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# Reduction of Vertical Transmission of HIV in the Dominican Republic: Benefits of Early Presentation for Prenatal Care

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## **Authors**

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## **Comments**

Medical student Ingrid Liff participated in this study as part of the Senior Scholars research program.





# REDUCTION OF VERTICAL TRANSMISSION OF HIV IN THE DOMINICAN REPUBLIC: BENEFITS OF EARLY PRESENTATION FOR PRENATAL CARE

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## Background

The impact of HIV infection on maternal and infant mortality in the Dominican Republic is unknown. The prevalence of HIV infection among pregnant women in the Dominican Republic is 1-2%, and over two-thirds of women receive prenatal care (1,2). It is estimated that 15% of all deliveries in the Dominican Republic occur at the Hospital Maternidad Nuestra Señora de la Altagracia in Santo Domingo, making this the highest-volume maternity hospital in the country (3).

## Objectives

We conducted a study to compare the impact of HIV infection on pregnant women receiving prenatal care including highly active antiretroviral therapy (HAART) versus women who were not identified as HIV positive until the time of delivery. All research took place at the Hospital Maternidad Nuestra Señora de la Altagracia (Altagracia), Santo Domingo, DR.

## Methods

We performed a retrospective chart review at the Office of Reduction of Vertical Transmission of HIV at the Altagracia. All deliveries May-September, 2009, were included. Data were compared to a record book listing monthly deliveries of HIV infected women.

Data points included: patient age at time of presentation to the PMTCT clinic or at the time of initial presentation for delivery; gestational age at time of presentation; gestational age at start of HAART; mode of delivery; whether a woman was less than 20 years old at time of presentation; whether she gave birth to a living child; and treatment the child received after delivery.

All data were collected in a de-identified manner by Ingrid Liff, a senior medical student at the University of Massachusetts Medical School. This study was approved by the IRB at the University of Massachusetts. (IRB Exempt status #13713).

## Results

Between May and September, 2009, we identified 91 HIV positive women who delivered at the Altagracia. Forty-nine women (54%) received prenatal care through the Office for Reduction of Vertical Transmission of HIV. All of these 49 women received HAART prior to delivery. Of these 49 women, 80% underwent Cesarean delivery, and 12% were adolescents (<20 years old). There was no infant mortality in this group (Figure 1).

Forty-two women (46%) were identified as HIV infected at the time of labor, and only 7% of these women received HAART prior to delivery. Sixty-two percent of these women received no treatment for HIV infection prior to delivery. Seven percent received single dose nevirapine and 14% received Colita (4). Of these 42 women, 48% underwent Cesarean delivery, 21% were adolescents (<20 years old), and there were 2 infant deaths (Figure 2).

According to data collected at the time of delivery, all living newborns delivered to the HIV positive mothers in our study received treatment with a 6-week course of zidovudine (AZT) per national protocol. All of the newborns also received formula at the time of delivery and were not breastfed.

**Figure 1** Patients who received prenatal care through the Program for Reduction of Vertical Transmission of HIV at the Hospital Maternidad Nuestra Señora de la Altagracia

Total patients											
49											
Patients who received TARGA	%	Patients treated only with NVP	%	Patients treated only with Colita (AZT/3TC/NVP)	%	Patients who received no treatment					
49	100%										
Vaginal births	%	Cesarean deliveries	%	Adolescent mothers (age < 20)	%	Number of live births	Children who received treatment with AZT	%	Children formula fed only	%	
10	20%	39	80%	6	12%	50	50	100%	50	100%	

**Figure 2** Patients who did not receive prenatal care through the Program for Reduction of Vertical Transmission of HIV at the Hospital Maternidad Nuestra Señora de la Altagracia

Total Patients											
42											
Patients who received TARGA(5)	%	Patients treated only with NVP	%	Patients treated only with Colita (AZT/3TC/NVP)	%	Patients who received no treatment					
3	7%	7	17%	6	14%	26	62%				
Vaginal births	%	Cesarean deliveries	%	Adolescent mothers (age < 20)	%	Number of live births	Children who received treatment with AZT	%	Children formula fed only	%	
22	52%	20	48%	9	21%	40	40	100%	40	100%	

## Conclusions

This observational study emphasizes the need for a more aggressive approach to identify HIV infected pregnant women prior to labor. In this cohort, all HIV positive pregnant women who received prenatal care at the PMTCT clinic received HAART prior to delivery, as opposed to those who were identified during labor.

Until recently, newborns born at the Altagracia were lost to follow-up. At this time there is no data on whether the infants in this study population are HIV positive. Further research is warranted to uncover the rate of vertical transmission at the Hospital Maternidad Nuestra Señora de la Altagracia in Santo Domingo.

## References

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3. Secretaria de Estado de Salud Pública y Asistencia Social Subsecretaría de Planificación y Desarrollo (SESPAS). Informe Estadístico, 2008.
4. Colita refers to single dose nevirapine prior to delivery, followed by a tail of triple therapy for seven days after delivery.
5. These 3 patients are women who presented to the Altagracia prior to delivery and were started on HAART at that time, or women who received prenatal care including HAART at an outside institution.