



Sero Prevalence Of HIV Among Pregnant Women In Port Harcourt Metropolis, Rivers State

¹Uzoma-Ogbuku, Constance Chinonye & ²Dr Faith Diorgu

^{1&2}African Centre for Excellence, Centre for Public Health and Toxicological Research, University of Port Harcourt

¹uzomaconstance1@gmail.com; ²faith.diorgu@uniport.edu

*Correspondence: ¹uzomaconstance1@gmail.com

ABSTRACT

Background: HIV is one of the leading causes of death among pregnant women. The aim of this research is to determine the prevalence of HIV and its associated factors among pregnant women attending antenatal clinic in selected private and public hospitals in Port Harcourt metropolis, Rivers State.

Method: The study was done between March, 2020 and April, 2020 using a laboratory based cross-sectional study design. A convenience sampling method was used to recruit the 309 pregnant women.

Results: The overall prevalence of HIV was 9.06%. The HIV seroprevalence was higher in the public facility when compared to private facility (10.19% vs. 6.80%), although this finding was not statistically significant ($p=0.441$). No significant association was observed between age and prevalence of HIV in both the public and private health facilities ($p>0.05$). **Conclusion:** The total prevalence of HIV in the study population was 9.1%, the prevalence is more in the public health facilities than in the private health facilities. It is therefore recommended that health education on HIV/AIDS and its effects on pregnant women, improved testing in both facilities and prompt management of HIV cases must be ensured.

Keywords: HIV, Pregnant women, Public Hospitals, Private Hospitals

INTRODUCTION

Despite being a preventable disease, human immune-deficiency virus is still claiming thousands of lives globally with the southern and eastern part of Sub-Sahara Africa affected the most (WHO, 2018). Human Immuno-Deficiency Virus (HIV) and the Acquired immune deficiency syndrome (AIDS), is still a major global concern because of the deaths and injurious effects associated with it and its impact on national development. HIV affects the body's defense system (immune system), it deals with the white blood cells of the body called the CD4 cells thereby making the body's defense against diseases and infections weak (WHO, 2019). Human immuno-deficiency virus is the pathogen responsible for acquired immune deficiency syndrome (AIDS) which is among the infectious diseases on earth and causes health, psychological and social problems for the individuals affected (Frank-Peterside et al., 2012). 35 million lives and more have been claimed by HIV infection since the virus was identified (Oleribe et al., 2018).

Human immune-deficiency virus in pregnancy is of increased importance and a key focus of HIV research because of its contribution to HIV spreading particularly among children. UNAIDS in 2012 said that out of 34.0 million persons living with HIV/AIDS 3.3 million were young people below 15 years and 16.7 million were women (Atilola et al., 2018). On a daily basis, almost 7000 persons were estimated to get the infection and about 5000 die from the disease, mainly as a result of poor accessibility of prevention care and treatment services for HIV. As at 2011, 17.3million children below 18years had lost

one or both parents to AIDS, and more were grossly affected with heighten risk of poverty, school drop-out, homelessness, and discrimination (Adeyemo et al., 2014).

Certain factors including illiteracy, poverty, poor awareness and poor perception regarding the disease, practice of risky sexual behaviors, cultural practices encouraging transfer of the disease, stigmatization of people with the virus and inadequate access to proper health care services are pointed out in this high prevalence (WHO, 2018). The injurious outcome of Human Immuno-deficiency Virus infection and Acquired Immune Deficiency Syndrome is still felt in our country Nigeria where the populations mainly affected are the women, youths and children. Close to 3.1 million Nigerians are said to have contracted this virus and about 220,393 new infections were reported in 2013. Thus, the persistent drive of Nigerian Government to provide modalities to adequately control and prevent this epidemic (Maxwell & Margaret, 2016; Awofala & Ogundele, 2018).

Being infected with HIV is one of the unpleasant outcomes of pregnancy with serious implications for the management of pregnancy and childbirth. As reported by WHO, globally there were still 1.3 (1.0-1.6) million pregnant women with HIV in 2018 (all of whom had need for prevention of vertical transmission of the virus), of which an estimated 82% (62- >95%) had access to the effective treatment regimen for the prevention of vertical transmission of HIV (WHO, 2018). Nigeria ranks high among countries with the greatest number of individuals with this viral disease with varying numbers in different states. Nigerian national HIV prevalence among pregnant women consistently moved from 1.8% in 1991 to 5.8% in 2001 but dropped to 4.4% in 2005. In 2010, it was said to be 4.1% and an urban hospital-based study conducted in Jos, north-central Nigeria in 2011 revealed a prevalence rate of 8.9% as its result (Adeyemo et al., 2014). In Damaturu, 4% was the prevalence of HIV among pregnant women (Khanam, 2019).

Human immuno-deficiency virus results in so many complications in pregnancy ranging from increased rate of ectopic pregnancies which could be as a result of co- occurring STDs, spontaneous abortion, bacterial pneumonia, urinary tract infections to syphilis, still births and other infectious complications. (Anuobissi et al.6t, 2019). Screening for HIV among pregnant women is still a challenging task as about 44% of pregnant women in middle- and low-income countries were counseled and tested for HIV globally (UNAIDS, 2014). The essence of screening pregnant women for HIV is to identify antibodies of HIV1 & 2 in order to make use of the most appropriate intervention/prevention measure which will result to a positive outcome of pregnancy with mother and baby alive and healthy. Screening for Human immune-deficiency virus is often performed when women who are pregnant registers for Antenatal care and ought to be done every three months to check for seroconversion (Frank-Peterside et al., 2012).

Human immuno-deficiency virus in pregnancy has become of huge importance in HIV research because of its contribution to the spread of the virus especially among children (UNICEF, 2018). Close to 7000 persons are said to get infected on daily basis and nearly 5000 of them die from the virus particularly because of inadequate access to HIV prevention & treatment services. As at 2011, 17.3million children below 18years had lost one or both parents to AIDS, and more were grossly affected with heighten risk of poverty, school drop-out, homelessness, discrimination etc (Adeyemo et al.,2014). 1.4 million Pregnant women are said to be living with the virus globally and over 1 million of these women accessed the best antiretroviral drug regimen for Prevention of vertical transmission of this virus with 79% coverage in sub-Saharan Africa (UNICEF, 2018). Vertical transmission of this virus is responsible for more than 90% of the infection in children globally (Etukumana et al., 2011).

In order to ensure that pregnant women with HIV have the best care possible, there is need to carry out more studies on prevalence of HIV among women that are pregnant, this hopefully may bridge the knowledge gap in that area and also bridge the literature gap on comparative studies on the prevalence of HIV among pregnant women and provide stakeholders with the necessary information and data to carry out intervention programs that will be of great benefit to people living with HIV and the population at large. Therefore, this sero prevalence of HIV among pregnant women in Port Harcourt Metropolis, Rivers State. The study was guided by the following research questions:

1. What is the HIV seroprevalence among pregnant women attending ante-natal care in selected public hospitals in Port Harcourt Metropolis, Rivers State?

2. What is the association between HIV seroprevalence and the sociodemographic characteristics of pregnant women attending ante-natal care in selected public hospitals in Port Harcourt Metropolis, Rivers State?

METHODOLOGY

The cross-sectional laboratory based research design was adopted. The population for this study comprised of all the pregnant women that presented to the selected private and public hospitals in Port Harcourt Metropolis from March 2020 to April 2020. A sample size of 436 was selected using a convenience sampling technique. The data collection was done through a laboratory test. The blood samples of pregnant women were collected alongside their socio-demographic and pregnancy-related information between 1st March 2020 and 30th April 2020 from the four selected private and public hospitals. The participant's samples were collected by the laboratory Scientist under the watch of the researcher in the phlebotomy room of the respective hospitals. At the end of sample collection, the samples were carried to the central laboratory where further investigation was made to ascertain the prevalence of HIV.

The reliability of the study instruments was ensured by the use of three rapid HIV test kits that are similar in terms of sensitivity and specificity of 99.8%, 99.9% respectively. The HIV test kits used for the identification of IgG-IgM were Alere Determine HIV-1/2 (Alere), Uni-Gold HIV(Trinity) and HIV1/2 STAT-PAK (Chembio). Data collected were analyzed using frequency, percentage and regression.

Ethical Considerations

Approval for this research work was sought for and obtained from the ethical review committee of University of Port Harcourt, Port Harcourt. An introductory letter was obtained from African centre for excellence, center for public health and toxicological research (ACEPUTOR) and was given to the Medical Directors of the private hospitals. Informed consent was sought for and an authorization letter was also obtained from the Rivers State Primary Health Care Management Board. A written Informed consent was sought for and obtained from study participants and blood samples were collected in the phlebotomy room of the laboratory to ensure privacy.

RESULTS

The results of the study are presented below

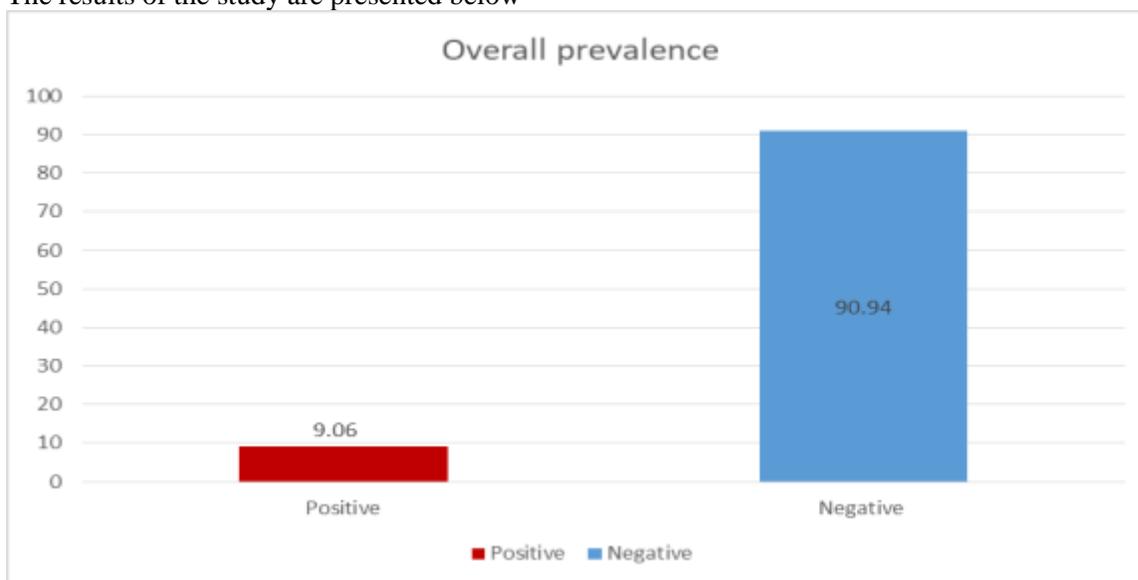


Fig 1: Overall prevalence of HIV

The overall prevalence of HIV in the study population was 9.06%

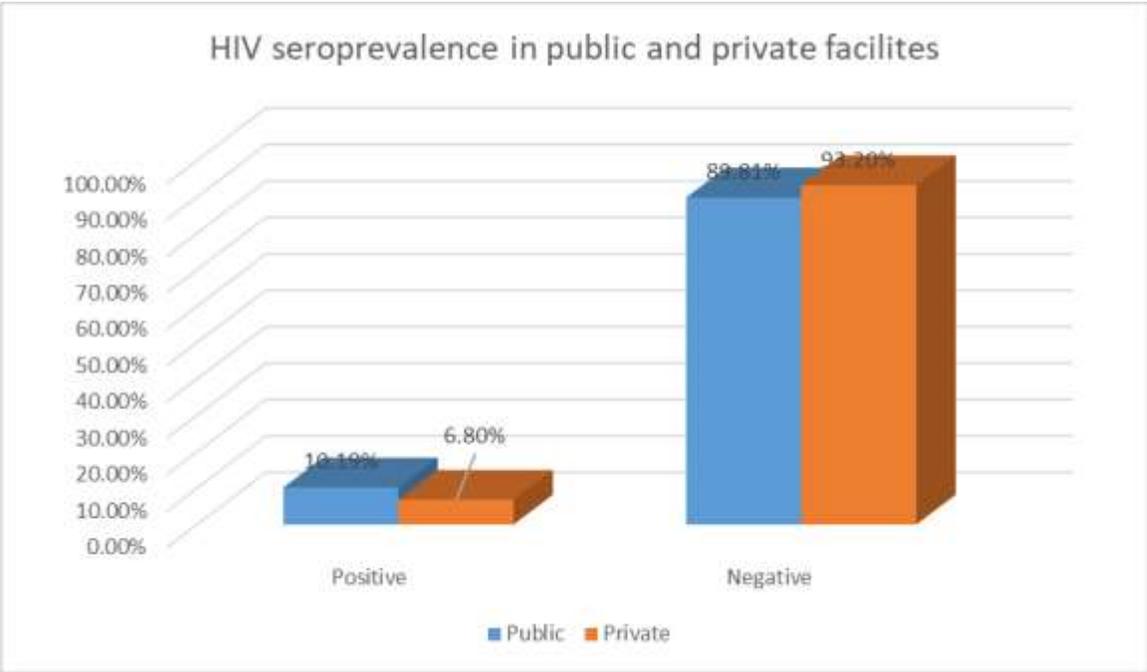


Fig 2: HIV seroprevalence in public and private facility

The HIV seroprevalence was higher in the public facility when compared to the HIV seroprevalence in the private facility (10.19% vs. 6.80%), although this finding was not statistically significant (p=0.441)

Table 1: Bivariate Logistic Regression showing relationship between Age and prevalence of

Age	Public		OR (95% CI)	p-value	Private		OR (95% CI)	p-value
	HIV+	HIV-			HIV+	HIV-		
	Freq (%) n=21	Freq (%) n=185	Freq (%) n=7	Freq (%) n=96				
≤19	2 (9.52)	3 (1.62)	Ref		0 (0.0)	2 (2.08)	Ref	
20-29	8 (38.10)	84 (45.41)	0.20 (0.02-2.03)	0.174	2 (28.57)	26 (27.08)	2.30 (0.00-3.05)	0.999
30-39	9 (42.86)	83 (44.86)	2.93 (0.49-17.46)	0.237	4 (57.14)	61 (63.54)	1.86 (0.15-23.58)	0.633
40-49	2 (9.52)	15 (8.11)	0.81 (0.17-3.96)	0.795	1 (14.29)	7 (7.29)	2.18 (0.21-22.32)	0.512

R=Reference

From the bivariate logistics regression model (Table 1), no statistically significant association was observed between Age and prevalence of HIV in both the public and private health facilities (p>0.05).

Table 2: Percentage distribution showing the age of respondents

Age	Type of Health Facility			
	Public n=206		Private n=103	
	Freq	%	Freq.	%
≤19	5	2.43	2	1.94
20-29	92	44.66	28	27.18
30-39	92	44.66	65	63.11
40-49	17	8.25	8	7.77
Mean (years) = 30.77±5.68				

The study participant's mean age was 30.77 ± 5.68 years for the public health facilities and 32.29 ± 5.47 years for the Private health facilities. Those within the age ranges of 20-29, 44.66% (92) and 30-39, 44.66% (92) were highest for the public health facilities and 30-39, 63.11% (65) for the private health facilities, followed by those within the age range of 40-49 for both health facilities (8.25% vs. 7.77%) as shown in **Table 2**.

DISCUSSION OF FINDINGS

The prevalence of HIV among pregnant women attending antenatal care in public health facilities was 10.19% (21/206). This implies that the HIV seroprevalence among the pregnant women attending antenatal care is more in the public health facilities. This could be as a result of lower cost of antenatal registration and so more women patronize and utilize the public health facilities irrespective of their socio-economic status. This finding corroborates with findings from reviews carried out in Yaounde and Ibadan, Nigeria which had higher HIV seroprevalences among these women that utilize public health facilities of 13.1% (47/360) and 26.4% respectively (Fouedijo et al., 2017). This finding however contrasts with findings from study conducted in Port Harcourt which had a low HIV prevalence of 3.0% (Okerentugba et al., 2015) and also contrasts with finding from a study conducted in South West Nigeria with a prevalence of 5.1% (Atilola et al., 2018). The difference may be because the sample size was very small (353) when compared to the number of hospitals studied (10 facilities) conducted in South West Nigeria thus making it less generalizable.

In this study, pregnant women who attended antenatal care in the selected private facilities fell within the following age ranges: ≤19years, 20-29years, 30-39years and 40-49years with their prevalence being 1.94% (2), 27.18% (28), 63.11% (65), 7.77% (8) respectively with a mean age of 32.29 ± 5.4 . None ≤19years was HIV seropositive, 28.57% (2) that were between 20-29years had HIV, 57.14% (4) between 30-39years had HIV and 14.29% (1) between 40-49years had HIV. The highest prevalence was observed within the age range of 30-39years. There was however no statistically significant relationship between age and HIV prevalence among these women in the selected private facilities. This result is in agreement with the findings by Adeyemo et al. (2014). This finding however contrasts with findings by Cherinet et al. (2013) in Ethiopia and Adeoye et al. (2019) in Minna which showed a statistically significant association between age and HIV seroprevalence in the pregnant women in private facilities. This may be due to very high prevalence of 67.7% seen in the 25-34year age group.

In this study, pregnant women who attended antenatal care clinic in the selected public health facilities fell within the following age ranges: ≤19years, 20-29years, 30-39years and 40-49years with their prevalence being 2.43% (5), 44.66% (92), 44.66% (92), 8.25% (17) respectively with a mean age of 30.77 ± 5.68 . Of the women that were reactive to HIV, 9.52% (2) ≤19years were HIV seropositive, 19.05% (4) that were between 20-29years had HIV, 61.90% (13) between 30-39years had HIV and 9.52% (2) between 40-49years had HIV. The highest prevalence was observed within the age range of 30-39years. There was however no statistically significant relationship between age and HIV prevalence among these women in the selected public health facilities. This result is similar to findings by Adeyemo et al. (2014). This finding however contrasts with findings by Okerentugba, et al. (2015) in Port Harcourt, Nigeria; Agboghroma, & Iliyasu (2015) in Abuja, Nigeria; Fouedijo et al. (2017) in Yaounde and Okonko et al. (2019) in Ibadan, Nigeria which all showed a statistically significant difference between

age and HIV seroprevalence among pregnant women in the public health facilities. An inverse relationship was observed where HIV prevalence was increasing with decreasing maternal age which is a representative of a high sexual activity occurring in the younger age group thereby increasing their susceptibility to HIV infection.

CONCLUSION

Based on the findings of the study, it was concluded that, the overall prevalence of HIV in the study population was 9.1%, the prevalence is more in the public health facilities than in the private health facilities. The prevalence of HIV is more in multipara than in primipara in both private health facilities and public health facilities 57.14% (4) and 71.43% (15). Those with higher gravidity also had higher HIV prevalence than primigravida in both the private and public health facilities with 71.43% (5) and 85.71% (18) respectively.

RECOMMENDATIONS

The following recommendations were put forward based on the findings of the study:

1. Advocacy for promotion of the wellbeing of pregnant women by making sure that HIV investigation is compulsory for all pregnant women coming to any health facility for antenatal care.
2. Health education and sensitization on HIV and its effects especially in pregnancy should be made compulsory for all antenatal sessions both in the private and in the public hospitals in Port Harcourt metropolis.
3. In order to increase testing capacity for HIV, health care providers should be taught on how to perform the test using rapid diagnostic kits which can give same day result.

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