóstico para o vírus anterior à gestação atual. Concluiu-se ser necessário conhecer o perfil da gestante soropositiva visando planejar ações que favoreçam a assistência; padronizar os registros e readequar o pré-natal de alto risco segundo as diretrizes do Ministério da Saúde do Brasil.
**DESCRITORES:** Enfermagem materno-infantil; Transmissão vertical de doença infecciosa; Gestantes; HIV.

## PERFIL SOCIODEMOGRÁFICO Y DE SALUD DE MUJERES SEROPOSITIVAS EN UN PRENATAL DE ALTO RIESGO

**RESUMEN:** Estudio transversal, descriptivo y documental, lo cual describe el perfil sociodemográfico y de salud de 47 gestantes seropositivas para el virus de la inmunodeficiencia humana en un prenatal de alto riesgo, con corte temporal de 2008 a 2012. El perfil se caracterizó por contener gestantes con edad media de 27 años, no blancas, con escolaridad entre la Enseñanza Fundamental y Medio, en unión estable, amas de casa, que vivían en interior del Estado, de primera o segunda gestación y primíparas, con media de cinco consultas prenatales, iniciadas con 14 semanas de gestación o más, en uso de Biovir® y Kaletra®. Las mujeres negaron usar drogas, así como el hecho del diagnóstico para el virus ser anterior a la gestación actual. Se concluye que es necesario conocer el perfil de la gestante seropositiva con fines de planear acciones que ayuden en la asistencia; estandarizar los registros y readecuar el prenatal de alto riesgo de acuerdo a las directrices del Ministerio de la Salud de Brasil.
**DESCRIPTORES:** Enfermería materno-infantil; Transmisión vertical de enfermedad infecciosa; Gestantes; HIV.

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## INTRODUCTION

The first cases of Acquired Immunodeficiency Syndrome (HIV/AIDS) in women occurred in the 1980s, although in lower numbers than among men. Over the years, the evolution of actions for prevention of HIV in women was slow and late, reflecting the progressive increase in the number of seropositive women[1]. In Brazil, the current setting reflects the ratio of 1.9 men for each woman also infected with HIV[2]. In addition to this, the profile of the Brazilian seropositive woman corresponds to that found globally: low socio-economic and educational levels, in a stable relationship, and whose partner refuses her requests for condom use[3].

The feminization of the epidemic is a risk factor for vertical transmission (VT) of the virus, that is, the infection of the fetus during the intrauterine period (35%), labor (65%), and/or during breastfeeding (7-22%)[4]. VT, therefore, was the main point which led to greater visibility of the feminization of the HIV/AIDS epidemic.

In the light of these prominent risks, the Brazilian Ministry of Health (MS, in Portuguese), decreed measures to be implanted throughout the health network, namely: sex education and guidance regarding HIV, in the form of dialog, with professional support; the undertaking of HIV tests for every pregnant woman of unknown seropositivity, following her consent and guaranteeing confidentiality; the initiation of Antiretroviral Therapy (HAART) for HIV-positive pregnant women up to, at the maximum, the 14th week of pregnancy under the supervision of a health professional, and the use of injectable drugs during labor; the undertaking of elective Cesarean births, from the 34th week onward, in patients with a viral load > 1000 copies/mL or for whom this data is unavailable; guidance regarding, and use of, methods for stopping breastfeeding, offering the baby formula milk made available by the health centers; recommendation of the use of oral prophylactic medications for the newborn up to the sixth week of life and monitoring through a battery of tests up to the age of 18 months[5].

In the state of Rio Grande do Norte (RN), in the North East of Brazil, it may be observed that the incidence in relation to sex in 2012 was 2.5 men infected for each woman infected. Furthermore, in 2013 the coefficient for seropositive pregnant women was 1.4 for each 1000 live births, this number being high compared to those obtained in previous years. In this way, the susceptibility of children exposed to the virus is confirmed[2,6].

Knowing that vertical transmission is the main route of transmission of HIV in children in Brazil and in the state of Rio Grande do Norte (RN)[6], the following guiding question is raised: "What is of the profile of the seropositive pregnant woman in Rio Grande do Norte?". Considering this issue, the present study aimed to describe the socio-demographic and health profile of the pregnant women seropositive for HIV in high-risk prenatal care.

In this regard, it is expected that knowledge of this population's epidemiological context will serve as a support for health professionals planning actions focused on this target-public, causing the implementation of quality care in the prenatal period, and, consequently, a reduction in the risks of mother-to-child transmission of HIV.

## METHOD

This research is transversal and descriptive, and is of the documental type, with quantitative treatment of the data. The study locale was the High-Risk Pre-Natal Care Department (PNAR) of the Januário Cicco School of Midwifery (MEJC). This is a Teaching Hospital of the Federal University of Rio Grande do Norte and the main center of excellence for the treatment of seropositive pregnant women in the State.

The population consisted of 55 hospital records of pregnant women with HIV/AIDS whose records were found in the PNAR's infectious and parasitic diseases records book in the period 2008 – 2012. The inclusion criteria were all the pregnant women proven to have HIV/AIDS, resident in Rio Grande do Norte, whose pre-natal care hospital records were located in the MEJC Archive, and for whom the socio-demographic and health data had been filled out in the hospital records.

Data collection was undertaken using the record numbers found in the above-mentioned PNAR book for the month of August 2012, which allowed the service users' hospital records to

be located in the MEJC Archive. As a result, 47 hospital records were found meeting the above-mentioned criteria.

The data obtained from the hospital records followed a pre-established script, containing the following information: the pregnant woman's age at the time of the consultation, her color, educational level, occupation, marital status and place of residence. In addition to this, it addressed the gestational age in the first prenatal consultation, the number of consultations held, the number of previous pregnancies and births, miscarriages and abortions, the use of illicit and/or licit drugs, the year of her diagnosis and that of her partner and the use of contraception. These data were tabulated, were treated statistically using Microsoft Office Excel 2007® and were organized in two tables (socio-demographic data and obstetric data), containing the relevant variables in frequencies and percentages.

The study was submitted to the Research Ethics Committee of the North Rio Grande League Against Cancer, with a favorable decision; N. 65443 and CAAE N. 02918612.2.0000.5293. The study was in line with the National Health Council's resolution regarding ethical precepts in research involving human beings, ensuring the service users' privacy and confidentiality.

## RESULTS

In relation to the socio-demographic characteristics of the 47 seropositive pregnant women, it was observed that the mean age was 26.8 years old, the youngest person being 16 years old and the oldest, 40 years old. At the time of the first prenatal consultation, the majority were aged between 21 – 30 years old, were non-white, had not finished senior high school, were housewives, in stable relationships, and from non-metropolitan parts of the state. The data may be seen in Table 1.

Table 2 outlines the prenatal data of the 47 pregnancies investigated between 2008 – 2012 in the PNAR, with a mean of 4.6 consultations. The tests with results regarding the viral load and CD4 were recorded, with 29 and 28 hospital records respectively. During the pre-natal monitoring, the majority of the pregnant women were using Biovir® (Zidovudine + Lamivudine) and Kaletra® (Lopinavir + Ritonavir). There were seven cases of alteration to the treatment due to the results of the viral load and CD4 - and two cases due to adverse reactions related to rise in glutamic oxalacetic transaminase (GOT) and glutamic-pyruvic transaminase (GPT) and Stephen-Johnson Syndrome. Fifteen reports of previous or current Sexually Transmitted Disease (STD) were detected. All the patients' hospital records included indication for interruption of pregnancy scheduled through cesarean section.

Table 1 - Socio-demographic characteristics of pregnant women with HIV/AIDS, 2008 – 2012. Natal, RN, Brazil, 2012

| Variables | Categories | n | % |
|---|---|---|---|
| Age at first prenatal consultation | ≤ 16 years old | 1 | 2,13 |
| | 17-20 years old | 6 | 12,77 |
| | 21-30 years old | 29 | 61,70 |
| | > 30 years old | 11 | 23,40 |
| Color | White | 13 | 27,66 |
| | Non-white | 34 | 72,34 |
| Education | Junior High School complete | 23 | 48,94 |
| | Senior High School incomplete | 24 | 51,06 |
| Occupation | Self-employed | 8 | 17,02 |
| | Salaried employee | 9 | 19,15 |
| | Housewife | 30 | 63,83 |
| Marital status | Single | 13 | 27,66 |
| | Stable relationship | 34 | 72,34 |
| Place of residence | Natal | 23 | 48,94 |
| | Non-metropolitan area of state | 24 | 51,06 |
| Total | | 47 | 100% |

Table 2 - Characteristics of the obstetric data of the pregnant women with HIV/AIDS between 2008 - 2012. Natal, RN, Brazil, 2012

| Variables | Categories | n | % |
|---|---|---|---|
| Gestational age in the first prenatal consultation | < 14th week | 11 | 23,40 |
| | ≥ 14th week | 36 | 76,60 |
| Number of prenatal consultations | < 6 consultations | 31 | 65,96 |
| | ≥ 6 consultations | 16 | 34,04 |
| Number of pregnancies | 1 pregnancy | 15 | 31,91 |
| | 2 pregnancies | 15 | 31,91 |
| | 3 pregnancies | 10 | 21,28 |
| | 4 pregnancies | 4 | 8,51 |
| | ≥ 5 pregnancies | 3 | 6,39 |
| Miscarriages | Yes | 13 | 27,66 |
| | No | 34 | 72,34 |
| Number of previous births | None | 17 | 36,17 |
| | 1 birth | 22 | 46,81 |
| | 2 birth | 5 | 10,64 |
| | ≥ 3 births | 3 | 6,38 |
| Drug use | Yes | 7 | 14,89 |
| | No | 40 | 85,11 |
| When the pregnant woman was diagnosed with HIV | Prior to the pregnancy | 19 | 40,42 |
| | Current pregnancy | 17 | 36,18 |
| | No records | 11 | 23,40 |
| Partner's HIV diagnosis | Seropositive | 8 | 17,02 |
| | Seronegative | 4 | 8,51 |
| | Not undertaken/refused | 2 | 4,25 |
| | No records | 33 | 70,22 |
| Use of methods of contraception | Confirm | 14 | 29,79 |
| | Deny | 2 | 4,25 |
| | No records | 31 | 65,96 |
| Total | | 47 | 100% |

## DISCUSSION

The majority of the HIV-positive pregnant women were young adults, a phase in which they are sexually active and at the peak of their reproductive age, this being the age group with the highest incidence of the disease[7]. In relation to color, the findings of this survey are in accordance with the context of the Brazilian population, made up of the mixing of ethnic groups, but contradict epidemiological data referent to women with HIV in Brazil, as prevalence is higher among those who stated themselves to be white[2].

In this study, the pregnant women's educational level was between Junior High School (48.9%) and Senior High School (51.0%), thus presenting better results compared to the study undertaken in Pará[8] and similar to one undertaken in Ceará[9], as well as to general Brazilian data[2]. The occupation of "housewife" is also in accordance with studies undertaken in other states in Brazil[7,9] and reflects that, historically, responsibility for care of the home and education of children falls upon the female figure in the family. These pregnant women, therefore, have less time for dedicating to their self-care, such as adhering to

prophylactic measures and regularly attending prenatal consultations. Thus, the woman's occupation can be considered to be an indirect risk for mother-child transmission of HIV[9-10].

The prevalence of seropositivity in this study is greater among the pregnant women who lived outside the state capital (51.06%). The process by which HIV spread into rural areas began concomitantly with its feminization, although its expansion occurs differently in each region of Brazil[1]. A separate study shows the increase in the incidence of cases of HIV-positive pregnant women in the rural zone[9].

Having a regular partner in the period of the prenatal monitoring was present in the answers of (72.3%) of the women. Considering that the principal form of infection among these women is the sexual route, it is understood that the current partner is also infected, or is seronegative but exposed to the virus. In this study, however, it was observed that of the 47 pregnant women monitored in the prenatal period, this information was not recorded in 33 hospital records. Thus, it becomes essential to know the serological status of these pregnant women's partners[11], as the absence of this data hinders the tracking of the partner and the undertaking of educational and prophylactic activities with the couple.

In addition to this, 33 women already had children, which makes it imperative to track those around these women who are susceptible to infection. Records on the children's serological status, however, are not available in the hospital records. In this regard, the importance is emphasized of valuing the family nucleus during the prenatal consultations, and recording the exact information for appropriate monitoring and prophylaxis, as well as of carrying out epidemiological studies.

The majority of the women in this study received their diagnosis as HIV-positive during previous pregnancies. It is understood that the knowledge of their seropositivity and the discovery of the pregnancy led the health centers to refer them to the PNAR/MEJC, reflecting the importance of the specialized service in HIV prophylaxis. However, there is no information regarding whether these women initiated HAART in the original services, given that the gestational age in the first consultation undertaken in the PNAR was, in most cases, after the 14th week, a period considered late for prophylaxis[5], thus showing the importance of having these necessary data in the hospital records.

In relating the year of the consultation to the date of the diagnosis of HIV, and with the records of the consultations during the prenatal period regarding the medication, five HIV-positive women from the sample were not using the antiretrovirals prior to the current pregnancy, among whom three had been pregnant before, and one reported that she had only used it in the intrapartum period after her last pregnancy. The use of antiretrovirals is essential for gestational prophylaxis from prior to the pregnancy so that the prevention of vertical transmission may be effective[5]. Thus, the data recorded are important for investigations, regarding the children exposed and whether measures were taken in relation to possible infection.

The Brazilian Ministry of Health stipulates a minimum of six prenatal consultations, but as these are high-risk pregnancies, the number of consultations must be greater than that recommended for other pregnant women[5]. The number of prenatal consultations in other PNAR is below that recommended in 65.96% of the cases, a worrying fact, as it means that the monitoring was not sufficiently effective to guarantee the undertaking of the prophylactic measures.

The pregnant women in the study are in their first or second pregnancies and are primiparous. Taking into account that 40.42% received the results of the diagnosis of HIV positivity prior to the pregnancy investigated, one can infer that the infection did not impede the desire for motherhood, as occurred in a study undertaken in Fortaleza in the Brazilian state of Ceará[12]. It was not possible to confirm whether the pregnancy was planned and monitored by health professionals, due to the under-recording of 65.96% of the cases regarding contraceptive use, as well as the non-existence of information on family planning in the hospital records. In addition to this, emphasis is placed on the incidence of 27.66% of miscarriage in the sample. This number is significant and epidemiologically important for the care, due to the social, psychological and health implications surrounding the event, added to the impact caused by the seropositivity.

The cases of STD must be investigated, because it is a risk factor for HIV and can be responsible

for the occurrence of ectopic pregnancies, miscarriages and stillbirths, principally when the disease is not treated[1]. In the present study, it was confirmed that 31.91% of the pregnant women had some type of STD. In this regard, the early diagnosis of STD, including HIV, must be improved in the prenatal period and in the consultations addressing women's health in Primary Care[1,13].

The Brazilian Ministry of Health's (MS) preventive recommendations allow the HIV-positive pregnant woman to have vaginal birth as a birth option, so long as her immunological status is within safe parameters, previously outlined, and she receives intrapartum prophylactic care such as the use of intravenous AZT, the absence of invasive procedures and the maintenance of the integrity of the amniotic membranes, or birth being achieved within four hours of their rupturing[5].

The recommendation for cesarean birth for all of the pregnant women investigated, after the 37th week, and the absence of data on CD4 and viral load in various hospital records, including in the third trimester, indicates the need for further studies for understanding the intrapartum routine followed in the maternity center or adopted during labor and birth, based on the MS recommendations. Thus, the result diverges in relation to the findings of other studies, which indicate that vaginal birth was predominant in their samples[7,14].

In this study, 14% of the pregnant women mentioned using some sort of drug. Drugs which are injected with shared needles are the second main factor for infection by HIV, although responsible for a higher number of mortalities, even when HAARV is used[1]. The drugs increase the harm provoked by the infection with HIV and reduce the capacity for judgement and decision-making in situations of risk such as, for example, when deciding whether to use a condom or not during sexual relations, or, in the case of adolescents, to initiate sexual activities at an early age[1,7].

Among the 14 records confirming the use of contraceptives, the male condom was most mentioned, this being the most effective barrier method, and recommended in cases of HIV seropositivity for avoiding the transmission of STDs and infection by HIV in a seronegative partner, or infection by a resistant virus and increase of the viral load in couples where both partners are seropositive, as well as avoiding unplanned pregnancy[5,11]. The combination of methods is recommended to reinforce this protection, although only one occurrence was recorded in the hospital records, which consisted of the injectable contraceptive hormone and condom use. The other women who mentioned using other hormone-based methods need to be instructed to also adopt barrier methods. The appropriate importance must be given to this issue, principally because of behaviors of risk which the partner may take, even if the relationship is considered stable[11].

## FINAL CONSIDERATIONS

The profile of the HIV-positive pregnant woman in this research corresponds to that found in Brazilian and international studies: young, non-white, low socio-economic level and in a stable relationship, and without the habit of using barrier contraceptives in sexual relations, which characterize this population's vulnerability. It was also identified that the majority lived in non-metropolitan regions of the State, that they were primiparous, had a mean of five pre-natal consultations, initiated in the second trimester of the pregnancy or later, were using Biovir® and Kaletra® in the monitoring, and were diagnosed positive with HIV prior to the current pregnancy.

This study has limitations in not knowing whether the referral to the PNAR is appropriate, principally those women referred originating from the non-metropolitan regions of the state, and whether this contributes to the above-mentioned findings.

The urgent need was observed for standardizing the records in the hospital records in the attendance of seropositive women, which allows better quality in the monitoring through to the time of birth. For this, it is also necessary to promote the updating and training of the health professionals in relation to the MS guidelines for prevention of VT in the pre-natal consultations, and the gearing of their actions towards these women's socio-demographic profile, encouraging the presence of a multi-professional team in high-risk prenatal consultations.

Furthermore, the nursing team must be more present for promoting self-care among HIV-

positive women. The nurse must be active in providing educational and preventive measures for these women of reproductive age so as to reduce the number of seropositive women and, where serological status is positive, prevent mother-child transmission of HIV.

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