RISK OF VERTICAL TRANSMISSION FROM MOTHERS WITH PERINATAL HIV INFECTION IN ZIMBABWE

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Goverwa Sibanda TP [1], Monera-Penduka T. [1,6], Gonzalez Perez J[4] , Gunguwo H[3], Ngwenya S[2], Ndebele W[3] , Chikwati E[1] , Ndlovu M[3] , Chuykov A[5] , van den Hombergh J[7]

[1] AHF Zimbabwe; [2] Mpilo Central Hospital, Bulawayo Zimbabwe; [3] National University of Science and Technology Zimbabwe; [4] AHF Africa Bureau; [5] AHF Europe Bureau;, [6] School of Pharmacy University of Zimbabwe College of Health Sciences; [7] AHF Global Program

Background

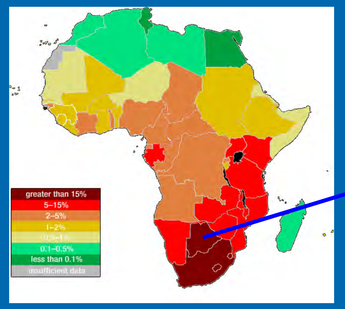

Fig 1: Estimated HIV prevalence in Africa, 2015 (UNAIDS)

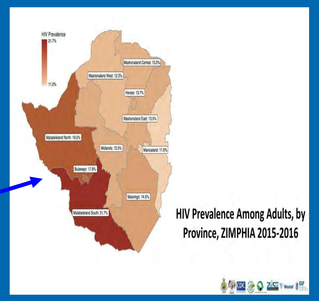

Fig 2: HIV prevalence , Zimbabwe (ZIMPHIA 2017)

Zimbabwe – high HIV prevalence (13.7% ZIMPHIA 2017)

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- ✓A pioneering site in Antiretroviral Treatment (ART) roll-out for paediatric clients into the public sector since 2004
- ✓High volume ART site – 11,200 patients in care and more than 3,000 young people and adolescents living with HIV

- Two decades into the Zimbabwe ART program, a number of the children perinatally infected with HIV have reached reproductive age and an increasing number of pregnancies among this cohort have been observed in the past few years.
- Young women perinatally infected with HIV (PHIV) have recently been considered as an emerging at-risk population for Mother to child transmission (MTCT) due to increased risk of unsuppressed viral load (VL) during pregnancy (Goodenough, 2018).
- However, studies from Sub-Saharan Africa on this subject are scarce.
- Here we analyze data from one of the largest cohorts of PHIV young women in Southern Africa.

Permission and Ethical Considerations

- Permission was sought from all relevant authorities and all ethical considerations were observed

Methods

Description

All pregnant women perinatally infected and active in HIV care by April 2019 in Mpilo Central Hospital were included in the study.

Inclusion criteria

- Perinatally HIV infected women* on ART active in care >=18 years' old
- At least one pregnancy in the last five years
- All of them were offered to participate in the study.
- A random sample of the same size of HIV positive women not perinatally infected (20 years or above at the time of enrolment) was generated from the EMR and also offered to participate

** Perinatally HIV infected women are defined as women who were age 14 ys or younger at the time of HIV diagnosis*

Results

- Out of 564 PHIV women in the ART clinic database, 193 met the inclusion criteria and all 193 accepted to be interviewed and provided complete information on 212 pregnancies.
- Similarly, 203 non-perinatally infected HIV positive (non-PHIV) women were interviewed yielding 229 pregnancies.
- Women in the PHIV group were younger (median age 23 years old versus 37 in non-PHIV) and have been longer in HIV care at the time of pregnancy (median 11 years versus 9 in non-PHIV).
- 63% of all participants had a VL test in the previous 12 months, with 68.8% of PHIV women and 86.4% of non-PHIV women achieving a VL < 1,000 copies/ml.

Pregnancy and mother to child transmission outcome

Table 1: Pregnncy outcomes and HIV status of the child in 441 pregnancies from HIV+ women receiving care in an urban clinic in Zimbabwe, by mode of acquisition by the mother

HIV acquisition mode by mother	Pregnancy				Final HIV status child		
	Abortion / Stillbirth (%)	Pre-term	Term	Total	Result N/A	Neg-ative	Positive (%)
PHIV	55 (25.9%)	9	148	212	4	139	14 (9.2%)
Non-PHIV	30 (13.1%)	12	187	229	0	185	14 (7%)

When adjusting for age, education, last VL and time in HIV care at the time of pregnancy, mode of acquisition of HIV of the mother was not independently associated with the risk of MTCT

Table 2: Factors associated to MTCT in HIV+ women receiving care in an urban clinic in Zimbabwe

	Odds Ratio	p value	95% Conf. Interval
Mode acquisition HIV by mother			
Perinatally infected	1.86	0.6	0.20-17.14
Non-perinatally infected	Ref		
Age	0.96	0.5	0.84-1.09
Education			
Primary	0.25	0.2	0.31-1.93
Secondary or higher	Ref		
Most recent VL mother			
< 1,000 cpm	Ref		
>= 1,000 cpm	0,98	0.9	0.32-3.02
Time in HIV care during pregnancy	0,80	0.03	0.66-0.97

Discussion

- High rates of abortion / still births among PHIV women are observed. We could not establish whether the abortions / stillbirths were spontaneous or induced.
- A lower proportion of PHIV women were married or staying with their partner. This could point at poor social support available for these young mothers and may have led to induced abortions / stillbirths.
- The higher MTCT rate (although not statistically significant) among PHIV women compared to non-PHIV is a cause for concern.
- MTCT rate observed is higher than the national average (below 8%) in the last 5 yrs.
- The low viral suppression in this group suggests serious adherence problems.
- Other emerging problems within adolescent and young people in chronic HIV care such as low to absent social protection, psychosocial problems, poor adherence to treatment and low viral suppression may be responsible for these differences.

Conclusions & Recommendations

- Our results from a large ART clinic in Zimbabwe do not confirm findings from a US-based cohort where MTCT rate was more than double in PHIV mothers compared to those with horizontally acquired HIV.
- We identified, however, an increased risk of abortion / stillbirth in PHIV women, as well as a high prevalence of unsuppressed VL highlighting the importance of intensive VL monitoring to optimize ART in that group.
- We recommend a follow-up study among PHIV infected mothers, on HIV genotypic testing among infected infants, before beinginitiated on ART.

Acknowledgements

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