



## **A Retrospective Study on Human Immune Deficiency Virus among Pregnant Women Attending Antenatal Clinic in Imo State University Teaching Hospital (IMSUTH) ORLU JANUARY - DECEMBER, 2016**

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**Abstract:** *This study investigated the incidence of human immune deficiency virus (HIV) amongst pregnant women who attended antenatal clinic in Imo State University Teaching Hospital (IMSUTH), Orlu between January' - December, 2016. The study was carried out to ascertain the prevalence of HIV amongst pregnant women attending antenatal clinic in IMSUTH, to determine the age range with the highest incidence and the socio-economic status of the women. The result of this study will add to the existing knowledge on HIV and throw more light on HIV incidence amongst pregnant women. It will also provide information and data base for other researchers/institution, encourage health practitioners and the government to be more aware of HIV prevalence amongst its citizens thus enabling them to organize periodic seminars and awareness programme on HIV infection and it's spread. A retrospective descriptive study approach was adopted by the researcher through past medical records and document as the instrument for data collection. A sample size of 94 patients was used to represent the entire population. Results obtained showed that the incidence rate of HIV was 15.4% with highest rate recorded in November 15(15.9%) followed by August and October that had a incidence rate of 12(12.8%) while the lowest was in March 2(2.1%). Also, the results showed that the age range with the highest incidence is between 21-30years. Furthermore, the socio-economic status of women with highest incidence was traders 40(19.6%) followed by civil servants 17(13.9%), house wives 21(12.9%), students 11(13.6%) conclusions were drawn, recommendation made and suggestions for further studies given.*

**Keywords:** *HIV, pregnant women, Antenatal Clinic, Imo State*

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### **I. INTRODUCTION**

Human Immune Deficiency Virus (HIV), the virus that causes AIDS (Acquired Immuno-deficiency Syndrome), is one of the world's most serious health, social and development challenges (UNAIDS, 2015). This means that it not only affects the health of individuals, but impacts household, communities, development and economic growth of nations.

HIV/AIDS, the disease without borders has already assumed pandemic proportions, expanding in scope and magnitude (WHO, 2014). It is caused by a virus known as Human Immunodeficiency virus (HIV) which attacks the immune system i.e. the body's natural defense system. The virus destroys CD4 cells, -a specific type of white blood cell that plays a major role in helping the body fight diseases (Mayo Clinic, 2014).

According to World Health Organization (2014), there were approximately 36.9 million people worldwide living with HIV/AIDS at the end of 2014 (UNAIDS (2014), report shows that of the 36.9 million people living with HIV globally, 2.1 million children under 15 years were affected globally with the infection, 370,000 were new infections and 90% of them were in sub-Saharan Africa. Noteworthy is the fact that 90% of these pediatric infections were through "mother to child transmission" (MTCT) of the virus.

Sub-Saharan Africa has the most serious HIV/AIDS epidemic in the world. In 2013, an estimated 24.7 million people were living with HIV, accounting for 71% of the global total. In same year, there were an estimated 1.5 million new HIV infections and 1.1 million AIDS related deaths.

In Nigeria, HIV/AIDS situation is high with figures of 3.2% among the adult population giving a total estimated of 3.5 million Nigerians living with HIV (UNAIDS, 2015).

Nigeria has the second highest burden of HIV/AIDS in the world. The general population survey in 2013 puts the country at an HIV prevalence of 3.4% lower than 3.6% reported in 2007 and 3.5 million people estimated to be living with the infection in the country presently while the estimated number of new infections and HIV related deaths was 390,000 and 217,000 respectively in 2013. A third (32%) of all cases of mother to child transmission (MTCT) of HIV in the world happen in Nigeria with 30% of pregnant women in the country receiving anti-retroviral treatment in 2013 hence MTCT is high at 26.5%. (NACA, 2013)

There is a slightly higher prevalence in rural areas (3.6%) than in urban areas (3.2%) and the distribution of the epidemic also varies with geographical regions; the HIV prevalence is highest in the south-south zone (5.5%) and lowest in the south-east zone, (1.8%). (USAID, 2013).

A recent survey conducted by the National Agency for the control of AIDS (NACA, 2016) shows the prevalence of HIV/AIDS in Imo state to be 2.5% and the 15<sup>th</sup> highest amongst the 36 states in the country. 60% of new cases were common among adolescents 15-19 years and young women aged 20-24 years.

In another publication titled "HIV prevention among adolescent girls and women" (USAIDS, 2016) reports that the number of new infections among adolescent girls and young women remain exceptionally high. In 2015, 450,000 (380,000-530,000) new infection occurred among adolescent girls and young women aged 15-24 years, which translates into approximately 8,600 new infections per week. Just like when it was discovered, real knowledge about HIV/AIDS among pregnant women is at its lowest. The media has created appreciable awareness but has failed to match it with AIDS education.

Thus this study is geared towards determining the incidence of HIV amongst pregnant women attending Antenatal clinic in Imo State University Teaching Hospital Orlu in 2016.

## II. OBJECTIVES OF THE STUDY

The objectives of this study are to:

1. Determine the incidence of HIV among pregnant women attending antenatal clinic in Imo State University Teaching Hospital Orlu.
2. Determine the age-range with the highest incidence.
3. Determine the socio-economic status of pregnant women with the highest incidence.

## III. RESEARCH METHODOLOGY

### DESIGN OF THE STUDY

The researcher adopted a retrospective descriptive approach with the use of HIV infection among pregnant women attending antenatal clinic in Imo State University Teaching Hospital, Orlu.

### SETTING OF THE STUDY

This research was carried out in Imo State University Teaching Hospital (IMSUTH), Orlu. **TARGET POPULATION**

The target population comprised of all pregnant women who tested positive to HIV infection who attended antenatal clinic in IMSUTH, Orlu from January, 2016 to December, 2016 and they were 94 in number.

### SAMPLE/SAMPLING TECHNIQUE

No particular technique was utilized because subjects of the study was identified from medical records which showed patients that tested positive to HIV infection from January, 2016 to December, 2016. The sample size

was the population of the study.

#### **INSTRUMENT FOR DATA COLLECTION**

The admission and discharge record books (antenatal) which contained all the records concerning HIV screening list for pregnant women in IMSUTH as an instrument for data collection, since the study was retrospective in nature.

#### **VALIDITY OF INSTRUMENT**

Chinweuba *et al.* (2013) defined validity as the ability of an instrument to measure what it is supposed to measure. Face validity is a highly subjective validity sanctioned by an expert or a supervisor of a student's project who feels the face value and vetted contents as relevant and appropriate instruments.

#### **RELIABILITY OF INSTRUMENT**

Reliability is the extent to which an instrument measures whatever it measures consistently. The reliability of the instrument of this study was achieved by comparing data from antenatal care, register HIV screening tests with patient's folder, all of which gave the same information. Hence, the records were reliable/ pilot study was not done because it is not applicable to this study.

#### **METHOD OF DATA COLLECTION**

From the antenatal care record books of all patients who tested positives to HIV infection between January 2016 to December 2016 were collected as well as other relevant information for answering the research questions for the achievement of the objectives of the study like, age bracket mostly affected and socio-economic effects or relationship.

#### **METHOD OF DATA ANALYSIS**

Data collected were tallied and computed. The data were analyzed using tables, frequency, percentages and charts (bar charts and histograms).

#### **ETHICAL CONSIDERATION**

An introductory letter signed by the head of department of Nursing science, Imo State University, Owerri, Orlu Campus was present to the Chief Medical Director, IMSUTH, Orlu for permission to use the hospital records for data collection.

A written permission was obtained from the ethical committee granting the researcher access to the antenatal care records of the hospital, following the application for ethical clearance by the researcher. Confidentiality was maintained during the process of data collection. The information obtained was used entirely for the purpose of the research and improvement of the prevalence of HIV infection rate in IMSUTH Orlu in Nigeria. No injury and no harm were done to the respondents since only the records were used and they were not mentioned in anyway.

### **IV. RESULTS**

**Table 1:** Incidence rate of HIV among pregnant women attending antenatal clinic

S/N	Months	No. of Pregnant women	No. of HIV positive
1	January	28	4
2	February	50	5
3	March	36	2
4	April	48	7
5	May	61	10
6	June	40	8
7	July	74	6
8	August	52	12
9	September	60	8
10	October	55	12

11 November	49	15
12 December	58	5
<b>Total</b>	<b>61!</b>	<b>94</b>

$$\text{Incidence Rate} = \frac{\text{No of HIV positive}}{\text{No.of pregnant women}} \times 100 = \frac{94}{611} \times 100 = 15.4\%$$

Data in Table 1 shows the prevalence rate of HIV among pregnant women attending antenatal clinic in Imo state University Teaching Hospital Orlu. It reveals that out of 611 pregnant women attending antenatal clinic in Imo state University Teaching Hospital Orlu, 94 had HIV positive given a incidence rate of 15.4%.

**Table 2: Age range with highest incidence rate**

Age range	J	F	M	A	M	J	J	A	S	O	N	D	Total	No. of Preg	Rate (%)
11-20	1	0	0	1	2	0	1	1	2	2	2	0	12	122	9.8
21-30	2	3	1	3	5	4	4	8	5	7	6	2	50	244	20.5
31-40	1	2	1	2	2	3	1	3	1	2	5	2	25	183	13.7
41-50	0	0	0	1	1	1	0	0	0	1	2	'T	7	62	11.3

The result in Table 2 shows that pregnant women within the age range of 11-20 years had a HIV incidence rate of 9.8%, 21-30 years (20.5%), 31-40 years (13.7%), while 41-50 years had 11.3%. Thus, the age range with the highest incidence rate is pregnant women within 21-30 years.

**Table 3: Socio-economic group of pregnant women with the highest incidence**

SES group	J	F	M	A	M	J	J	A	S	0	N	D	Total	No. of Preg	Rate (%)
Civil	1	1	0	2	1	0	1	2	1	4	3	, , 1	17	122	13.9
Servants															
Traders	2	2	2	3	5	2	3	6	2	5	6	2	40	204	19.6
House wives	0	1	0	1	2	3	1	3	3	2	3	2	21	163	12.9
Health workers	0	0	0	1	0	1	0	0	2	0	1	0	5	41	12.2
Students	1	1	0	0	2	2	1	1	0	1	2	0	11	81	13.6

The result in Table 3 shows that pregnant women who are civil servants had a HIV incidence rate of 13.9%, traders (19.6%), house wives (12.9%), health workers (12.2%), while students had 13.6%. Thus, the socio-

economic group with the highest incidence rate is pregnant women who are traders.

## V. DISCUSSION

From the data shown in Table 1, the result of the computation of incident rate indicates that the overall incidence rate of HIV among pregnant women attending antenatal clinic in Imo state University Teaching Hospital Orlu is 15.4% which is considered high. This percentage represents the pregnant women who gave their consent to be tested and on whom the screening and confirmatory tests were conducted. This incidence is little smaller than 17.8% reported by Chineke *et al.* (2016) who determined the incidence and pattern of HIV infection at Imo State University Teaching Hospital, Orlu from 1<sup>st</sup> January 2009 to 31<sup>st</sup> December 2013. Also, the incidence is much higher than 3% reported by Okerentugba *et al.* (2015) who determined the incidence of HIV among pregnant women in Rumubiakani, Port Harcourt, Nigeria. More so, this incidence is much higher than 5% recorded in 2003 sentinel survey in Nigeria (FMH, 2004). According to a report from Federal Ministry of Health in 2005, on HIV and AIDS sentinel sero-prevalence survey in Nigeria, the national HIV incidence in Nigeria among pregnant women steadily rose from 1.8% in 1991 to 5.8% in 2001 but dropped to 4.4% in 2005 (Sagay *et al.*, 2006). However, in South Africa, HIV incidence in pregnant women increased steadily from 24.5% in 2000 to 30.2% in 2005 with 2006 and 2007, indicating a slight decline in incidence (Dorrington & Bourne, 2008). As might be expected, some of these women refused being screened after due counseling for voluntary HIV screening and testing (VCT). This could be due to ignorance, illiteracy, fear or defective counseling. The year 2011, recorded the greatest incidence of 27% while it was lowest in 2009 (11%). Trends in HIV reporting from 1991 to 2014. The first HIV/AIDS sentinel survey in Nigeria was conducted in 1991 with 1.8% incidence reported. This was followed by 3.8% in 1993, 4.5% in 1996, 5.4% in 1999 and a 5.8% peak in 2001. From 2001 a somewhat decline in trends were noted, starting with 5.0% in 2003, 4.4% in 2005, 4.6% in 2008, 4.1% in 2010 and 3.4% in 2013 (NARHS, 2013; Nigeria National Agency for the Control of AIDS, 2012, 2010). Based on these results, it is now clear that HIV incidence in the country is relatively stable. This positive trend is largely attributed to an effective reporting and intervention system (UNAIDS, 2014).

The HIV incidence among pregnant women attending antenatal clinic in Imo state University Teaching Hospital Orlu now appears to have assumed an upward trend, therefore a sustained and more effective intervention is needed to avert increased incidence by the most-at-risk subpopulations in the country. Risky sexual behaviours among these subgroups of people such as unprotected anal intercourse, low condom use as a result of alcohol consumption and other factors have been noted. There is thus an overriding need for effective, systematic and highly tailored public health interventions in the State. It is also important to maintain and strengthen special surveillance activities on these subgroups of the population in order to obtain a clear picture of their changes in trends over the next few years.

The result, as contained in Table 2, revealed that pregnant women aged 21-30 years had the highest age specific incidence rate of 20.5%, followed by age group 31-40 years which recorded incidence of 13.7% while age group 41-50 years recorded 11.3%. The lowest incidence of 9.8% occurred among pregnant women aged 11-20 years. This goes to show that young pregnant women recorded the most incidence of HIV/AIDS in Imo state University Teaching Hospital Orlu. Thus, educational, structural and cultural factors that can influence good sexual and behavioural practices among this group of people need to be fostered. Unfortunately, research on sexual networking among this group of people is sparse with few earlier surveys carried out between 2000 and 2015 (Okerentugba *et al.*, 2015). A more recent research tailored towards the different subgroups of the Nigerian population including the most vulnerable to HIV/AIDS infection should be undertaken so as to be able to study and understand how the disease spreads within the social network and what core values, behaviours or norms are being shared and/or practiced with the network. Efforts should be also taken to prevent mother-child infection through proper medical provisions and care of the pregnant women.

The result in Table 3 shows that pregnant women who are civil servants had a HIV incidence rate of 13.9%, traders (19.6%), house wives (12.9%), health workers 2.2%), while students had 13.6%. Thus, the socio-economic group with the highest incidence rate is pregnant women who are traders. This agrees with Okerentugba *et al.* (2015) who reported 15% incidence of HIV among pregnant women who are traders in Rumubiakani, Port Harcourt, Nigeria. This by implication goes to show that the incidence of HIV among pregnant women attending antenatal clinic in Imo state University Teaching Hospital Orlu is concentrated mainly among traders followed by the students who are the most-at-risk in the populations. It then means that enhanced and more strengthened surveillance system targeting the whole population and with special attention to the subgroup most-at-risk need to be implemented. More prevention campaigns should be planned and carried out while the monitoring system of HIV/AIDS in the State requires improvement in terms of data complement and integration in order to allow for better assessment of the HIV prevalence.

## VI. Conclusion

Based on the findings of the study, it was concluded that the incidence rate of HIV among pregnant women

attending antenatal clinic in Imo state University Teaching Hospital Orlu is high and the age range with the highest incidence rate is pregnant women within 21-30 years. This incidence is concentrated mainly among traders. It implies that enhanced and more strengthened surveillance system targeting the whole population and with special attention to the subgroup most-at-risk need to be implemented.

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