



The Prevalence of HIV Infection among Pregnant Women at Kabutare District Hospital - Rwanda

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Background: *Kabutare Hospital is a District Hospital in Rwanda. The HIV infection has been a threat to mothers and their babies since many years in Rwanda, where the prevalence countrywide is estimated at 3% (DHS 2010) and 4.7% among pregnant women (UNAIDS2009). We conducted a study to know the sero-prevalence of HIV infection among pregnant women who delivered at Kabutare District Hospital. The objectives were to determine the prevalence of HIV infection among pregnant women in Kabutare Hospital and to compare the prevalence of HIV infection in Kabutare Hospital with the prevalence at the National level.*

Methods: *A retrospective, descriptive study conducted from July 2012 to December 2012. The study concerned 1258 pregnant women who delivered in the Kabutare District Hospital. From the Hospital records the data were extracted and analyzed by SPSS.20 software.*

Results: *A total of 1258 pregnant women attended and delivered at Kabutare Hospital between July 2012 and December 2012. The vaginal deliveries were 680 (54.1%) and the women who delivered by Caesarean section were 578 (49.1%), the rate of deliveries per day is 7 with a mean number of pregnancy estimated at 2.14. The majority of pregnant women is situated in age group of 21-35 years (78 %). The monthly attendance is within a range of 171 women and 246 women (December and August respectively). A total of 613 (48.7%) of women were primigravida. The foetal presentation which was dominant is the cephalic presentation with 97.1% (1226 pregnant women). The prevalence of HIV infection was 2.9 % (36 women)*

Among HIV infected women, the age group of >35 years old pregnant women was more affected by the HIV infection with a percentage of 4.2%. Among HIV infected women 50% had a vaginal delivery and 50% undergone a cesarean section. The women who had two or more pregnancies were infected by the HIV infection with a percent of 3.8 (24 pregnant women).

Conclusion: *The sero-prevalence of HIV infection among pregnant women in Kabutare Hospital is slightly below to the sero-prevalence at the national level. But persistent vigilance is needed to prevent the Mother to Child transmission.*

Keywords: pregnant women, Kabutare Hospital, HIV sero-prevalence.

Introduction

The HIV infection has been a threat to mothers and their babies since many years in Rwanda, where the prevalence countrywide is estimated at 3% (DHS 2010) and 4.7% among pregnant women (UNAIDS 2009). During the pregnancy, the HIV infection has a double impact both on mother and the newborn with the risks of worsening the current mother immunodepressed state due to pregnancy and to the infection. During antenatal care visits the HIV is a mandatory test at the level of Health Centre and in the Hospital for a good follow up and a decrease in prevention of mother to child.

Patients and Methods

In Kabutare District Hospital, We conducted a retrospective, descriptive study for a period of 6 months from July 2012 to December 2012. The data were found in Hospital records and were analyzed by SPSS.20 software. The difference is statistically significant if $p < 0.05$ for the Pearson test. The inclusion criterion was all pregnant women who attended and delivered in our hospital. All pregnant women who attended our Hospital and didn't deliver at our Hospital were excluded from our study.

Results

As shown in Table 1, in our study we had 3 age groups: 10 to 20 years; 21 to 35 years and above 35 years with 148, 986 and 124 pregnant women respectively. The pregnant women who had more than one pregnancy were almost the same as primigravida (51.3 % vs 48.7%). The majority of women had a vaginal delivery (54.1%) and 45.9% delivered by Caesarean section. About foetal presentation, the cephalic presentation was by far the most frequent with 97.1%, the breech presentation came next with 2.1% and the transverse is the least represented with 0.5%. The HIV prevalence is 2.9%.

Table1. Socio-physiological Characteristics

		Frequency	Percent
Age group	10-20 years	148	11.8
	21-35 years	986	78.4
	>35 years	124	9.9
Pregnancy	G1	613	48.7
	G2	270	21.5
	G3-G11	375	29.8
Delivery	Vaginal	680	54.1
	C-section	578	45.9
Foetal presentation	Cephalic	1226	97.5
	Breech	26	2.1
	Transverse	6	0.5
HIV test	HIV negative	1222	97.1
	HIV positive	36	2.9
Total		1258	100

Table 2. Descriptive data

	N	Minimum	Maximum	Mean	Std. Deviation
Age	1258	15	50	27.24	5.989
Pregnancy	1258	1	11	2.14	1.546

The age range was 15 years to 50 years; the mean age was 27 years. The range of pregnancy was from 1 pregnancy to 11 pregnancies the mean was 2 pregnancies. As shown in Table 2. As shown in Table 3, the prevalence of HIV infection is 1.95% in primigravida and 3.72 % in women who had more than one pregnancy. The prevalence of HIV infection was 3.11% in women who delivered by caesarean section, and 2.64% in women who had vaginal delivery. The age group which was more affected by the HIV infection was the group of > 35 years women with the prevalence of 4.2%, the age group of 10-20 years had a 2.70 % HIV infection rate. The HIV infection rate among pregnant women aged between 21 and 35 years was 2.8 %.

As shown in table 4, a total 339 (55.3 %) pregnant women with 1st pregnancy had a vaginal delivery and 274 (44.7 %) women delivered by caesarean section. About 52.6% Multigravida had a vaginal delivery and 47.4 % delivered by caesarean section.

The age group of 10-20 years had more vaginal deliveries with a percentage of 59.4% and the age group of >35 years had less vaginal deliveries with 50.4%.

Table 3.HIV Sero-prevalence

		HIV Negative	HIV Positive	P-value
Pregnancy	G1	601	12(1.95%)	0.023
	G2	264	6(2.22%)	
	G3-G11	357	18(5.04%)	
Delivery	Vaginal	662	18(2.64%)	0.62
	C-section	560	18(3.11%)	
Age group	10- 20 years	144	4(2.7%)	0.712
	21-35 years	959	27(2.8%)	
	>35 years	119	5(4.2%)	

Table 4: Delivery

		Delivery		
		Vaginal No. (%)	C-section No. (%)	p-value
Pregnancy	G1	339 (55.3)	274(44.7)	0.5
	G2	138(51.1)	132(48.9)	
	G3-G11	203(54.1)	172(45.9)	
Age	10-20 yrs	88(59.4)	60(40.6)	0.3
	21-35 yrs	529(53.6)	457(46.4)	
	> 35 yrs	63(50.4)	61(49.6)	
Month	July	111(48.9)	116(51.1)	0.045
	August	134(54.4)	112(45.6)	
	September	126(63.3)	73(36.7)	
	October	108(51.9)	100(48.1)	
	November	116(56.0)	91(44)	
	December	85(49.7)	86(50.3)	
Foetal presentation	Cephalic	680(55.4)	546(44.6)	0.0001
	Breech	0(0)	26(100)	
	Transverse	0(0)	6(100)	
HIV test	HIV negative	662(54.1)	560(45.9)	0.74
	HIV positive	18(50)	18(50)	
Total		680	578	1258

Discussion

The objective of our study was to determine the prevalence of HIV infection in pregnant women in Kabutare Hospital. The Prevalence of 2.9% is below to the national prevalence of HIV Infection among pregnant women.

In Nigeria, [Okeudo](#) found a prevalence of 6.9 % .The survey was conducted at Imo State University Teaching Hospital, Orlu, Imo State from May 2005 to April 2010 The rate is higher than the one in our study⁹

Ratnam¹² in a study done over a period of 3 years in Canada found a HIV prevalence of 1 per 1147 pregnant women. Stringer¹⁷ in Zambia found a HIV infection rate of 7.7% in pregnant women in Lusaka between July 2002 and December 2006. The HIV infection rate found in our study was almost similar to the 2% found by YahyaMalima²² in Manyara and Singida in North Tanzania.

Conclusion

The sero-prevalence of HIV infection among pregnant women in Kabutare Hospital is slightly below to the sero-prevalence at the national level. But permanent vigilance is needed to prevent the Mother to Child transmission.

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