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Prevention Of Mother-To-Child Transmission Of HIV (PMTCT) At The Issaka Gazoby Maternity Hospital, A Reference Maternity Hospital In Niger

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Abstract
Introduction : *The objective was to report on the situation regarding the prevention of mother-to-child transmission of HIV (PMTCT) and the maternal-fetal prognosis in a reference maternity hospital in Niger.*
Methods : *This was a cross-sectional study with retrospective data collection conducted at the Issaka Gazoby maternity hospital in Niamey (Niger) over a period of four years (from 1 January 2020 to 31 December 2023). Data from 115 HIV-positive pregnant women and women in labour were collected and analysed.*
Results : *The prevalence of HIV infection among pregnant women was 0.37%. The average age was 32.16 years (range: 20 to 43 years). The patients were uneducated (40.87%), lived in a monogamous household (55.65%) and were unemployed (58.26%, 67 cases). The average number of pregnancies was 3.97 (range: 1 to 10), and the average number of births was 2.5 (range: 0 to 7). More than half of the patients attended antenatal care regularly (≥4 antenatal visits) (54.78%). The pregnancy was mono-fetal in 97.39% of cases. They had given birth at term in 84.35% of cases. The HIV diagnosis had been made during pregnancy in nearly eight out of ten patients (78.26%). HIV 1 was observed in 93.91% of patients, HIV 2 in 54.35%, and 1.74% of patients were infected with both HIV 1 and HIV 2. The CD4 count was ≤ 499 in 55.07% of cases. ARV treatment during pregnancy was effective in 92.17% of patients, 72.17% of whom received triple therapy (AZT+3TC+EFV). More than six out of ten patients (65.22%) gave birth by caesarean section. ARV treatment during labour was administered to 66.04% of women in labour. The average birth weight was 2,856.7 g, with extremes of 1,200 and 3,900 g. Exclusive breastfeeding was practised in 98.23% of newborns. In the postpartum period, all live newborns were placed on ARV treatment for three months in the case of artificial feeding and up to three months after weaning in the case of exclusive or mixed breastfeeding. No maternal deaths were observed. Perinatal mortality was 4.23%. The mother-to-child transmission rate of HIV was 0%.*
Conclusion : *Pregnancy in women living with HIV is not uncommon in our department. Care is codified and leads to a better maternal and perinatal prognosis with a mother-to-child transmission rate of the virus that is close to zero, if not zero, as shown in this study.*
Keywords : *Pregnancy, HIV, Mother-to-child transmission, Niger*

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I. Introduction

HIV infection remains a major public health problem worldwide, particularly in Africa. According to the WHO, 39.9 million people were living with HIV worldwide in 2023 [1]. Women and girls accounted for 44% of new HIV infections in 2023, and 62% of this population lived in sub-Saharan Africa. [1]. The main modes of transmission of the virus are unprotected sexual intercourse, exposure to contaminated blood, and transmission from mother to child during pregnancy, which is a significant route of HIV transmission in the population. Each year worldwide, an estimated 1.4 million women living with HIV become pregnant. Without treatment, the rate of mother-to-child transmission of the virus varies from 15 to 45%. This transmission can occur during pregnancy, during labour or during breastfeeding. [2] Mother-to-child transmission of HIV can be zero or less than 1% with the administration of antiretroviral drugs to mothers and children [3]. In Niger, there were 31,537 people living with HIV in 2024, and the number of HIV-positive pregnant women was estimated at 1,864 in 2019, with a mother-to-child transmission rate of 23.31% [4]. Niger has developed a national programme for the prevention

of mother-to-child transmission of HIV (PMTCT) through ART for pregnant women and children exposed to HIV and the use of artificial feeding or exclusive breastfeeding limited to the first three months of the child's life [5]. This programme has led to a significant reduction in the mother-to-child transmission rate of HIV in Niger, which fell from 23.31% in 2019 to 3.45% in 2020. [5]

The objective was to report on the situation regarding the prevention of mother-to-child transmission of HIV (PMTCT) and the maternal-foetal prognosis in a referral maternity hospital in Niger.

II. Patients And Methods

Type, period and setting of the study: This was a cross-sectional study with retrospective data collection over a period of four years (1 January 2020 to 31 December 2023). The study was conducted at the ISSAKA GAZOBY maternity hospital in Niamey, Republic of Niger (a level 3 maternity hospital located in the country's capital).

Study population and sample: The population consisted of all pregnant women or women in labour living with HIV and their newborns who were registered at the Issaka Gazoby maternity hospital during the study period. The sample consisted of 115 patients.

Inclusion criteria: All HIV-positive pregnant women, women in labour and breastfeeding women registered and monitored at the Issaka Gazoby maternity hospital in Niamey were included in the study. These patients were either previously known to be HIV-positive or tested HIV-positive during pregnancy or at the time of delivery. Newborns from these pregnancies were also included in the study.

Exclusion criteria: Patients who met the inclusion criteria but had incomplete or unusable obstetric and/or neonatal records were not included in the study.

Variables studied: For each patient, we studied variables related to: socio-economic characteristics (e.g. age, weight, height, level of education, lifestyle, medical history), clinical factors (clinical stage, viral load), therapeutic factors (ARV treatment), obstetric factors (gestation, parity, prenatal care, mode of delivery), and maternal prognosis. The study also examined variables related to newborn parameters (birth weight, Apgar score, ARV prophylaxis, mother-to-child transmission of HIV). Mother-to-child transmission was investigated using a PCR test at birth, at 3 months in cases of artificial feeding, and at 3 months after weaning in cases of exclusive or mixed breastfeeding (i.e. on day 1 of life, at 3 months and at 6 months). A child is considered uninfected when the last PCR test is negative.

Data collection method: Data collection was retrospective and based on medical records. We used a form designed for this purpose, which was completed using the obstetric records of patients and children, as well as the records of the mother-to-child transmission prevention service (PTME).

Statistical analysis: Data were entered into Microsoft Word and analysed using Epi Info Version 7.2.4.0. Pearson's chi-square test was used to compare proportions. The test is significant for a P-value of $P < 0.05$.

Ethical considerations: The study was authorised by the Ethics Committee of Abdou Moumouni University in Niamey and the Administrative Directorate of the Issaka Gazoby Maternity Hospital in Niamey. Written consent from patients was not required due to the retrospective nature of the study.

III. Results

Out of a total of 30,806 deliveries recorded in the department, 115 patients were HIV-positive, representing a prevalence of 0.37%. Table 1 presents the socio-epidemiological characteristics of the patients.

Table 1 : Distribution of patients according to their socio-epidemiological characteristics

Variables	Effective	Percentage
Age (years)		
20-25	18	15,65
26-29	26	22,61
30-35	35	30,43
36-40	32	27,83
>40	4	3,48
Level of education		
No schooling	47	40,87
Primary	35	26,96
Secondary	16	13,91

Higher	16	13,91
ND	5	4,35
Type of household		
Monogamous	64	55,65
Polygamous	10	8,70
Undeclared	41	35,65

Table 2: Distribution of patients according to obstetric follow-up and clinical-biological parameters

Variables **Number of prenatal care**	**Effective**	**Percentage** (%)
0	2	1,74
1-3	50	43,48
≥4 **Période of discovery of VIH infection**	63	54,78
During childbirth	0	0
During pregnancy	25	21,74
Before pregnancy	90	78,26
Serology test		
HBs antigen	74	64,35
Bordet-Wassermann sérologie	71	61,74
CD4 Count	69	60
Value of CD4		
≤499	38	55,07
≥500	31	44,93

Table 3 : Therapeutic aspects and prognosis in patients

Variables **Anti retro viral treatment**	**Effective**	**Percentage** (%)
monotherapy	29	25,22
bitherapy	3	2,61
tri therapy	83	72,17
none	9	7,83
Term of pregnancy		
≥ 37 SA	98	84,35
< 37	18	15,65
Term of pregnancy		
monofetal	112	97,39
Twin	3	2,61
Method of delivery		
low track	75	65,22
cesarean section	40	34,78
ARV prophylaxis in newborns		

ARV received	113	97,35
ARV not received	3	2,61
Pronostic		
Uninfected newborns	113	95,76
stillborn	3	2,54
Neonatal death	2	1,69
Maternal death	0	0

IV. Discussions

Our study provides insight into the prevalence, maternal-fetal care and prognosis of pregnancy in a population of women living with HIV.

The prevalence of HIV infection during pregnancy is 0.37% in our study. This rate is lower than those found by NAMAIWA B. in 2020 [6] and BAOUA [7] in 2012 in the same department, which were 0.41% and 1.06% respectively. Our rate is also lower than that of DIAKITE M in Mali [8] in 2016, who found a rate of 4.3%. In the same department, Lankonde et al [5] reported a prevalence of 0.41% from 2016 to 2019.

The decrease in this rate may be linked to the population's good understanding of this disease and the means of prevention, but also to the fact that MIG is a third-level referral facility.

In our study, most of the patients were uneducated (40.87%). Our results are lower than those of NAMAIWA.B in 2020 [6], who found that 61.21% of women were uneducated. This implies the need to increase efforts to raise awareness among the population about the disease and the risks of vertical transmission.

In our study, the majority of patients (54.78%) had attended four or more antenatal consultations. Our results are higher than those of NAMAIWA B [6] in Niger in 2020, who found that 36.21% of patients had attended four antenatal consultations. In contrast, CAMARA M [9] in Mali in 2022 found that 74.6% of patients had attended four or more antenatal consultations. The finding is that the majority of patients understood the importance of obstetric care.

In our study, a large proportion of patients were aware of their HIV+ serological status before pregnancy (78.26%). Our results are higher than those of OUASSOU.S [10] in Morocco, who found that 54% of patients were aware of their HIV+ serological status before pregnancy. This is important for the implementation of PMTCT.

In our series, HIV-1 was the most common, accounting for 93.91% of cases, followed by HIV-2 with 4.35% of cases, and HIV-1 and HIV-2 co-infection was observed in 1.74% of patients. OUASSOU S [10] in Morocco found 83% HIV-1 and 16% HIV-2.

In our study, 92.17% of patients had received ARV treatment during childbirth. Our results are higher than those found by NAMAIWA.B [6] in 2020 and GAGARA [11] Men 2014, both in Niger, who found 53.70% and 76.47% respectively. This can be explained by early diagnosis, the availability of ARVs, improved quality of care and patient adherence to PMTCT.

In our series, all newborns (97.45%) had received ARV prophylaxis at birth. Our results are similar to those found by SEYDOU S [12] in Mali in 2008, where 100% of newborns received ARV prophylaxis.
In our study, 98.23% of babies were exclusively breastfed during the first six months of life.

Our results show that 113 newborns were discharged alive (95.76%). We observed a perinatal mortality rate of 4.23% (5 cases/118).

In our series, the mother-to-child transmission rate of HIV was 0%. To our knowledge, no African study has reported a zero mother-to-child transmission rate of HIV. In the NAMAWA.B study [6] in 2020, the mother-to-child transmission rate was 3.45%. This rate is 1.6% for CAMARA M. in 2022 in Mali [9]. These results are the fruit of good monitoring of women and adequate care, but also and above all the adherence of women to PMTCT.

V. Conclusion

This study shows that HIV infection in pregnant women is not uncommon in our department. However, maternal and perinatal prognosis can be improved with early screening, appropriate care and optimal monitoring of the pregnancy. This could lead to a negligible, or even zero, mother-to-child transmission rate, as shown in this study.

Conflict of interest: There is no conflict of interest between the authors.
Authors' contributions: All authors participated in the writing of the article.They contributed to its development and read and approved the final version of the document.

Data availability: Additional data are available from the corresponding author.

References

[1]. Unaids. Joint United Nations Programme On Hiv/Aids. Fact Sheet—Latest Statistics On The Status Of The Aids Epidemic [Online] Accessed January 12, 2025https://Www.Unaids.Org/Fr/Resources/Fact-Sheet.

[2]. Sidaction. How Hiv/Aids Is Transmitted [Online] Accessed October 14, 2025https://Www.Sidaction.Org/Information/Comment-Se-Transmet-Le-Vih-Sida/

[3]. Who. Pmtct/Hiv/Aids [Online] June 30, 2015https://Www.Who.Int/Fr/News/Item/30-06-2015-Who-Validates-Elimination-Ofmother-To-Childtransmission-Of-Hiv-And-Syphilis-In Accessed October 13, 2025.

[4]. Ministry Of Public Health, Population, And Social Affairs Global Progress Report On Aids 2020.National Progress Report-Niger [Online] Https://Www.Unaids.Orgaccessed October 22, 2025.

[5]. Lankoandé Salifouz, Maina O, Guédé S, Magagi R, Hamidou Soumana D, Maizama Gouara A Et Al. Hiv Infection And Pregnancy In Niger: Current Situation At The Issaka Gazoby Maternity Hospital In Niamey. Annals Of The University Of N'djamena. Special Issue - May2024, 171-181

[6]. Namaiwa B. Hiv And Pregnancy At The Issaka Gazoby Maternity Hospital. Doctoral Thesis In Medicine 2020.Faculty Of Science And Health. Abdou Moumouni University Of Niamey (Niger),

[7]. Baoua A. Hiv/Aids And Pregnancy. Doctoral Thesis In Medicine 2012. Faculty Of Science And Health. Abdou Moumouni University Of Niamey (Niger).

[8]. Diakite M. Study Of Hiv Seroprevalence Among Pregnant Women At The Reference Health Center In Commune Vi Of The Bamako District. Doctoral Thesis In Medicine2016. Fmos Of Bamako (Mali).

[9]. Camara M. Epidemiological, Clinical, And Biological Study Of Hiv Infection In Pregnant Women Followed At The Maternity Ward Of The Reference Health Center Of Commune Ii Of The District Of Bamako. Doctoral Thesis In Medicine 2023. Fmos Of Bamako (Mali).

[10]. Ouassou S: Hiv And Pregnancy: Care Of Hiv-Positive Pregnant Women In The Gynecology And Obstetrics Ii Department At Hassan Ii University Hospital (Based On 24 Cases) Doctoral Thesis In Medicine 2018.

[11]. Gagara M Hiv And Pregnancy In The Gynecology-Obstetrics Department Of The Issaka Gazoby Maternity Hospital In Niamey. Des Thesis In Gynecology-Obstetrics 2015. Faculty Of Science And Health. Abdoul-Moumouni University Of Niamey.

[12]. Seydou S. Management Of Hiv/Aids Infection During Pregnancy In The Gynecology And Obstetrics Department Of The Nianankoro-Fomba Hospital In Ségou. Doctoral Thesis In Medicine, 2008, Mali.