The impact of some Socio-Demographic factors on the HIV infection in EDO, DELTA, BAYELSA, RIVERS, AKWA IBOM AND CROSS RIVER STATES

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ABSTRACT

The emergence of AIDS on the global scene has been a major source of concern worldwide. HIV stands for Human Immuno-deficiency Virus and it causes AIDS. When HIV has destroyed the immune system, the symptom of AIDS begins to manifest. AIDS stands for Acquired Immune-deficiency Syndrome, which is the leading cause of death in the sub-saharan Africa. The study in Edo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River States was to find how some socio-demographic factors such as Age, Gender, Income, Marital Status impact on HIV infection. The study design was a correlational observation survey and the populations were HIV $^{(+)}$ and HIV $^{(-)}$ subjects who assessed their drugs from the Pharmacy Department of the selected hospital. Structured questionnaires were the study instrument and purposive sampling was used. Out of the 1250 questionnaires distributed, only 955 responded and of these respondents, 66.3% were females while 33.7% were males. 61.3% of the respondents were HIV$^{(+)}$, while 38.7% were HIV$^{(-)}$. Infection was highest within the Age group of 20 – 40 years (54%). Female gender accounted for a larger proportion of those who were HIV positive (57.6%) than the males (42.4%). The infection was high among the unmarried, which accounted for (39.3%) of the study. An association existed between low income and vulnerability of contracting HIV infection ($p = 0.05$). The result from the relative risk factor analysis indicated that gender (females) was the most influential factor to HIV susceptibility. The study established that socio-demographic factors such as Age, Gender, Marital status and Income significantly influenced HIV infection in Edo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River States of Nigeria.

KEYWORDS: Socio-demographic factors, HIV infection, Edo, Delta, Bayelsa, Rivers, Akwa Ibom, Cross River States of Nigeria.

INTRODUCTION

HIV/AIDS is a major public health concern and cause of death in many parts of Africa. Although Africa is home to about 14.5% of world's population, it is estimated to be home to 69% of all people living with HIV and to 72% of all AIDS death in 2009[1]. Idigbe et al, (2004) reported that the first case of HIV/AIDs in Nigeria was in 1986 when a 13 - year old sexually active girl was diagnosed of the disease. Subsequent to this, the infection was subtly but progressively transmitted within various populations and communities in the country. As at the end of 1996, cases of HIV infections or AIDS had been diagnosed in all the 774 Local Government Areas (LGA) of the country. The disease systematically permeated the entire Nigerian social fabric affecting men and women in urban and rural areas and cutting across all social strata in the country.

National HIV sentinel surveys data indicated a rapid near zero prevalence in 1990 to 5.8% in 2001 and the going down to 4.6% in 2007 (FMOH Sentinel Surveillance report, 2005). A person who has tested positive to HIV is not necessarily an AIDS patient except he/she has started manifesting the symptoms of AIDS. Such a person is only carrying the virus and can live for many years without manifesting the symptoms of AIDS but he/she can infect others with the virus.

HIV/AIDS is an issue which has raised a lot of concern among various sectors of the society. Though information about HIV/AIDS is currently making waves, many people are still ignorant of the basic facts about HIV and AIDS. Jingles and adverts are being used to drive home the true story but it happens that many times the message reaches its destination as distorted information which elicits different reactions and behaviours from the people who hear them including that of fear and denial instead of that which it is intended to produce. The spread of HIV/AIDs has assumed a dimension that suggests that these efforts at curbing its spread are not producing the desired results.

For instance, the Mayo Foundation for Medical Education Research (MFMER, 2006) reports that; in the 25years since the first report of the disease, AIDS has become a global epidemic.

Worldwide, an estimated 38.6million people are living with HIV, nearly half of them are women and girls between the ages of 15 and 24 years. And though the spread of the virus has slowed in some countries, it has escalated or remained steady in orders. In 2005, more than 4 million people were newly infected with HIV; 25 million have died of AIDS since the epidemic began. With these figures, there is the tendency that a great increase in the figures could be recorded in the not so distant future except more strategic efforts are put into curbing its spread especially among adolescents and young adults who are one of the most vulnerable categories of individuals to the infection.

Though everyone is at risk of contracting the virus, Afe and Egbochuku (2004) report that 'the prevalence data on HIV/AIDS in adolescents indicate that younger women, adolescents and a probable re-strategizing of efforts aimed at curbing the spread of HIV and AIDS especially among this vulnerable group of individuals.

Many factors are no doubt responsible for the spread of HIV in the population. Some are however peculiar to a particular group of individuals. Egbochuku (2007)[6] reports three factors associated with the risk of contracting the AIDS virus. These are biological, behavioural and psychosocial factors. Egbochuku, Imogie and Iweze (2002) pointed out that the health risking behaviours of adolescents place them at higher risk of exposure to HIV/AIDS more than the other factors. Such behavioural risk factors include the age of initiating sexual activity, number of gay and bisexual teens, young people from poor ethnic backgrounds have a higher rate of HIV/AIDS relative to their peers'. This calls for a closer look into the reason why the prevalence rate is higher among sexual partners, use of contraceptives and use of alcohol and drugs.

MATERIALS AND METHOD

The study as stated earlier was to investigate the impact of some socio-demographic factors on HIV infection in Edo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River States. Two government hospitals were used for each State making a total of twelve.

The sampling method used was purposive, while correlational observation survey was the study design. Structured questionnaire was the study instrument and this was used to collect information on biodata of subjects, social history, drug use and past medical history.

The study population was HIV positive and HIV negative subjects who assessed their drug from the Pharmacy department of the selected hospitals. The questionnaires were self administered to one thousand two hundred and fifty (1250) subjects. Direct interview was also used to obtain information especially from illiterate subjects. Local interpreters were also used for these illiterate subjects to obtain all needed information.

Data collected from the questionnaires were fed into Microsoft Excel (2003) and were sorted into categories. Data analysis was done by the use of Graph Pad Prism Software (UK), using Chi-square and Simple Percentages. The level of significance between compared data was set at $P < 0.05$.

RESULTS

One thousand two hundred and fifty (1250) questionnaires were distributed to subjects and the questionnaire return rate (QRR) was 1065 (85.2%). Out of this, 955 (76.4%) of them were found usable. This was so because the unusable questionnaires were not properly filled or were not filled at all.

Table 1.0: State of residence, age and sex distribution of respondents

States	AGE (YRS)												Total		Grand Total	%Sample contribution
	15-19		20-24		25-29		30-34		35-39		≥40					
	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Bayelsa	5	7	4	7	4	11	7	8	9	2	4	1	33	36	**69**	7.23
Delta	5	32	9	45	10	27	11	27	9	22	20	32	64	185	**249**	26.07
Edo	10	27	14	53	27	87	20	37	50	20	20	50	141	274	**415**	43.45
Rivers	2	4	2	5	8	8	7	9	8	14	15	19	42	59	**101**	10.58
Cross River	2	4	4	6	5	7	1	4	1	5	6	8	19	34	**53**	5.55
Akwa Ibom	2	4	4	5	3	6	6	14	3	5	5	11	23	45	**68**	7.12
Total	20	78	37	121	57	146	52	99	80	68	70	121	322	633	**955**	100.00%
Grand Total	**104**		**158**		**203**		**151**		**148**		**191**		**955**		**=**	**=**

Number of respondents is highest in Edo State, higher in females and highest in the age group 25-29 years.

Table1.1: Age and HIV status of respondents in the zone

AGE (YRS)								
HIV STATUS	**15-19**	**20-24**	**25-29***	**30-34**	**35-39**	**≥40**	**TOTAL**	**%**
Positive	32 (5.5%)	104 (17.8%)	137 (23.4%)	113 (19.3%)	87 (14.9%)	112 (19.1%)	585	61.26
Negative	72	54	66	38	61	79	370	38.74
Total	104	158	203	151	148	191	955	100%

Group with highest level of infection. There is a significant association between the age of respondents and their HIV status ($p<0.05$)

Table 1.2: Analysis of Age and HIV status of respondents in the various States

	AGE (YRS)						Total
State of Residence	15-19	20-24	25-29	30-34	35-39	≥ 40	
Akwa Ibom	8.8%	13.2%	13.2%	29.4%	11.8%	23.5%	100.0%
Bayelsa	17.4%	15.9%	21.7%	21.7%	15.9%	7.2%	100.0%
Cross River	11.3%	18.9%	22.6%	9.4%	11.3%	26.4%	100.0%
Delta	14.9%	21.7%	14.9%	15.3%	12.4%	20.9%	100.0%
Edo	8.9%	15.8%	27.5%	13.7%	16.9%	16.9%	100.0%
Rivers	5.9%	15.8%	15.8%	15.8%	21.8%	33.7%	100.0%
Total	10.9%	16.5%	21.3%	15.8%	15.5%	20.0%	100.0%

Bayelsa State (17.4%) had the highest proportion of Age group (15-19years)**,** Delta State had the highest proportion of age group (20-24years), Edo State had the highest proportion of age group (25-29years), Akwa Ibom had the highest proportion of Age group (30-34years), Rivers State had the highest proportion of Age group (35-39years) and Age group greater than 39years.

Table 2.1: Sex and HIV status of respondents in the zone

HIV STATUS				
SEX	**POSITIVE**	**NEGATIVE**	**TOTAL**	**%**
MALES	248 (42.4%)	74	322	33.7%
FEMALES	337(57.6%)	296	633	66.3%
TOTAL	585	370	955	100%

There is a significant association between the sex of respondents and their HIV status ($p<0.05$)

Table 2.2: Analysis of Sex and HIV status of respondents in the various States

		HIV Status		Total
		Positive	Negative	
State of Residence	Akwa Ibom	20.6%	79.4%	100.0%
	Bayelsa	26.1%	73.9%	100.0%
	Cross River	17.0%	83.0%	100.0%
	Delta	24.9%	75.1%	100.0%
	Edo	23.4%	76.6%	100.0%
	Rivers	16.8%	83.2%	100.0%
Total		22.7%	77.3%	100.0%

From the above analysis, Bayelsa State had the highest proportion of respondents having HIV positive (26.1%), while Rivers had the lowest (16.8%).

Table 3.1: HIV and marital status distribution of HIV-positive respondents in the zone

MARITAL STATUS				
Marital status	**Positive**	**Negative**	**Total**	**%**
Single	230 (39.3%)	142	372	39.0
Married	150 (25.6%)	103	253	26.5
Divorced	68	26	94	9.8
Separated	95	58	153	16.0
Widowed	7	3	10	1.1
Cohabiting	35	38	73	7.6
Total	585	370	955	100.0%

Highest, Second highest. There was a significant association between HIV and the marital status ($p<0.05$) of respondents.

Table 3.2: Analysis of HIV and marital status distribution of HIV-positive respondents in the various States

	Marital Status						Total
State of residence	Single	Married	Divorced	Separated	Widowed	Co-habiting	
Akwa Ibom	23.5%	39.7%	14.7%	11.8%	-	10.3%	100.0%
Bayelsa	39.1%	21.7%	17.4%	14.5%	7.2%	-	100.0%
Cross River	37.7%	32.1%	5.7%	13.2%	-	11.3%	100.0%
Delta	41.0%	25.7%	8.0%	19.3%	-	6.0%	100.0%
Edo	42.9%	31.6%	5.8%	7.7%	-	12.0%	100.0%
Rivers	35.6%	25.7%	10.9%	9.9%	8.9%	8.9%	100.0%
Total	39.7%	29.3%	8.4%	12.0%	1.5%	9.1%	100.0%

Edo State had the highest proportion of singles (42.9%) and Co-habiting (12.0%), Akwa Ibom State had the highest proportion of Married (39.7%), Bayelsa State had the highest proportion of divorced (17.4%), and Delta State had the highest proportion of separated (19.3%); while Rivers had the highest proportion of widows (8.9%).

Table 4.1: HIV status of respondents Vs monthly income in the zone

HIV STATUS	INCOME (₦)								Total
	No Income	≤ 2000	2001-5000	5001-10,000	10,001-15000	15001-20000	≥ 2001	No Response	
Positive	168	45	54	72	43	42	68	93	585
Negative	108	27	30	40	52	23	84	6	370
Total	276	72	84	112	95	65	152	99	955

The highest prevalence of infection. There is a significant relationship between income and HIV status of respondents.

Table 4.2: Analysis of HIV status of respondents Vs monthly income in the various States

State of Residence	INCOME							Total
	No Income	≤ 2000	2001-5000	5001-10,000	10,001-15000	15001-20000	≥ 2001	
Akwa Ibom	39.7%	7.4%	4.4%	17.6%	7.4%	14.7%	8.8%	100.0%
Bayelsa	27.5%	21.7%	2.9%	1.4%	27.5%	2.9%	15.9%	100.0%
Cross River	37.7%	7.5%	9.4%	11.3%	13.2%	3.8%	17.0%	100.0%
Delta	13.7%	13.7%	15.7%	10.4%	8.4%	8.4%	29.7%	100.0%
Edo	22.9%	10.8%	14.9%	13.5%	6.7%	5.3%	25.8%	100.0%
Rivers	20.8%	15.8%	26.7%	15.8%	8.9%	5.9%	5.9%	100.0%
Total	22.6%	12.5%	14.5%	12.3%	9.3%	6.6%	22.3%	100.0%

Akwa Ibom State had the highest proportions of No income earners (39.7%), #5,001 - #15,000 (17.6%) and #15,001 - #20,000 (14.7%), Bayelsa State had the highest proportion of < #2,000 (21.7%) and #10,001 - #15,000 (27.5%) earners, Delta State had the highest proportion on income earners greater than #20,000 (29.7%); while Rivers State had the highest proportion of #2,001 - #5,000 income earners (26.7%).

DISCUSSION

Age Factor

The South-South geopolitical zone of Nigeria comprises six states which include Edo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River. The HIV infection was more prevalent within the age group of 20 – 34 years. There was a significant association between age of respondents and their HIV status, the highest number of respondents was within the most sexually active age group (20 – 34 years).

Passer and Smith, (2001) reported WHO statistics stating that 1 in every 100 adults aged 15 – 49 is infected with AIDS virus. It the total. The highest numbers of respondents, 512 were within the age range of 20 – 34 years (53.6%).

Only 30.8% of respondents in age bracket 15 – 19 years were HIV-positive compared to 74.8% of respondents in age bracket 30 – 34 years. The Table shows that there is a significant ($p<0.05$) relationship between the age of respondents and their HIV status.

Gender Factor

In this study, infection was significantly higher in females than in males. Females were two times more vulnerable to contracting HIV Also variation in the socio-economic and political status by gender has emerged as was also noted that over 60% of new HIV infection in Nigeria occurred in the 15 – 25 years old age bracket. This age bracket (15 – 49) is consistent with what was found by other researchers. Youth within this age bracket have very active sexual life style and show a lot of youthful exuberance. It is also the age of experimentation and can expose the youths to contracting HIV infection.

Table 1.1 shows the residence, age brackets and sex distribution of respondents. Across the age groups, there were more female respondent than males with the female accounting for 66.3% of infection than their male counterparts. This observation is consistent with previous studies across the globe that indicated that women were more vulnerable to HIV infection than men, (Pelgueiras, 1995, Akerele and Egbochuku, 2001). There have been many researches carried out to show the prevalence of HIV/AIDS among women. Gender inequality manifesting itself in double sexual standards for males and females. General vulnerability of women partly accounts for a wide range of women reproductive health problems.

some of the factors responsible for increasing spread of HIV infection among Nigeria women Standing and Kiseka (1989).

Women in the African tradition are most disadvantaged and at the receiving end, with the result that a third of the people living with HIV (PLWHIV) are women and young girls. Young women between ages 15 and 19 years are four (4) times more likely to be HIV infected than their male counterparts. In Nigeria 57% of PLWHIV are women (Pelgueiras, 1995).

Gender inequalities (expressed in diverse forms) means that there are fewer opportunities and lesser power for women to avoid unsafe sex or negotiate for safer sex (Pelgueiras, 1995). This is responsible to a large extent for the high prevalence of HIV/AIDS, in the female gender. The poverty of most women in many regions of the World from Asia to Africa and Europe to Australia including Nigeria has also contributed to their vulnerability to HIV infection.

Standford and Evian, (2006) affirmed that one of the key areas of inequality that affected the epidemic was the general low status of women in Africa including Nigeria and then the South-South geopolitical zone of Nigeria. These women through mother-to-child transmission (MTCT) pass the virus to their children with many of such children dying at infancy. Pennington, (2007) reported that there had been an alarming increase in the number of HIV-positive children in Nigeria, 90% of who contracted the virus from their mother. The larger surface area of the female sex organ (vagina) relative to that of the male (penis) makes the female more prone to HIV infection. In addition, organ bruises which may be more in female can enhance entry of the HIV virus (Passer and Smith, 2001).

Table 2.1 shows the sex and HIV status of the respondents. Out of the total of 955 respondents, 585 were HIV positive and of these 248 (42.4%) were males and 337 (57.6%) were females. The Table shows that a significantly ($p<0.05$) higher number of females were HIV positive compared to males.

Marital Status Factor

This study has shown that single respondents were more liable to HIV infection than the married, divorced, separated, widowed and those cohabiting. Pelgueiras, (1995) summed up that poverty and miserable living conditions deprive young girls of even minimal privacy, exposing them to the risk of sexual assault and rape.

Unmarried girls because of their age, lack of education and low status, are not able to negotiate condom use to protect them against HIV infection. These single girls are free to have sex with anybody and as many times as possible. Since they are single, they are not bound by any religious ethics or marital fidelity as do married women. As for the widows, they may be forced to look for money to sustain themselves and their children through commercial sex. Fidelity is not legally binding among those cohabiting.

Table 3.1 shows HIV and marital status of respondents. The HIV positive respondents were 585 in the study. Although the majority of respondents (39.3%) were single, the level of infection (61.3%) was also high among the married (25.6%). From the data, it shows that single respondents 230 (39.3%) were more vulnerable to contracting HIV infection, followed by married respondents 150 (25.6%). Widowed respondents were the least 7 (1.2%).

Income Factor

HIV infection depended on the income levels of individuals. Respondents with no income and income less than N2000.00 per month were more susceptible to HIV infection. Socio-economic status of individuals in a country can and do affect the spread of HIV. Men migrate to the cities for employment leaving their families behind. The women in such situations feel that the only way to survive is to exchange sex for food, clothes, transport or jobs. These poor persons do not have access to educational campaigns through television, radio and newspapers and thus information about HIV/AIDS and other health matters are less likely to reach them (Standford and Evian, 2006).

The low socio-economic status persons are the ones most likely to indulge in unsafe sex or commercial sex as well as having poor health facilities at their disposal.

Nigeria was ranked among the 20 poorest countries of the World with about 66% of the population falling below the poverty line of $1 per day (Global HIV/AIDS Initiative in Nigeria, 2005). Peter –

Omale and Taiwo, (2006) wrote that 54.4% of Nigerians live in poverty. Thus a higher standard of living which will pull many away from the corridors of poverty will serve as a dual purpose of helping to reduce the spread of HIV and AIDS.

Table 4.1 shows the HIV status and income of respondents. The income ranges used for the study were from "No income" to > N20,000.00 monthly. The table shows that respondents (168 or 28.7%) with no income were more vulnerable to contracting HIV infection than other groups with higher income level.

CONCLUSION

The study was carried out in two (2) hospitals, each of Edo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River States. Correlational observation survey was the study design and the population comprised of HIV-positive and HIV-negative subjects who accessed their drugs in the Pharmacy Departments of the selected hospitals.

The conclusion from the study was that HIV infection was more prevalent within the age group of 20 – 34 years and that Infection was significantly higher in females than in males. Single respondents were more infected than the married, divorced, separated, widowed and those co-habiting and the respondents with no income and those with income less than N2000.00 per month were more susceptible to HIV infection.

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