

## HIV Seroprevalence and Confirmatory Rate In Enugu Urban Population: A Sentinel Survey

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### ABSTRACT

This sentinel study determined the occurrence of HIV infection and confirmation rate of seropositive individuals among diverse Enugu Urban population. A seroprevalence rate of 25.55 percent was obtained for September – December 1999 and a confirmatory rate of 10.57 percent ( $P < 0.05$ ) while seroprevalence rate for the period January – May 2000 was 19-29 percent and the confirmatory rate was 14.44 percent ( $P < 0.05$ ). For the nine months period, a seroprevalence of 21.77 percent and confirmatory rate 12.64 percent ( $P < 0.05$ ) were obtained. The overall picture of the seroprevalence for this survey showed a rise and fall pattern. The decreasing rate of confirmation for HIV positive patients/subjects showed that many of them disappear into the wider population probably due to stigmatization. This together with the mere absence of HIV seronegative confirmatory rate posed a severe danger in the management of PLHA. It is concluded that both incidence and prevalence of HIV scourge will be difficult to predict while the risk of unconfirmed cases will enhance a wide and silent spread of the virus especially if they are negative seroconverts.

**Keywords:** HIV/AIDS, Seroprevalence, Confirmatory rate, Seroconversion, People Living With HIV/AIDS (PLHA)

### MATERIALS AND METHODS

Most of the earlier studies on HIV infection in Nigeria focused largely on seroprevalence (Olusanya 1990, FMH & SS 1993/94, Olaeye et al 1993, Ankeyi et al 1994, ESU-Williams et al 1997, Chilarem et al 1988, Njoku et al 1999). The national seroprevalence rate for HIV according to a Federal Ministry of Health report (1999) was 5.4 percent of the sexually active adult population (25-49 years). This translated to 2.6 million Nigerians having HIV infection. It was estimated that this would rise to 4.9 million or 10.2 percent in 2003. Ofoegbu (1998) reported on the prevalence on Igbos in the University of Nigeria Teaching Hospital (UNTH). Onwubeze and Ike (1999) reported on HIV admissions at the medical wards while Mgbor and Okafor (2000) showed the prevalence among ENT patients, all in the same UNTH Enugu. This present prospective study carried out is to determine the seroprevalence as well as the confirmatory rate for subjects/patients already identified as HIV seropositive or seronegative.

The centre for this study was Medichem Diagnostic and Research Laboratory, 179 Zik's Avenue, Enugu. A total of 2435 subjects/patients were screened during the 9 months period of the study. 763 subjects for the period (Sept – Dec. 1999) and 1472 for January – May 2000 were screened respectively. The Venous blood collected from the subjects into 5ml tubes with EDTA was centrifuged, and the serum obtained employed for the screening using the Capillus test kit for HIV1/HIV-2 (Trinity Biotech. Plc, Wicklow, Ireland) while the confirmatory test was done at least two months after the first screening using Gene II test kit (Pasteur Institute, France). All the blood samples were screened within 48 months of collection. The statistical analysis was done using the Students t-test for comparison of rates and a value less than  $P < 0.05$  was considered statistically significant.

### RESULTS

Table 1 showed the HIV seroprevalence for the two periods respectively as well as for the entire 9-months

2: showed the percentage of seroprevalence of HIV revealed a decline in the number and rate of infection and the confirmatory rate. This result confirmation.

**Table 1: HIV Seroprevalence Rate in Enugu Urban Population**

Year	1999					2000				
Month	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
Number of Subjects/ Patients Screened	211	243	205	304	398	338	308	238	190	
Number of HIV	59	55	61	71	82	77	40	52	33	
Percent of HIV + sero-Prevalence	27.96	22.63	29.76	23.36	20.60	22.78	12.98	21.85	17.37	

**Table 2: Seroprevalence and confirmatory Rate.**

Period	Sept. – Dec.199	Jan.-May 2000	Total for Entire Period
Total			
No Screened	963	1472	2435
No of HIV+	246	284	530
No of HIV+ Confirmed	26	41	67
No of HIV- conf.	6	1	7
Percentage of HIV + Prevalence	25.55 <sup>a*</sup>	19.29 <sup>a*</sup>	21.77 <sup>a*</sup>
Percentage of HIV confirmed	10.57 <sup>b*</sup>	14.44 <sup>b*</sup>	12.64 <sup>b*</sup>
Percentage of HIV- confirmed	0.84 <sup>ns</sup>	0.08 <sup>ns</sup>	0.37 <sup>ns</sup>

When the seroprevalence percent was compared with that confirmatory rate for the respective periods and the entire period of this survey, the numbers of HIV seronegative cases confirmed were grossly insignificant.

### DISCUSSION

The seroprevalence obtained in this study was higher than was reported by the FMH (1999). This could probably be attributable to the larger number of individuals that were screened. The rise and fall pattern is indicative of the stabilization of HIV infection which was observable much lower in West Africa than in East and Southern Africa where the virus is spreading rapidly (Fact Sheet 2, 2001). The trend for the sentinel survey in Enugu State agreed with that of the national seroprevalence (Enugu State Action Plan 2000). The higher seroprevalence did not agree with these reports owing to the earlier reason proposed above. However, our seroprevalence rate is consistent with those reported by Aghaji and

Odoemene (2002) for different types of Urological patients, Ofoegbu (1998) for traders, and civil servants respectively. But, it was higher than those of hospital based patients (Onwubeze and Ike 1999; Mgbor and Okafor 2002). Our results agreed with the HIV seropositivity of 24 percent in the hospital population in Zambia reported by Desai and Mugala (1992). The declining rate of confirmation obtained for this study corroborated by the fact that those who tested HIV positive rarely return to collect their results nor for a confirmatory test may be linked to the associated stigmatization, isolation, fear and taboo for HIV/AIDS victims, marginalization, and discrimination (WHO 1993; AIDS ACTION 1994/95, ICN 1994, Facts sheet

period. The result showed a rise and fall pattern. Table 2: showed the percentage of seroprevalence of HIV infection and the confirmatory rate. This result revealed a decline in the number and rate of confirmation. When the seroprevalence percent was compared with that confirmatory rate for the respective periods and the entire period of this survey, the numbers of HIV seronegative cases confirmed were grossly insignificant.

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This revelation makes it difficult to estimate and plan for HIV victims. It also exposes the populace to the risk of HIV infection during blood transfusion (Awortu 2002). According to the postulation of MVeré (2002a,b), the national blood programme must put in place stringent donor recruitment and retention strategies to reduce the risk by promoting donations from low-risk population.

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