CHAPTER
24

Epidemiological profile of seropositive pregnant women

https://doi.org/10.56238/alookdevelopv1-024

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ABSTRACT
Many women only find out that they have HIV when they are pregnant and perform the tests in the prenatal period, while some become aware in the postpartum, where the tests are also performed on the baby to detect the positive serum, taking into account that not all pregnant women perform these tests during pregnancy or, in some cases, do not have at least the knowledge of their condition until the time of delivery. This is documentary research, which aims to trace the epidemiological profile of seropositive pregnant women, who attended and conceived their children in a reference maternity for high-risk delivery in the South Fluminense Region - RJ. Method: data collection in the medical records of pregnant women with HIV registered between January 2015 and December 2017. Results: it was evidenced that all the pregnant women in the research have a low socioeconomic situation, level of education up to high school, predominates the age group of up to 30 years, brown in color, and do not have a defined occupation. Conclusion: the epidemiological profile of pregnant women has changed. On the other hand, over the years studies and treatments have been developed to reduce vertical transmission of HIV and ensure that the baby has a better quality of life. Brazil, through the Ministry of Health, has invested in women's health care policies, creating prenatal care protocols with the provision of kits for HIV serology testing, to increasingly contribute to the eradication of vertical transmission of this infection.

Keywords: Epidemiological Profile, HIV, Pregnant woman.

1 INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) is a chronic disease resulting from Human Immunodeficiency Virus (HIV) infection. It affects the immune system, responsible for ensuring the body's defense, also known as white blood cells, and among the most affected cells are lymphocytes. More often, it is CD4+ T-cells, very important for eliminating infections, that are the main targets of HIV. The virus binds to a component of the membrane of that cell by altering its DNA and, as it penetrates its interior, multiplies, making more copies of itself. This harms and prevents the organism itself from defending itself and responding to the opportunistic diseases that affect it. (BRAZIL, 2012)

It is relevant to understand that the epidemiological profile of the disease has changed. In its first phase (1980 to 1986) it was related to a "risk group" characterized by homosexuals by unprotected

sexual intercourse. Then, in its second phase (1987 to 1991), it was associated with drug addicts due to the use of injectable drugs, through blood transmission, causing the rest of the population that was not part of this group to believe that they would be safe from infection. Only in the third phase (from 1992) was there an increase in cases of heterosexual exposure, since many women acquire the virus through their sexual partners, increasingly assuming the feminization of the disease. (SMITH; ALCHIERI; CARLOS, 2005)

The Brazilian culture and the gender inequality that still exists influence this feminization, since many women, in an attempt to prove love and fidelity to their partner and out of fear, risk unprotected sex, since the requirement to use condoms can lead to physical, psychological, or sexual aggressions. Such factors are decisive in the incidence and increase of the epidemic. (Smith, 2013)

This hegemonic conception about the most affected groups, at first, distanced women from the possibility of having HIV infection, making preventive actions directed to them late.

> In addition to the belated recognition of contamination in women, during the 1980s and mid-1990s there was a conflict over the inclusion of women in clinical trials with new drugs to combat HIV, because, in compliance with the regulation issued in 1977 by the FDA (Food and Drug Administration), women of childbearing age (those most affected by the epidemic) were excluded from studies until the non-teratogenicity of these products was demonstrated, that is, the impossibility of causing injury to fetuses. (BASTOS et al. , 2000)

When the woman is infected there is the possibility of inoculation of the virus in the fetus, then another form of transfer of the HIV arises. This event is called vertical transmission (VT) and can be transmitted during pregnancy by the passage of the virus through the placenta, at the time of delivery by exposing the baby to blood and maternal secretions, or even during breastfeeding, since the virus can be found in breast milk. According to the Ministry of Health "the first case of vertical transmission of HIV was diagnosed in 1985" (SILVA; Alchieri, 2005).

> Only in 1993 was there the adoption of new "inclusive" rules regarding women and, in part, pediatric patients. Currently, the greatest success in the fight against AIDS, in terms of medicine and public health, comes exactly from the inclusion of women in clinical antiretroviral protocols, significantly decreasing transmission in pregnant women to their babies, provided they undergo appropriate treatment. (BASTOS; COUTINHO, 1999)

Due to the great exposure of the baby to the virus and the treatment that must be done with antiretrovirals, when HIV is confirmed in a pregnant woman, health professionals must carry out the compulsory notification of the case. Thus, it is possible to trace the epidemiological profile of the disease, develop actions with curative and preventive purposes and perform control of its results. The 2017 National Epidemiological Bulletin reads as follows:

> In Brazil, from 2000 to June 2017, 108,134 pregnant women infected with HIV were notified. It was found that 39.1% of the pregnant women lived in the Southeast, followed by the South (30.6%), Northeast (16.8%), North (7.8%), and Midwest (5.8%). (BRAZIL, 2017, p.6)

Although this AIDS epidemic still has no cure, many studies are still done to achieve a minimization and consequently an eradication of this virus. Important organizations such as the United Nations (United Nations) propose to assist any action aimed at reducing contamination.

> UN member states report in a statement the commitment for 2020 to reduce new HIV infections and AIDS mortality rates to less than 500,000 per year. Some preventive measures are: elective cesarean section, monotherapy with Zidovudine (AZT), administration of antiretroviral, administration of AZT during labor, and use of oral antiretroviral to the newborn exposed during birth until the 42nd day of life, and replacement of natural breastfeeding by artificial breastfeeding (SILVA et al., 2018)

We emphasize that the Ministry of Health recommends that the anti-HIV test should be offered to all pregnant women as soon as prenatal care begins, in the 1st and 3rd trimesters, because early diagnosis enables the best treatment results for the mother and baby. In cases where the diagnosis is made at delivery, a gap opens up about the consultations performed by this pregnant woman, evidencing flaws and making it difficult to prevent vertical transmission. (BRAZIL, 2010)

In cases where the pregnant woman is seropositive, it is necessary to make a treatment with antiretrovirals so that the viral load of the mother can be reduced and the fetus is not exposed to the virus, thus following a pregnancy with less risk. If the pregnant woman does not perform prenatal care, the chances of vertical transmission increase considerably, and the pregnancy will have more risks of complications. According to Abeyá et al. (2004), such implications can be presented as: premature rupture of the ovular membranes before labor begins; intrauterine growth lower than expected; puerperal infection; risk of intrauterine HIV transmission; among others.

Studies have been developed more and more over the years to find effective treatments or methods to reduce vertical transmission of HIV, ensuring a better quality of life for the affected baby.

> In situations in which antiretroviral therapy (ART) was not available and artificial breastfeeding was not promoted, it is known that the rate of vertical transmission could reach 35%. However, vertical transmission has progressively decreased in developed countries, from 14 to 5%, initially due to greater access to zidovudine (AZT) treatment. (AMARAL et al., 2007).

Global statistics show that 95% of new HIV infections occur in Eastern Europe and Central Asia and the Middle East and North Africa. In addition, 16% of new HIV infections are in Eastern and Southern Africa.

> The trajectory of HIV and AIDS around the world has spanned the last three decades, but only recently has the end of the epidemic been placed on the horizon of researchers, governments, sectors of organized civil society, and international organizations as a proposal for a feasible global goal for the year 2030, as recommended by UNAIDS. (MERCOSUR, 2015).

This goal was called 90-90-90 and consisted of having by 2020, 90% of people with HIV properly diagnosed, 90% undergoing treatment with antiretrovirals and 90% of the group has an undetectable viral load, which indicates the success of the therapeutic method applied and an eradication of the disease at a global level. (UN, 2015).

> To achieve the 90/90/90 goals, Brazil is committed to the expansion of rapid testing and the future availability of oral fluid testing in pharmacies, associated with the policy of offering antiretroviral treatment as prevention (TasP), ensuring people their right to choose to start treatment, regardless of CD4. (MERCOSUR, 2015).

Thus, the general objective of this research is to trace the epidemiological profile of seropositive pregnant women who conceived their children during maternity for high-risk delivery in the South Fluminense Region - RJ and to describe the epidemiological characteristics of HIV infection in pregnant women; to analyze the number of seropositive pregnant women in the time frame that the research deals with and to know the treatments that this pregnant woman was submitted.

The questions presented are part of the dilemmas that seropositive pregnant women face throughout the gestational period, delivery, and even in the immediate postpartum period. Given this, we will seek to understand to what extent the epidemiological profile of these pregnant women influences or not the evolution of infection and contamination of the fetus.

A study on the epidemiological profile of seropositive pregnant women is complex because it deals with intimate issues, involving sexuality, education, and other aspects such as their level of clarification about sexually transmitted diseases. Therefore, this study may contribute to giving greater clarity to these women about the characteristics of HIV infection in pregnant women, contributing to care focused on women's health care.

2 METHODOLOGY

This is a documental, retrospective, and exploratory research constituted through the medical records of seropositive parturients registered about maternity for high-risk delivery in the South Fluminense Region - RJ, separated by the institution's epidemiology service.

Only paper medical records of pregnant women with HIV registered between January 2015 and December 2017 were used. All complete and incomplete medical records were used, totaling twenty-one. Only medical records outside this mentioned period were excluded.

Data were collected from August to September 2018 with the help of an instrument previously structured by the researchers, which will contain information such as age group, color, education, gestational age, professional status, marital status, health status, origin, laboratory evidence of HIV, prenatal care, use of antiretrovirals as prophylaxis and during delivery, place of delivery, type of delivery, the evolution of pregnancy and when prophylaxis was initiated.

This information was organized based on epidemiological variables divided into three typologies: sociodemographic (age group, color, education, origin, professional status, and marital status), health (health status, type of delivery, date of delivery, evolution of pregnancy and date of onset of prophylaxis) and access to health services (prenatal care, place of delivery, use of antiretrovirals and period of serological evidence).

The study was submitted to the Research Ethics Committee (CEP) under the number CAAE: 294222218.8.0000.5237.

Documentary research is understood as a type of research that is based on documents that have not yet received an analytical filter, or that can be reworked according to their objectives.

> Another justification for the use of documents in research is that it allows adding the dimension of time to the understanding of the social. The documentary analysis favors the observation of the process of maturation or evolution of individuals, groups, concepts, knowledge, behaviors, mentalities, and practices, among others. (CELLARD, 2008)

We can cite as advantages of documentary research: rich and stable source of data, subsistence over time, low cost, and no requirement of contact with the research subjects. Among the limitations of this type of research are the non-representativeness and subjectivity of the documents.

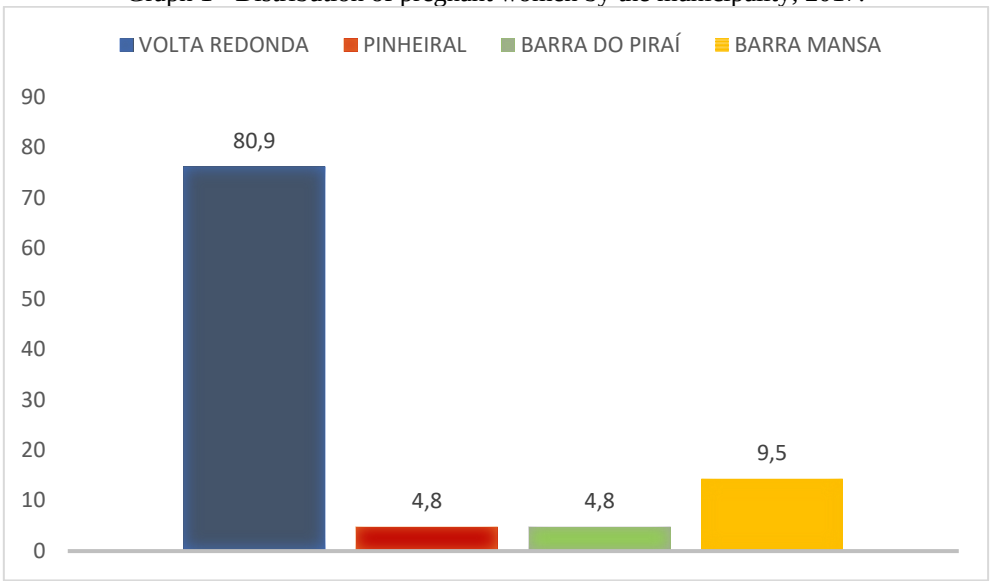
3 RESULTS AND DATA ANALYSIS

CATEGORY I: HIV-positive pregnant woman in focus

In the measurement of the data, it was verified that about the maternity of the research, an average of 2,000 deliveries are performed annually. From the medical records from 2015 to 2017, 21 medical records of seropositive pregnant women were found, with a total of six pregnant women in 2015, nine in 2016, and finally six pregnant women in 2017.

It was evident the origin of the twenty-one pregnant women carrying the virus, seventeen of whom are from the city of Volta Redonda (80.9%), two from the city of Barra Mansa (9.5%), only one from the city of Pinheiral (4.8%) and one from Barra do Piraí (4.8%).

Graph 1 - Distribution of pregnant women by the municipality, 2017.

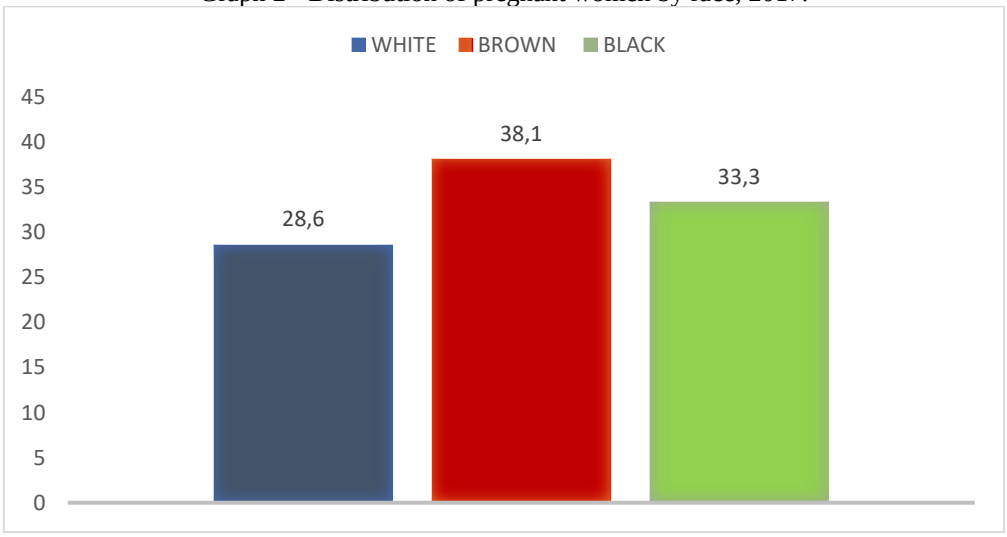


Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

The age range found in the analysis was from 21 to 40 years with a mean of 31 years. This investigation is close to the data described by the 2011 Epidemiological Bulletin (BRASIL, 2011) in which it finds that "the highest proportions of pregnant women infected by HIV are concentrated in the age group of 20 to 29 years."

In this research, it was evident in eight of these women a predominance of seropositivity in brown skin color (38.1%); seven were black (33.3%) and six were white (28.6%). Due to racial miscegenation, black and brown women have suffered over the centuries social exclusion and prejudice, thus favoring the low socioeconomic situation of these women, leading them to a greater vulnerability of exposure to contract certain infections, such as HIV for example. Acosta et al. (2016) ratify this idea by reporting that "black and brown women have higher prevalences of HIV infection".

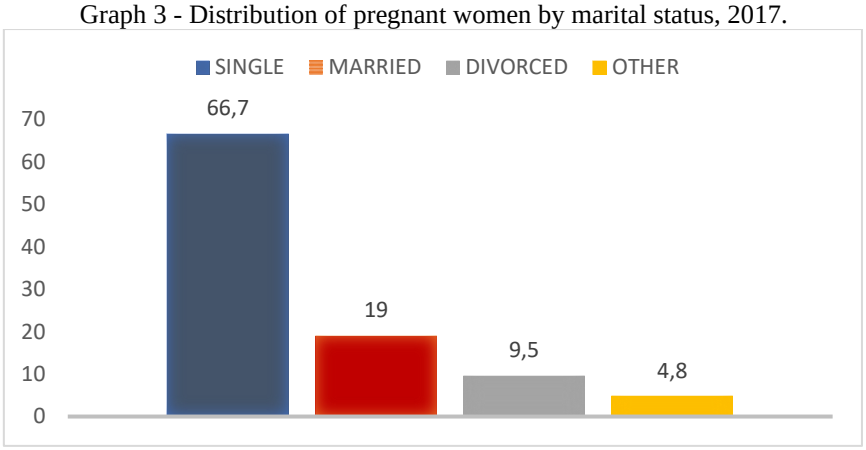
Graph 2 - Distribution of pregnant women by race, 2017.



Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

Composing the data on marital status, fourteen pregnant women (66.7%) are single; four are married (19%); two are divorced (9.5%); and one did not obtain information in the medical records (4.8%). The culture, the environment of coexistence, and the family structure, directly influence the affective and emotional part of each human being, this explains the marital status of the pregnant women reported in this study because they come from a fragmented cultural and family coexistence.

Graph 3 - Distribution of pregnant women by marital status, 2017.

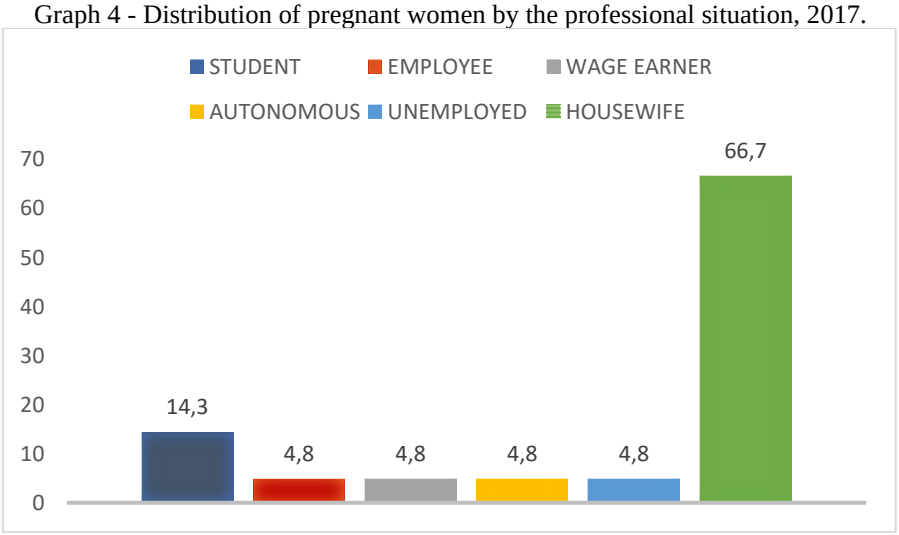


Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

Regarding occupation, fourteen pregnant women (66.7%) called themselves home; three are students (14.3%); one employee (4.8%); one employee (4.8%); one is autonomous (4.8%), and one unemployed. (4,8%).

> Although women have been incorporated into the labor market in unprecedented proportions in recent decades (at least, in part, through middle-class families, in which the presence of a second member with a source of income has become necessary as a strategy to maintain the standard of living in a context of increasing economic polarization and real wages declining), the face of poverty, and in particular misery, has increasingly become the face of women excluded not only due to class- and ethnicity-based oppression but also gender-based oppression. (PARKER; CAMARGO, 2000).

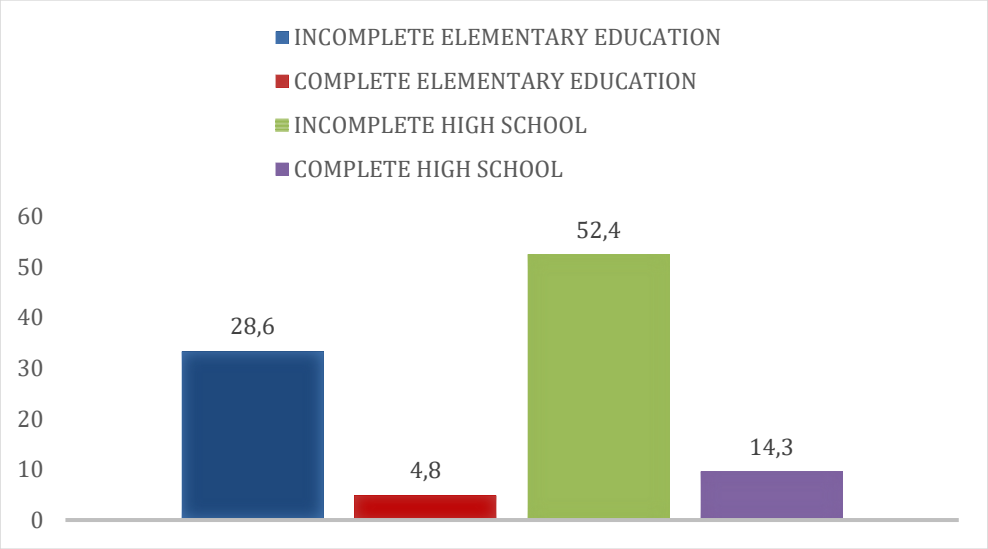
Graph 4 - Distribution of pregnant women by the professional situation, 2017.



Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

According to the 2014 Epidemiological Bulletin (BRASIL, 2014), the majority of pregnant women living with HIV in Brazil have incomplete elementary education, representing (31.6%) of the cases reported by the end of 2013. On the other hand, in the study it was observed that the predominance of schooling of eleven pregnant women was incomplete high school (52.4%); six with incomplete elementary education (28.6%); three with complete high school education (14.3%); and one with complete elementary education (4.8%). This demonstrates an increase in the level of education in these pregnant women. This may be related to the age group that also increased, evidencing that these women had more time to qualify.

Graph 5 - Distribution of pregnant women by the level of education, 2017.

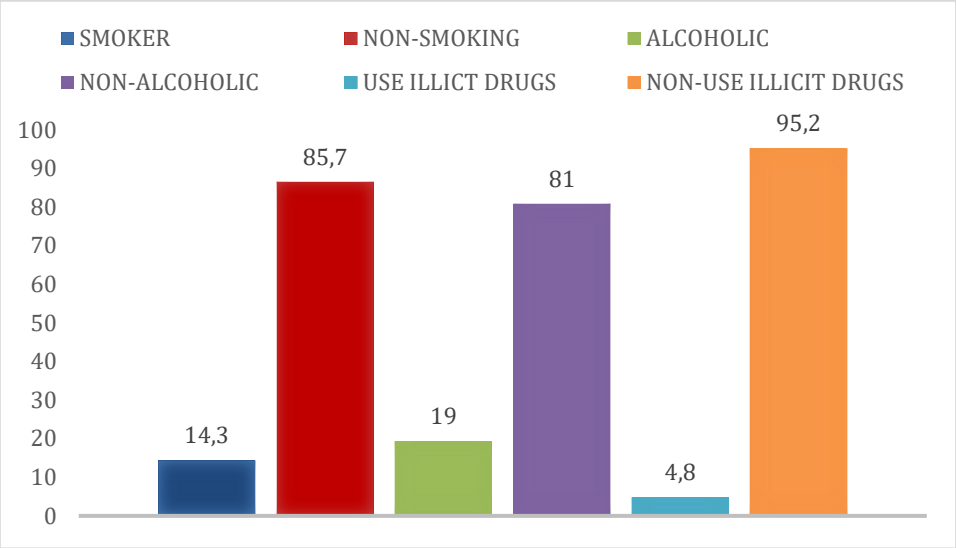


Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

Regarding the health criterion, it was identified that three of them are smokers (14.3%) and eighteen (85.7%) do not use cigarettes. Four (19%) are alcoholics and seventeen (81%) do not drink alcohol. Only one pregnant woman in the study (4.8%) uses illicit drugs. The other twenty pregnant women (95.2%) do not have this type of addiction. It is necessary to bring information to the pregnant woman, proving the harm of the use of these drugs and the consequences that they can bring to the fetus, since with HIV these habits become a little more complex.

> The use of drugs in the gestational period is recurrent. Even after a pregnancy, the use of drugs is continuous, because the drug causes dependence. Despite the campaigns focused on the importance of not using drugs during pregnancy, there is a significant lack of awareness among women. (LIMA et al., 2017)

Graph 6 - Distribution of pregnant women according to health status, 2017.



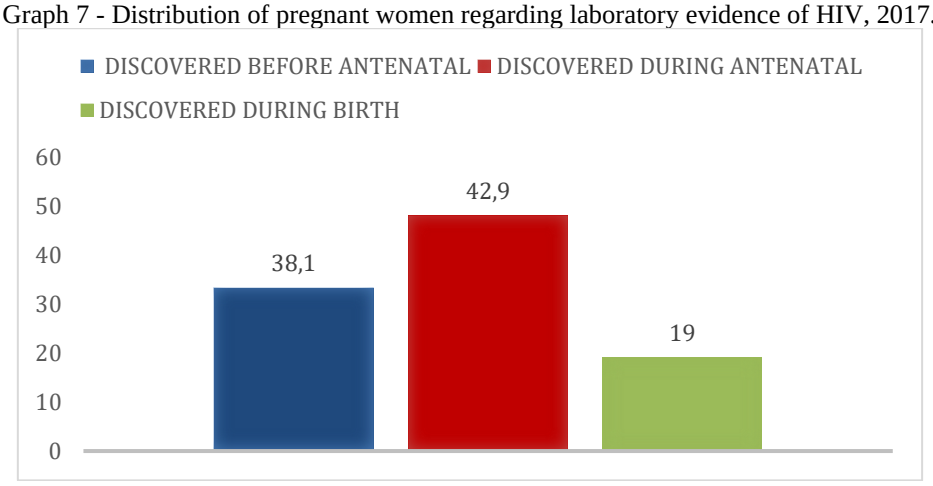
Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

CATEGORY II: Seropositive pregnant women: Diagnosis and treatment

Although it was difficult to inform the medical records about the period in which the patient had a laboratory diagnosis of HIV, we obtained information that nine pregnant women (42.9%) discovered HIV during prenatal care through laboratory tests and rapid tests, eight (38.1%) discovered it before prenatal care, four discovered seropositivity during childbirth (19%). These diagnoses were possible due to the access available in the health service and the institutionalization of a ministerial protocol for the care of pregnant women in primary care measures that increasingly favor early treatment, reducing vertical contamination.

> The possibility of performing tests to verify a possible positive or not diagnosis for HIV in a single consultation, with the rapid test, eliminates the need for the pregnant woman to return to the health service to know her serological status. In addition, it enables the immediate reception in the SUS of pregnant women living with HIV. In addition, these tests do not require a laboratory structure or specialized personnel, in addition to providing the result in a time of less than 30 minutes. (BRAZIL, 2010).

Graph 7 - Distribution of pregnant women regarding laboratory evidence of HIV, 2017.

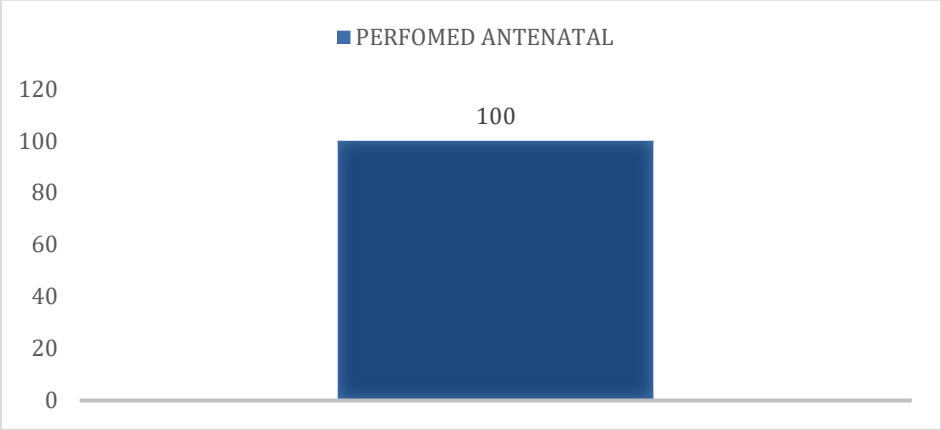


Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

Twenty-one pregnant women (100%) underwent prenatal care according to the data found in the medical records, which demonstrates a greater commitment of these to their children, whose purpose was to reduce the chance of transmitting HIV vertically.

> The Sentinel-Parturient Study, conducted by the then National STD and AIDS Program (current Department of STD, AIDS, and Viral Hepatitis) in 2004, [...] revealed that the performance of prenatal care reached 96% among the participants [...]. In 2006, a new study was conducted [...] in which it was observed that there was no change in the prevalence estimate, as well as in the frequency of prenatal care (96%). (BRAZIL; 2010)

Graph 8 - Distribution of pregnant women regarding prenatal care, 2017.



Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

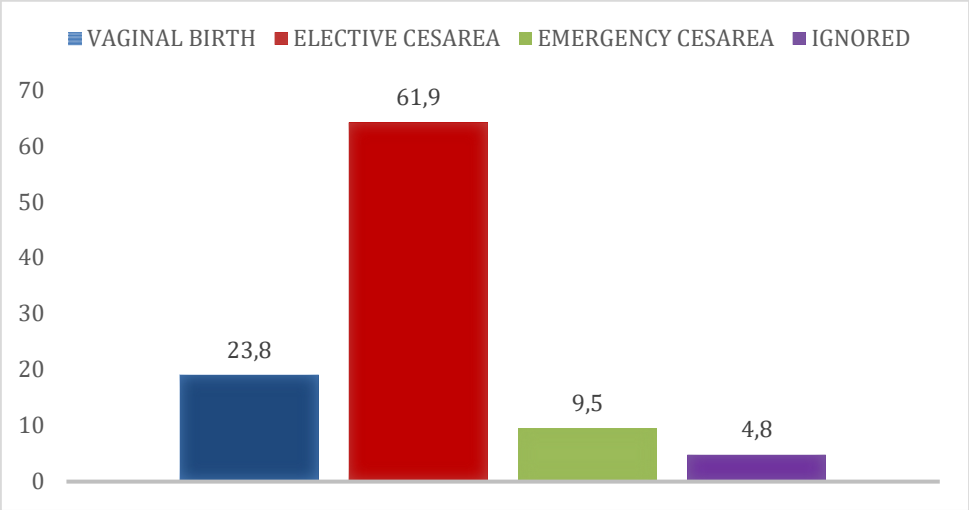
The Ministry of Health recommends that there be "at least six prenatal consultations, preferably one in the first trimester, two in the second trimester, and three in the third trimester of pregnancy" (BRASIL, 2006). In this study, we obtained pregnant women performing between four and ten consultations with an average of seven consultations, which indicates a greater control of the reduction of Vertical HIV.

According to the data collected in the research, thirteen (61.9%) of the deliveries performed in the maternity hospital mentioned in this study were by elective cesarean section; five (23.8%) were vaginal deliveries; two (9.5%) conceived their children by emergency cesarean section and only one (4.8%) was not informed in the medical records.

> Perform elective cesarean section (with 38 full weeks, intact membranes, and out of labor) for all HIV+ pregnant women attended in the prenatal period, respecting the patient's autonomy to decide her preference for the type of delivery, after being informed of the current knowledge about vertical transmission. (RUOCCO, 2001)

However, it is not contraindicated that pregnant women with HIV have vaginal delivery, according to the Ministry of Health "if the conditions of the cervix are favorable and the pregnant woman is using ART, with a viral load below 1,000 copies/ml, the mode of delivery may be vaginal" (BRASIL; 2010).

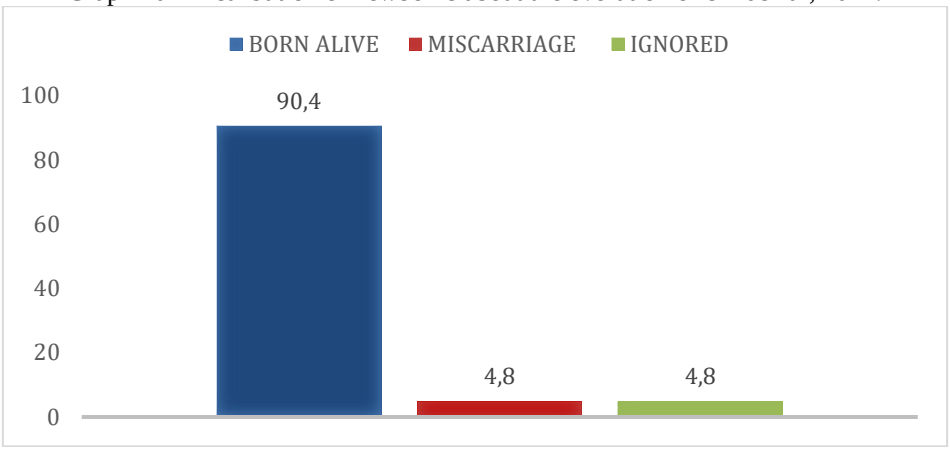
Graph 9 - Distribution of pregnant women according to the type of delivery, 2017.



Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

According to the evolution of delivery, we obtained results from nineteen live births (90.4%), one abortion (4.8%) and one there was no information in the medical record (4.8%).

Graph 10 - Distribution of newborns about the evolution of childbirth, 2017.



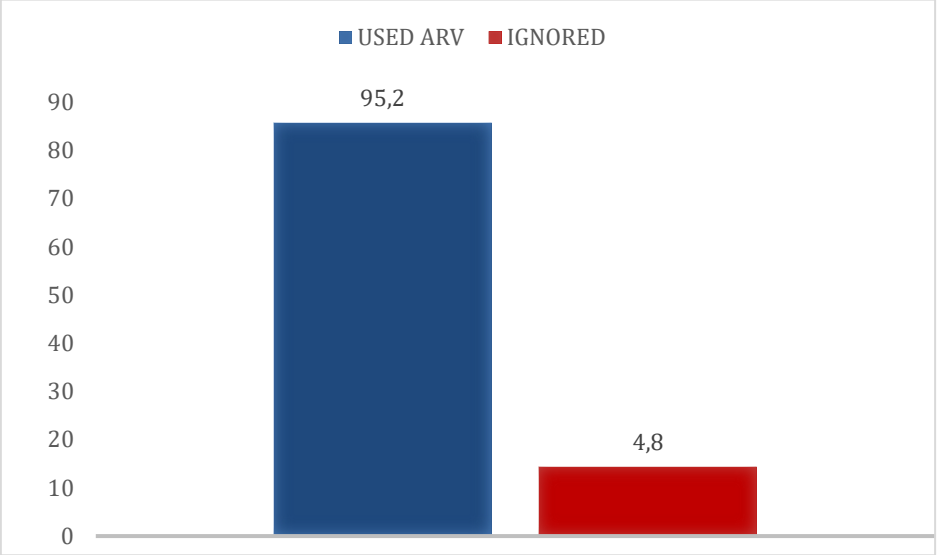
Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

The information collected was that twenty pregnant women who conceived their children alive (95.2%) received an antiretroviral attack dose before and during delivery. According to the ministerial protocol:

> All pregnant women, regardless of the type of delivery, should receive intravenous (IV) AZT from the beginning of labor or at least 3 hours before elective cesarean section, to be maintained until umbilical cord clamping. During labor, or on the day of the scheduled cesarean section, keep the oral antiretroviral drugs (ARV) used by the pregnant woman, at their usual times, regardless of fasting, ingested with a small amount of water, including during the period of intravenous infusion of zidovudine (AZT). The only drug that should be discontinued up to 12 hours before the start of intravenous AZT is d4T (stavudine). Pregnant women with previously documented AZT resistance and who have not used it during pregnancy should receive intravenous (IV) AZT at delivery (unless they are allergic to the drug) and their NB should receive the oral solution, according to the recommended regimen. (BRAZIL; 2010, p.110).

One (4.8%) did not have information in the analyzed medical record, but the possibility of having been administered the dose to the newborn is not excluded, since there is a very recurrent lack of information in the medical records.

Graph 11 - Distribution of pregnant women who received antiretroviral before and during delivery, 2017.

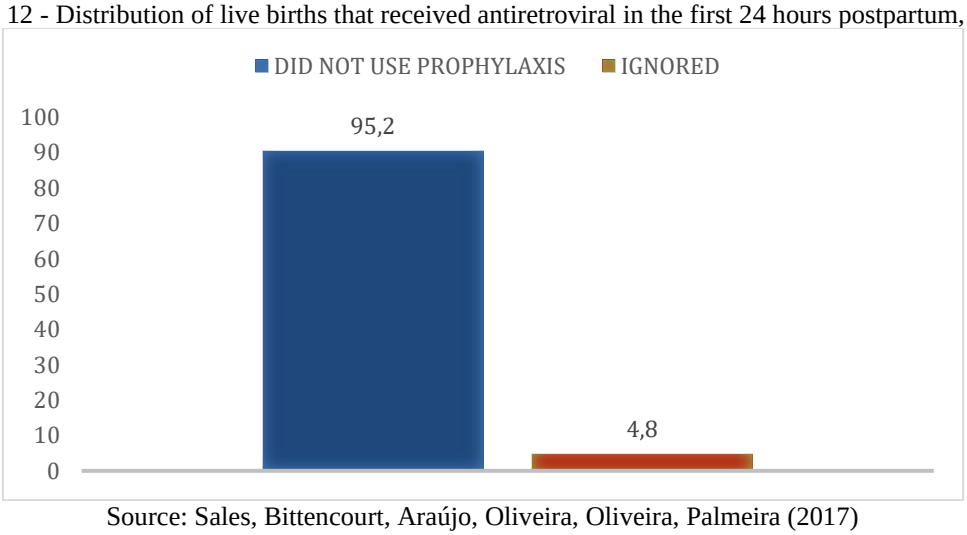


Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

Of the live births, twenty (95.2%) received a dose of ARV in the first 24 hours postpartum, and one (4.8) had no information. This demonstrates the adoption of the ministerial protocol by health professionals.

> The newborn should receive zidovudine oral solution, preferably still in the delivery room, soon after immediate care, or in the first 2 hours after birth, and treatment should be maintained during the first 6 weeks of life (42 days). (BRAZIL; 2010).

Graph 12 - Distribution of live births that received antiretroviral in the first 24 hours postpartum, 2017.



Source: Sales, Bittencourt, Araújo, Oliveira, Oliveira, Palmeira (2017)

4 FINAL CONSIDERATIONS

At the end of this study, it was evident that the epidemiological profile of pregnant women in the maternity hospital reference of the research, located in the South Fluminense region - RJ is composed of women with an unfavorable socioeconomic situation, level of education up to high school, does not have a defined profession, age group predominantly between 30 years. They are women from a fragmented family structure and this is directly linked to their vulnerability to contracting HIV infection and even other infections. It was observed a commitment of these women in the search for health services and the interest in performing prenatal care, to preserve the health of their child who is being generated.

Brazil, through the Ministry of Health, has invested in women's health care policies, creating prenatal care protocols with the provision of kits for HIV serology testing, to increasingly contribute to the eradication of vertical transmission of this infection. These measures are by PAHO/WHO, which aims to eradicate this type of transmission by 2030 in the world.

We should take as an example of countries Cuba and Thailand, which are underdeveloped, with little technological infrastructure, yet are pioneers in this eradication.

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