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HIV/AIDS in Oyo State, Nigeria: Analysis of Spatial Pattern of Prevalence and Policy Implication for Government

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Abstract

Understanding the geographical distribution of a disease is critical to policy makers' decision in deploying government resources to confronting such disease either with a view to totally eradicating it or at least control its spread. Since HIV/AIDS was first recognized in 1981 in New York, a number of factors, habits and practices have contributed to its widespread. Today, HIV/AIDS disease including its consequences and burden is not geographically evenly distributed on earth. Today, the spatial

distribution of victims in the world is higher in Africa, and even in Africa, southern Africa. In Nigeria, the current prevalent rate shows that it is higher in River state. A number of factors are responsible for the spatial variability. This study explored the spatial variability or spatial pattern of prevalence in Oyo state, Nigeria. The five zones constitute the component part of Oyo state in the western part of Nigeria. The findings following the research establish that the spatial distribution of the HIV/AIDS is highest in Saki zone with 22 per cent and lowest in Oyo zone with 18.5 per cent of respondents. Others are Ogbomoso 21.5 per cent, Ibarapa 19.0 per cent and Ibadan 19.0 per cent of respondents with the disease. Cultural practices like female circumcision, medicinal bloodletting, rituals involving bloodletting, oath taking involving blood, ritual scarification, and the use of local sharp objects for herbal injection into the body, group circumcision and traditional practices relating to shaving body hairs using of local sharp object including cultural factor of promiscuity contribute to HIV/AIDS prevalence. This is in addition to Promiscuity and multiple sexual partner practices which spread the pandemic. The study however defined policy direction for government by churning out a number of recommendations which can help control the spread of the pandemic and care for the victims in the study area.

Key words: HIV/AIDS, Spatial Pattern, Prevalence, Policy Implications

1ntroduction

Since the first global case of AIDS was diagnosed and recognized as a new disease in New York in 1981 (CDC, 1981; Greene, 2007), the problem has undergone a lot of transformation from being a health issue to a development problem affecting socio-economic life of individuals and social interaction for a peaceful co-existence between infected persons and those not infected. According to UNAIDS (2008) HIV/AIDS is among the greatest challenges to sustainable economic, social and civil society development today; it is a global crisis that undermines all aspects and all sectors of our entire society.

HIV has infected a cumulative total of almost 71 million people, and about 34 million people have subsequently died. At the end of 2014, 36.9 million people were living with HIV globally. Africa is being faced with a grave crisis of HIV/AIDS with nine (9) out of every ten (10) new cases from the continent and estimated 13 million AIDS orphans currently living in Africa. As at 2014, about 25.8 million people were living with HIV in sub-Sahara Africa, as the region accounts for 70 per cent of the global total of new HIV.

The first two cases of HIV/AIDS in Nigeria were identified in 1985 and were reported at an international AIDS conference in 1986 (Adeyi et al 2006). In 1987, the

Nigerian health sector established the National AIDS Advisory Committee which was shortly followed by the establishment of the National Expert Advisory Committee on AIDS (NEACA). Nonetheless, the Nigerian government initial response to the increasing transmission of HIV/AIDS pandemic in the country was generally slow until 1991 when the Federal Ministry of Health made her first attempt to the Nigerian AIDS situation (Kanki and Adeyi, 2006). Government attention on HIV/AIDS pandemic gradually increased until 1999 when it received a boost under President Olusegun Obasanjo government, during which HIV prevention, treatment and care became one of the primary concerns of the government. And despite the many programmes organized to inform people about the problem of HIV/AIDS, the rate of it infection continues to be on the increase (Omoniyi and Tayo-Olajubu, 2006). In fact, a report from the Director General of the National Agency for the Control of AIDS (NACA) during a stake holders meeting with the National Steering Committee on Orphans and Vulnerable Children (OVC), revealed that about one thousand (1,000) new cases of Human Immune Virus (HIV) is being recorded daily in Nigeria and that it was prevalent among the youths, (NACA, 2010).

The aim of this paper is to explore and analyse the spatial pattern of the prevalence of HIV/AIDS and policy implications for government in Oyo state, Nigeria. The paper is divided into five parts, which are introduction, literature review, method, result and discussion/conclusion.

HIV/AIDS Spatial Progression and Impact

Geographical study of diseases has been carried out by several scholars such as Howe (1972), McGlasham (1993), Learmoth (1978), lyun (1983), and Hunter (1996) among other. Such studies have helped create insight into the pattern of incidence and prevalence of the disease. This pattern may be sex - age distribution or even regional distribution of the disease, and further established the significance of geography in the study of diseases especially in relation to its spatial pattern of prevalence.

Variations in the spatial distribution of morbidity (ill-health) and mortality has long been recognized by many researchers such as Hunter (1996) and lyun (1983). Like most other diseases, the spread of HIV/AIDS often defines a spatial pattern. Environment is largely implicative in the incidence, spread or prevalence of HIV/AIDS disease. The condition of the environment poses as a stimulus which catalyzes the manifestation of the symptoms of AIDS as well as aggravates the state of the ailment. There is also a direct relationship between home density and pathology. This account for the variation in the regional prevalence of the disease, as higher number of incidence or prevalence is likely in higher dense area than in the contrary.

Rural communities bear a disproportionate share of the burden of AIDS care, as many urban dwellers go back to their villages of origin when they fall ill (Topouzis and Guerny, 1999). Spatial variation in the socio-economic posture also describes a trajectory for the pattern of prevalence of AIDS. Anecdotal evidence indicates the high cost of coping with AIDS, (Akway et. al, 1998).

AIDS - related illnesses and death to employees affects organisations by both increasing expenditures and reducing revenues. Large sums are spent on medical needs of sick staff and their relatives, including expenditures on ARV drugs (Bolinger et. al, 1999). HIV/AIDS is fast eroding the labour force and the reproductive age in many countries of the world, and even young children are not spared as they remain mostly at risk of severe diseases and death (Sabatineli, 1994). As aforesaid, HIV/AIDS effect on the workforce in public and private organizations is enormous. Stigmatization is perceived to have contributed in widening the gap of social interaction between the infected and not infected group of persons. It also increases unemployment rate among victims as many organizations now request for a medical test certificate on HIV/AIDS, as condition for employment. And in my view, this is structural violence against HIV/AIDS victims.

Methodology, Data Collection and Analysis

Quantitative approach was adopted for the study and questionnaires were used to collect primary data from respondents, while secondary data was from literature materials such textbooks, journals, newspapers and even websites using internet facility. As regards the questionnaires, 250 questionnaires were prepared and administered to target audience who were mainly HIV victims which were reachable at some of the health centres the researcher reached at each of the zones for the study. However, only about 200 questionnaires were eventually recovered as some of the respondents either misplaced or intentionally refused to fill the questionnaire while others could not be reached when the researcher came back for collection of the questionnaires.

The data obtained following the use of questionnaires was analysed by the researcher using SPSS analysis, and the results are presented below.

Results

Geographical Distribution of HIV/AIDS in Oyo State:

For research convenience, Oyo State was delimited into HIV/AIDS study' zones vis: Ibarapa zone, Ogbomoso zone, Oyo zone, Ibadan zone and

Saki zone. The corresponding values of 38, 43, 37, 38 and 44 respectively, represent the number of HIV/AIDS infected persons interviewed in each of the zone. These, thus, represent the frequencies as indicated in the table 1 below, which also highlighted the corresponding percentage values as well as the valid and cumulative percentage data.

Table 1: Frequency and Percentage Value of HIV/AIDS Infected Persons Interviewed in Different Zones

Zones	Frequency	Percent	Valid	Cumulative Percent
Ibarapa	38	19.0	19.0	19.0
Ogbomoso	43	21.5	21.5	40.5
Oyo	37	18.5	18.5	59.0
Ibadan	38	19.0	19.0	78.0
Saki	44	22.0	22.0	100.0
Total	200	100.0	100.0	

The table above shows the frequency and the percentage values of 38 (19.0%) for Ibarapa zone, 43 (21.5%) for Ogbomoso zone, 37 (18.5%) for Oyo zone, 38 (19.0%) for Ibadan zone and 44 (22.0%) for Saki zone. The field result of the study on the geographical or spatial distribution of HIV/AIDS cases in Oyo state, Nigeria according to this study is further presented using the bar chart below:

Prevalence (%)

Fig 1: Bar graph showing the geographical distribution of HIV/AIDS

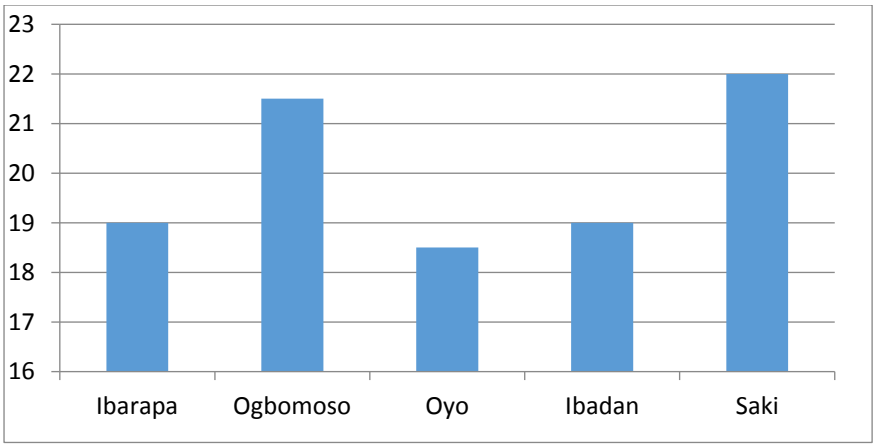

Table 2: Distribution of HIV/AIDS infected persons by Sex

Sex		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	128	64.0	64.0	64.0
	Male	72	36.0	36.0	100.0
	Total-	200	100.0	100.0	

Table 3 below clearly shows the level of prevalence of HIV/AIDS between male and female sexes. The number of infected female interviewed is 128 (64.0%) and that of male is 72 (36.0%). From the table above, the prevalent rate is higher among female than male. It should be noted that this outcome was influenced by the higher number of female on ground and willingly returned the questionnaires used for the data collection.

Table 3: Distribution of HIV/AIDS Infected Persons by Educational Status

Educational status		Frequency	Percent	Valid Percent	Cumulative Percent
Valid:	None	4	2.0	2.0	2.0
	Primary	8	4.0	4.0	6.0
	Secondary	72	36.0	36.0	42.0
	Post-secondary	116	58.0	58.0	100.0
	Total	200	100.0	100.0	

Table 4 below clearly shows the educational level of none, primary, secondary and post-secondary educational level, and the frequency percentage of 4 (2.0%), 8 (4.0%). 72 (36.0%) and 116 (58.0%) respectively of HIV/AIDS infected person in each category.

Table 4: Distribution of HIV/AIDS Infected Persons by AGE

Age		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 20	50	25.0	25.0	25.0
	21-30	61	30.5	30.5	55.0
	31-40	42	21.0	21.0	76.5
	41-50 -	22	11.0	11.0	87.5
	50+	25	12.5	12.5	100.0
	Total	200	100	100.0	

The table above shows the age bracket of 20 years (<20), 21-30 years, 31-40 years, 41-50 years and above 50 years, and the corresponding frequency and percentage of 50 (25%). 61 (30.5%). 42 (21.0%), 22 (11.0%) and 25 (12.5%) respectively for the various category of HIV/AIDS victims that filled the questionnaires. From the table, age bracket of 21-30 with 61 per cent appeared to be more affected by the pandemic.

Table 5: Distribution of HIV/AIDS infected Persons by Income Level: Income level

Income level		Frequency	Percent	Valid Percent	Cumulative Percent
Valid:	<N2,000	24	12.0	12.0	12.0
	N2001-N4000	5	2.5	2.5	14.5
	N4001-N6000	14	7.0	7.0	21.5
	> N6000	157	78.5	78.5	100.0
	Total	200	100.0	100.0	

Table 5 shows the number of person infected with HIV/AIDS in the various income bracket of equal or less than N2,000, N2001 - N4,000, N4001 -N6000, and equal or greater than N6000. The corresponding frequency of 12.0%, 2.5%, 7.0% and 78.5% respectively are associated with the income bracket. From the table, individual with income level of #6000 and above appeared to be more affected by the pandemic as they make up to 78.5 per cent on the table. Possibly, because such bracket often has more income for multiple sexual engagement.

In sum, from the table, the number of persons infected is highest among those with income level of equal or greater than N6, 000, while it is lowest in income bracket of N2001 -N4000.

Table 6: Influence of Culture on HIV/AIDS Prevalence

From the table below, 95 (43.0%) HIV/AIDS infected persons interviewed agreed that culture influence HIV/AIDS prevalence to a larger extent while 114 (57.0%) infected person interviewed did not respond.

Culture		Frequency	Percent	Valid Percent	Cumulative Percent
Valid:	No	95	47.5	47.5	47.5
	Yes	102	52.5	52.5	100.0
		200	100.0	100.0	

Culture defines a way of life and here refers to cultural practices such as female circumcision, practices involving medicinal bloodletting, rituals that

established blood brotherhood, medicinal enemas, and other rituals involving bloodletting as well as practices involving the use of shared instruments - ritual scarification, genital tattooing, injection of local herbs/medicine using local sharp objects, group circumcision, traditional practices relating to shaving of body hair. There is also a case of a cultural or social setting that accommodates a breakdown in moral values against promiscuity which seems to be the most important cultural factor contributing to HIV/AIDS prevalence.

Table 7: Economic Activity that Promotes HIV/AIDS Prevalence: Prostitution

Prostitution	Frequency	Percent	Valid Percent	Cumulative Percent
Valid: No	18	9.0	9.0	9.0
Yes	182	91.0	91.0	100.0
Total	200	100.0	100.0	

Table 7 shows that 182 (91.0%) respondents who implicated prostitution as the economy activity that promotes HIV prevalence, while 18 (9.0%) represents those that did not respond.

Table 8: Habit that Promotes HIV/AIDS Prevalence: Promiscuity

Promiscuity	Frequency	Percent	Valid Percent	Cumulative Percent
Valid: No	57	28.5	28.5	28.5
Yes	143	71.5	71.5	100.0
Total	200	100.0	100.0	

The table above shows the frequency and percentage of those who implicated promiscuity as a habit that promote HIV/AIDS prevalence. From that table, 143 (75.5%) implicated promiscuity, while 57 (28.5%) did not respond.

Table 9: Habit that promotes HIV/AIDS prevalence: Multiple Sexual Partner

Multiple Sexual Partner	Frequency	Percent	Valid Percent	Cumulative Percent
Valid: No	86	43.0	43.0	100.0
Yes	114	57.0	57.0	57.0
Total	200	100.0	100.0	

Table 9 also shows the number of persons who implicated multiple sexual partners as a habit that promotes HIV/AIDS prevalence. 86 (43.0%) respondents implicated multiple sexual partner as shown in the 'Yes' row in the frequency column, while 114 (57.0%) represents those that did not respond.

Table 10: Distribution of HIV/AIDS Infected Person by Routes of Transmission

The table below shows the various routes of infection of HIV/AIDS, vis -viz sexual intercourse, cut from contaminated sharp object, contact with contaminated blood (blood transfusion), mother to child transmission and contaminated syringe.

CROSS TAB

Route of Infection	Frequency	Percent	Valid Percent	Cumulative Percent
Valid: No of Resp.	3	1.5	1.5	1.5
Sexual Intercourse	108	54.0	54.0	55.5
Cut from contaminated sharp object e.g. razor	34	17.0	17.0	72.5
Contaminated Blood	41	20.5	20.5	93.0
Mother-to-child	4	2.0	2.0	95.0
Contaminated Syringe	10	5.0	5.0	100.0
Total	200	100.0	100.0	

Frequency-percentage values of 108 (54.0), 34 (17.0), 41 (20.5), 4 (2.0%) and 10 (5.0%) for sexual intercourse, cut from terminated sharp object, contaminated blood, mother to child, and contaminated syringe respectively for respondents. The frequency column represents the number of individuals who implicated the route on their row for their plights.

Hypotheses Testing

Zone Prevalence – Sex

The cross tab table below shows the result of the cross tabulation of prevalence in the zones and data on sex (gender). The count represents the number of male and female persons infected with HIV in the zones. The corresponding percentages within the zones are also clearly shown in the table. The chi-square table analysis shows the result of the chi-square test.

CROSS TAB

Zones		S E X		Total
		Female	Male	
Ibarapa	Count	24	14	38
	% within zone	63.2%	36.8%	100.0%
Ogbomoso	Count	20	23	43
	% within zone	46.5%	53.5%	100.0%
Oyo	Count	26	11	37
	% within zone	70.3%	29.7%	100.0%
Ibadan	Count	28	10	38
	% within zone	73.7%	26.3%	100.0%
Saki	Count	30	14	44
	% within zone	68.2%	31.8%	100.0%
Total	Count	128	72	200
	% within zone	64.0%	36.0%	100.0%

Chi-Square Tests

	Value	Df	Assymp. Sig. (2-sided)
Pearson chi-square	8.232[a]	4	.083
Likelihood Ratio	8.072	4	.089
Linear by Linear Association	2.545	1	.111
No of valid cases	200		

a. 0 cell (.0%) have expected count less than 5. The minimum expected count is 13.32.

Ho: Sex is not a function of HIV/AIDS prevalence is the zones.

$H_{1:}$ Sex is a function of HIV/AIDS prevalence in the zones.

Since the significant level of 0.05 is less than 0.08 from the test, then the test is not significant. Hence accept the Ho (null hypothesis). Sex (gender) is not a function of HIV prevalence.

Zone Prevalence – Age:

The cross tab table below shows the result of the cross tabulation of prevalence in the zones and age bracket of infected persons in the zones. The count represents the number of infected persons within the various age brackets

and their corresponding percentage values are also represented in the table, while the chi-square analysis table shows the result of the chi-square test.

CROSS TAB

Zones	AGE					Total
	21-30	31-40	41-50	50+		
Ibarapa Count % within zone	9 23.7%	10 26.3%	11 28.9%	4 10.5%	4 9.3%	38 100.0%
Igbomoso Count % within zone	16 37.2%	9 20.9%	9 20.9%	5 11.6%	4 9.3%	43 100.0%
Oyo Count % within zone	13 35.1%	12 32.4%	6 16.2%	3 8.1%	0 8.1%	37 100.0%
Ibadan Count % within zone	4 10.5%	14 36.8%	8 21.1%	4 10.5%	8 21.1%	38 100.0%
Saki Count % within zone	8 18.2%	16 36.4%	8 18.2%	6 13.6%	6 13.6%	44 100.0%
Total Count % within zone	50 25.0%	61 30.5%	42 21.0%	22 11.0%	25 12.5%	200 100.0%

Chi-square analysis

	Value	Df	Assymp. Sig. (2-sided)
Pearson chi-square	16.278'	16	.434
Likelihood Ratio	16.530	16	.417
Linear by Linear Association	1.555	1	.212
No of valid cases	200		

Chi-square analysis

a. 8 cells (32.0%) have expected count less than 5. The minimum expected count is 4.07.

Chi-square Tests

Ho: HIV/AIDS prevalence is not a function of Age.

H_1: HIV/AIDS prevalence is a function of Age.

Significant level: 0.05.

Since the significant level of 0.05 is less than 0.434 from the chi-square test (0.05 < 0.434), then accept the Ho (null hypothesis) as the test is not significant.

Hence, age is not a function of HIV/AIDS prevalence.

Zone Prevalence-Income

The cross tab table below shows the result of the cross tabulation between the HIV/AIDS prevalence in the zones and income level of infected persons. The count and the percentage representation of the infected person within the various income levels are indicated in the table, while the Chi-square analysis table shows the Chi-square test.

CROSSTAB

Zones	INCOME				
# means Naira (Nigeria currency)	< #2,000	#2001-#4000	#4001-#6000	>#6000	Total
Ibarapa Count % within zone	4 10.5%	5 13.2%	6 15.8%	23 60.5%	38 100.0%
Igbomoso Count % within zone	7 16.3%		8 18.6%	28 65.1%	43 100.0%
Oyo Count % within zone	13 35.1%			24 64.9%	37 100.0%
Ibadan Count % within zone				38 100.0%	38 100.0%
Saki Count % within zone				44 100.0%	44 100.0%
Total Count % within zone	24 12.0%	5 2.5%	14 7.0%	157 78.5%	200 100.0%

Chi-square analysis

	Value	Df	Assymp. Sig. (2-sided)
Pearson chi-square	77.430[3]	12	.001
Likelihood Ratio	81.275	12	.001
Linear by Linear Association	18.640	1	.001
No of valid cases	200		

a. 13 cells (65.0%) have expected count less than 5.

Chi-square test:

Ho: HIV/AIDS prevalence is not a function of income status

Hi: HIV/AIDS prevalence is a function of income status significant level: 0.05

Since the significant level of 0.05 is greater than 0.001 from the (0.05 > than 0.01) Then, the test is significant, hence reject the Ho (null hypothesis) and accept the alternative hypothesis. i.e. HIV/AIDS prevalence is a function of income status.

Zone Prevalence - Modes of Transmission

The cross tab table below shows the result of the cross tabulation between the HIV/AIDS prevalence in the zones and prevalence based on modes on transmission. The count and the percentage of the infected person from the difference mode of transmission are indicated in the table, while the Chi-square analysis table shows the Chi-square test.

Zones	Modes of Transmission						Total
	No response	Sexual Intercourse	Contermi-nated. Blood	Contermi-Razor Blade	Mother to Child Transmission	Contermiinated Syringe	
Ibarapa Count % within zone		28 73.7%	2 5 3%	6 15. 8%		2 5. 3%	38 100.0%
Ogbomoso Count % within zone	2 4.7%	22 51. 2%	9 20 9%	6 14. 0%	4 9. 3%		43 100.0%
Oyo Count % within **zone**	1 2.7%	12 32.4%	8 21.6%	8 21.6%		8 21.6%	37 100.0%
Ibadan Count % within Zone		20 52.6%	14 36.8%	4 10.5%			38 100.0%
Saki Count % within Zone		26 59.1%	86 18.2%	10 22.7%			44 100.0%
Total Count % within **zone**	3 1.5%	108 54.0%	41 20.5%	34 17.0%	4 3.0%	10 5.0%	200 100.0%

CROSS TAB

	Chi-square analysis		
	Value	Df	Assymp. Sig. (2-sided)
Pearson chi-square	64.424a	20	.001
Likelihood Ratio	60.932	20	.001
Linear by Linear Association	.126	1	.001
No of valid cases	200		

i 5 cells (50.0%) have expected count less than 5.

Chi-square Test:

Ho: HIV/AIDS prevalence is not a function of the modes of transmission

$H_{1:}$ HIV/AIDS prevalence is a function of level of the modes of transmission.

Significant level: 0.05

Since the significant level of 0.05 is greater than 0.01 from the test (0.05 > 0.01). Then, the test is significant. Hence, reject Ho (null hypothesis) and then accept the Hi (alternative hypothesis). i.e. HIV/AIDS prevalence is a function of the modes of transmission.

Zone Prevalence - Promiscuity

The cross tab table below shows the result of the cross tabulation between the HIV/AIDS prevalence in the zones and the factor of promiscuity as a habit that promote HIV/AIDS prevalence. The count and the percentage in the "Yes" column represent HIV/AIDS infected person who implicated promiscuity as a factor for the prevalence, while the count and percentage in the "No" column represent those who did not respond.

CROSS TAB

	Zones	Promiscuity-habit that Promotes HIV/AIDS Prevalence		Total
		No	Yes	
Ibarapa	Count	20	18	38
	% within zone	52.6%	47.4%	100.0%
Ogbomoso	Count	22	21	43
	% within zone	51.2%	48.8%	100.0%
Oyo	Count	15	22	37
	% within zone	40.5%	59.5%	100.0%
Ibadan	Count		38	38
	% within zone		100%	100.0%
Saki	Count		44	44
	% within zone		100.0%	100.0%
Total	Count	57	143	200
	% within zone	28.5%	71.5%	100.0%

	Chi-square analysis		
	Value	Df	Assymp. Sig. (2-sided)
Pearson chi-square	57.015[a]	1	.001
Likelihood Ratio	76.924	4	.001
Linear by Linear Association	48.922	1	.001
No of valid cases	200		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.55. Chi-square Test

Ho: HIV/AIDS prevalence is not a function of promiscuity. Hi: HIV/AIDS prevalence is a function of promiscuity.

Significant level: 0.05.

Since the significant level of 0.05 is greater than 0.01 from the test (0.05 > 0.01), there the test is significant. Hence, reject the Ho (null hypothesis) and then accept the alternative hypothesis i.e. HIV/AIDS prevalence is a function of promiscuity factor.

Zone Prevalence - Multiple Sexual Partners

The cross tab below shows the result of the cross tabulation between the HIV/AIDS prevalence in the zones and the factor of multiple sexual partner as a habit that promotes HIV/AIDS prevalence. The count and the percentage in the "Yes" column represents HIV/AIDS infected persons who implicated multiple sexual partners as a factor for the prevalence of HIV/AIDS, while the count and percentage in the "No" column represents those who did not respond. CROSS TAB

Zones		Promiscuity-habit that Promotes HIV/AIDS Prevalence		Total
		No	Yes	
Ibarapa	Count	28	10	38
	% within zone	73.7%	26.3%	100.0%
Ogbomoso	Count	39	21	43
	% within zone	90.7%	48.8%	100.0%
Oyo	Count	27	22	37
	% within zone	73.0%	59.5%	100.0%
Ibadan	Count	8	30	38
	% within zone	21.1%	78.9%	100.0%
Saki	Count	12	32	44
	% within zone	27.3%	72.7%	100.0%
Total	Count	114	86	200
	% within zone	57.0%	43.0%	100.0%

Chi-square analysis

CROSSTAB

	Value	Df	Assymp. Sig. (2-sided)
Pearson chi-square	63.987[a]	1	.001
Likelihood Ratio	69.51	4	.001
Linear by Linear Association	44.569	1	.188
No of valid cases	200		

a. 5 cells (.0%) have expected countless than 5. The minimum expected count is 15.91.

Chi-square Test:

Ho: HIV/AIDS prevalence is not a function of multiple sexual partners.

H_1: HIV/AIDS prevalence is a function of multiple sexual partner.

Significant level: 0.05.

Since the significant level of 0.05 is greater than 0.01 from the test, then the test is significant.

Hence, reject Ho (null hypothesis) and then accept the alternative hypothesis, i.e. HIV/AIDS prevalence is a function of multiple sexual partner.

Zone Prevalence - Prostitution (Economic activity that promotes HIV/AIDS Prevalence):

The cross tab table below shows the result of the cross tabulation between the HIV/AIDS prevalence in the zones and the economic activity of prostitution as activity that promote HIV/AIDS prevalence. The count and the percentage in the "Yes" column represents HIV/AIDS infected person who implicated prostitution as an economic activity that promote HIV/AIDS prevalence, while the count and percentage in the "No" column represent those who did not respond.

CROSS TAB

Zones		Prostitution-economic activity that encourages HIV/AIDS prevalence		Total
		No	Yes	
Ibarapa	Count % within zone		38 100.0%	38 100.0%
Ogbomoso	Count % within zone	9 20.9%	34 79.1%	43 100.0%
Oyo	Count % within zone	7 18.9%	30 81.1%	37 100.0%
Ibadan	Count % within zone	2 5.3%	36 94.7%	38 100.0%
Saki	Count % within zone		44 100.0%	44 100.0%
Total	Count % within zone	18 9.0%	182 91.0%	200 100.0%

	Chi-square analysis		
	Value	Df	Assymp. Sig. (2-sided)
Pearson chi-square	20.675[3]	1	.001
Likelihood Ratio	25.331	4	.001
Linear by Linear Association	1.730	1	.188
No of valid cases	200		

5 cells (50.0%) have expected countless than t. the minimum expected count is

Chi-square Test

Ho: HIV/AIDS prevalence is not a function of prostitution

H_1: HIV/AIDS prevalence is a function of prostitution

Significant level: 0.05

Since the significant level of 0.05 is greater than 0.01 from the test, then the test is significant.

Hence, reject the Ho (null hypothesis) and then accept the Hi (alternative hypothesis), i.e. HIV/AIDS prevalence is a function of prostitution – as an economic activity.

Policy Implications

There is the need for government and stakeholders including relevant civil society organisations to intensify campaign effort on awareness of HIV/AIDS especially to rural areas using localised media. The people should be adequately educated on the causes and adverse effect of the pandemic.

Furthermore, there is the need for government policy to be formulated and well implemented in such a way as to:

- Strengthen the HIV/AIDS unit of the directorate of Public Health Centre in the Ministry of Health.
- Provide IEC materials and stepping up publicity.
- Establish zonal STD/AIDS clinics in the zones within the state.
- Establish zonal blood transfusion and HIV screening centres in the zones within the state.
- Conduct regular research on HIV/AIDS
- Establish HIV/AIDS prevention committee with membership from Ministries of Education, Information and Women Affairs.
- More health facilities and HIV/AIDS clinics should be provided to facilitate early diagnosis and treatment.
- Adequate orientation programme should be organized to encourage regular periodic HIV/AIDS test for the populace, use of condoms or even abstinence (Zip up)
- Health education programme be employed to promote enlightenment and re-direct the re-orientation of the people to the use of Public Health Centres and clinics specifically designed for the management of HIV/AIDS.
- Epidemiological information system be Developed and strengthened
- The strengthening of the health components of environmental impact statement and/or establishing HIV/AIDS impact statements be ensured.

To further help reshape and re-direct government policy on HIV/AIDS to the benefit of rural areas especially, civil society organisations need to stimulate the government to:

- Optimize HIV/AIDS service delivery
- Improve ART program management and financing
- Update, finalize and disseminate state guideline.
- Ensure a flexible, long term procurement mechanism.
- Establish an efficient, reliable, and secure ARV drug distribution system.
- Reduce patient out – of – pocket expenditure on laboratory tests.
- Strengthen the ART program in preparation for expansion and proliferates voluntary counselling testing centres.

- Spatial analysis should not be based on universal generalization but, local structural study of geographical phenomena should be made to know how to tackle such problems with individual peculiarity.

It is very important that HIV/AIDS control programme conform to the beneficiaries need and preferences.

In rural areas in Nigeria for instance where government attention is low and access to retroviral drugs and health facilities is relatively poor, HIV/AIDS places great strain on agricultural and trading activities, food security, household earnings and ability to cope following adult morbidity and mortality from the disease. Infection of a family member by HIV can result to a substantial decline in household income. The strain on family coping ability can be put undue pressure and other partner if one of them is affected. The rural woman is usually more affected by such strain as she struggles through the thick and thin to keep the family or make a living partly due to rural woman limited access to asset in comparison to her male counterpart.

It is important for policy makers to constantly remind themselves that, just like violent conflict is both a public health and a security challenge (Fast et al., 2002), AIDS is also a public health and a security challenge, especially to the rural man and the rural woman in developing countries such as Nigeria where government attention to rural areas is relatively low. Most health facilities are located in cities and access to retrovirus drugs is relatively poor compare to the experience in urban areas.

Also, in conflict infected community, HIV/AIDS prevalence can contribute in heightening human insecurity**.** There is a difference between seeing people living with HIV/AIDS as security threat and treating HIV/AIDS as a security risk (Elbe, 2006). And as de Waal (2010, 116) concludes, 'the relationship between HIV/AIDS and conflict can be better understood observing local levels, specific configurations of forces, moment and dimensions of violence' in conflict infected community. The experience of people living with HIV/AIDS in a zone of conflict is the result of the interactions of several forms of injustice: economic marginality, displacement and restraint because of welfare, restricted access to health services. John Galtung, a founder of peace studies called "structural violence" the violence that is built into social structures and results in unequal power, unequal distribution of resources, and therefore unequal life chances.

Conclusion

The main focus of this study has been to explore the spatial pattern of HIV/AIDS prevalence in Oyo State, including policy implications for government.

In line with this study, the geographical distribution of HIV/AIDS in the delimited zones in Oyo state for this research are, Ibarapa zone 38, Ogbomoso zone 43, Oyo zone 37, Ibadan 38 and Saki 44. From this information, Saki has the highest figure of 44 which represents 22 per cent of those respondents for the study. Hence, in line with the study Saki has the highest prevalent rate of the pandemic. This is closely followed by Ogbomoso zone with 43 which represents 21.5 per cent. Ibadan and Ibarapa zones have 38 each which represent 19.0 per cent, while the lowest cases of HIV/AIDS according to this study was recorded in Oyo zone with a figure of 37 representing 18.5 per cent. So in terms of spatial distribution going by this study, HIV/AIDS cases is highest in Saki and by interpretation have the highest prevalent rate, while it is lowest in Oyo zone and in other words have the lowest prevalent rate. Coincidentally, Saki zone with the highest per cent in this study also recorded the first case of HIV/AIDS pandemic in Oyo state, Nigeria. This geographical distribution is central to this study, and is expected to help influence government policy on HIV/AIDS especially in the area of awareness, education and distribution of necessary drugs to victims.

In terms of correlation between disease prevalence and population, Ibadan which has the largest population among the five zones for the study would have been expected to have a higher percentage of the HIV/AIDS cases compared to other zones, however as city with more urban outlook than other zones, it enjoys higher level of awareness of the disease since more people in Ibadan have access to modern means of communication and information dissemination, and as the seat of power of Oyo state government and city itself, it enjoys more projects implementation including those organised by civil society organisations in respect to HIV/AIDS pandemic. This possibly contributed to reduce the effect of the relationship between dense population and disease flow.

As regards distribution along sex line, the study revealed that HIV/AIDS cases are higher among the female respondents with 64 per cent and lowest among their male counterpart with 36 per cent. On distribution along age brackets, HIV/AIDS cases is high within the age bracket of 20 and below with 25 per cent, partly because this category is easier to lure with bait into sexual intercourse and also probably less understood the consequences of unprotected sex. The figure is however highest in the age bracket of 21-30 with 30.5 per cent as this age bracket represent the most sexually active group. Though sexual intercourse is not the only ways of contracting HIV, it is however the most popular route compared to others. It is 21 per cent for age bracket of 31-40 and 11 per cent for 41-50. Going by the respondents' responses, it is lowest with 11 per cent at the age bracket of 41-50, while for 50 and above it is 12.5 per cent. Prostitution, promiscuity and multiple sexual partners among others are practices that have also been identified as factors in the spread of HIV/AIDS. Other factors like

culture and educational level cum awareness among others have also been found in this study to have influence on the rate of spread of the pandemic.

It is important for government policy on HIV/AIDS in Oyo state to be rejigged with a view to promoting greater attention on care for victims. It is important to inject new energy in reducing stigmatisation and spread of the pandemic as well as promoting care. Caring for people with HIV/AIDS may not be easy, but it is very crucial for the remaining period of life for people living with HIV/AIDS (PLWHA's). Caring can be emotionally demanding, involving and yet can be gratifying.

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