Global Journal of HUMAN SOCIAL SCIENCE
Volume 12 Issue 1 Version 1.0 January 2012
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460X & Print ISSN: 0975-587X

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PRE-DISPOSING FACTORS TO HIVAIDS PANDEMIC AMONG FISHER-FOLKS IN THE KAINJI LAKE BASIN OF NIGERIA

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Abstract - The paper examined the pre-disposing factors to HIV/AIDS vulnerability in the fisheries sector of Kainji Lake Basin. Thirty fishing communities were selected for data collection through the use of questionnaires. Data were analysed using descriptive statistics, correlation and factor analysis. The findings revealed level of western education among the respondents is very low. The correlation analysis for respondents' socio-economic characteristics and HIV/AID vulnerability revealed that only the respondents' education variable impacted significantly on the level, estimated number, as well as the HIV/AIDS cases reported. . For the socio - cultural factors contributing to HIV/AIDS vulnerability, family planning is believed to offend their gods, Principal component analysis revealed that risky occupation, multiple sexual partners, women don't have control, believed that family planning is offend the gods, forced sex, talking to children and engaging in sex before marriage are the principal respondents' drive factors that makes fisher-folks vulnerable to HIV/AIDS. The study made recommendations to addressing HIV/AIDS in the area.

I. Introduction

A number of lifestyle factors suggest that fishing communities are prone to HIV/AIDS. Susceptibility to HIV is determined by combinations of biological, social, cultural and economic factors. According to Gordon (2006) several known HIV risk factors converge around fishing activities, though not all of these factors are present in all fishing communities: fishermen tend to fall in the age group most vulnerable to sexually transmitted diseases (15 - 35 years); many people involved in fishing or associated activities are mobile or migratory and therefore less constrained by family influences and social structures at home; It has been suggested that since fishing itself is high risk, a culture of risk denial may extend to other dimensions of fishermen's lives; since fishing is a low status occupation and result to occurrence of multiple sex partners" (Kissling *et al.*, 2005).

Similarly, cash income, poverty, irregular working hours and being away from home places fishermen in a group with disposable income and when not fishing favors the consumption of alcohol and prostitution; the implication of this is that low-income women are drawn to fish landings or ports precisely because of the opportunities to sell food, alcohol or sex; the chance of being exposed to HIV is increased where a small number of women have unprotected sex with a larger number of men, or vice versa (Loevinsohn and Gillespie, 2003) and in places where women compete intensely for the fish catch for small-scale processing and local trade, "fish for sex" is not uncommon; gender inequality, compounded by poverty that puts women at risk of exploitation, makes it difficult for women to insist on condom use; and fishing communities have limited access to sexual health services (Gordon, 2006). Allison and Seeley (2004) caution against stereotyping, pointing out that not all fisherfolk engage in risky behavior, that fisheries in developing countries comprise mixtures of migrants of varying duration and resident farmer-fishers" while Neiland and Béné (2004) support an alternative image of fishermen as hard-working and forward-thinking which can co-exist with the above characterization. Nevertheless, they conclude: that a high-risk subculture exists among some important fisheries in developing countries such as the Gulf of Thailand, the African Great Lakes, and West African coastal fisheries. It is in view of the various scholarly opinions that the study ascertained the predisposing factors to HIV/AIDS scourge among fisherfolk in the Kainji Lake Basin of Nigeria

II. Data and Sample Characteristics

a) Study area

Kainji Lake (the biggest manmade lake in Nigeria) was formed as a result of the impoundment of the river Niger by the construction of the Kainji dam at Kainji Island in 1968. Kainji Lake is located in the North western part of Nigeria with a width of 137km by 24km, 1270km^2 surface area and longitude and latitude of 9°30' and 10°35' N and between 4°20' and 4°40' E

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(Anonymous 2001, Olokor. 1993). Kainji Lake Basin comprises of Niger and Kebbi States with these neighbouring emirates Kontagora, Borgu and Yauri.(figure 3) The basin has 314 fishing communities. On population, there was no record of the total number of the fisherfolk around the lake area; it was estimated by Vakily (1995) at 70,000 people living directly or indirect from the Kainji lake fisheries.

Basically, the lake basin can be divided into two agricultural zones viz upland and drawdown. Essentially, the lake is filled up during the dry season in December to February and begins to reduce in late February or early March, falling to the lowest level in August, after which it begins to rise again. Thus, a section of Kainji lake ecological zone is flooded and submerged between August and February and exposed between February and August.

The primary purpose of the construction of the dam is the generation of hydroelectric power, the creation of the dam offered great opportunities for a variety of development project such as fisheries, irrigated agriculture and also improved navigation from the coast up to the Republic of Niger.

b) Sampling Procedure and Sample Size

The multi - stage sampling procedure was used. According to Babbie and Mouton (2001) multi stage sampling method involves the initial sampling of group of elements, followed by the selection of elements within each of the selected cluster. The sampling procedure was in five stages. The first level is that Kainji Lake Basin is divided into three main strata; second stage was further division of three main strata to eight sub strata. The third stage will be selection of fishing communities considering the following criteria; location in the basin, scale of activities, proximity to services, diversity of fishing activities, composition of communities, landing sites and stable traditional institutions.

The fourth stage of the sampling procedure consisted of purposive selection of five fishing communities in each of the substratum. Simple random selection of fifty respondents from five communities of each of the two substrata upstream (Main Stratum 3) giving a total of one hundred respondents. The central (Main Stratum 2) has four substrata, fifty respondents were selected from five communities in each of the sub strata, giving a total of two hundred respondents and downstream (Main Stratum 1) contains two substrata, fifty respondents were selected from five fishing communities in each of the substrata, giving a total of one hundred respondents. The overall sample size for the study was four hundred (400) respondents. (see the map of Kainji Lake Basin). The tools of analysis used were descriptive, factor analysis, correlation and Mann Whitney analysis.

III. Results and Discussions

Table 1: Sample design outlay for study respondents

Kainji lake strata	Sub -strata	fishing communities/substratum	No of respondents	Total no from stratum
Main stratum 1	2	5	10	100
Main stratum 2	4	5	10	200
Main stratum 3	2	5	10	100
Total				400

Table 1: Distribution of respondent according to age , sex and marital status

Age	Frequency	Percent
Less than 15	-	-
15-20	24	6.0
21-25	53	13.3
26-30	70	17.6
31-35	70	17.6
36-40	40	11.2
41-45	44	11.1
	95	23.1
More than 45		
Sex	257	64.3
Male	143	35. 7
Female		
	50	11.3
Marital status	145	37.5
Single	1	0.3
Married	1	0.3
Divorced	165	41.3
Widowed	33	8.3
Married with two wives	5	1.3
Married with three wives		
Married with more than three wives		
Total	400	100

Source: Author's work, 2011

Table 1 shows the socio-economic information of the respondents. 67.7% were between 15 – 40 years with an average age of 37 years. While those who were above 40 years made up 34.1%. The majority of the respondents fall within the age groups noted for high HIV prevalence in Nigeria. This is significant in the sense that correct information on HIV/AIDS will be obtained among these age groups which are mostly affected and certainly the most sexually active, these ages are the active and productive years in agricultural production and they are crucial to agricultural development. This is the first study in the Kainji lake basin on HIV/AIDS and the ages of respondents corroborate the report of NDHS (2003). Thus, they are the very people who are vital to the economic future of the rural communities where poverty is dominant. In addition, the predominant age bracket between 15-40years, another fact that accounts for a high level of sexual activity.

According to sex distribution of respondents, 64.2% of the respondents were males and 35.8% were females. The variation may be as a result women restriction to their household that is; they are in Purdah, which buttresses the findings of gender studies carried out by Yahaya, 1999. It is significant also the women in the study area are one form of economic activities. The higher number of males in the study agrees with findings of experts that almost twice as many men as women were aware of HIV/AIDS (UNAIDS 1998). This is an indication that women may have less knowledge on HIV/AIDS vulnerability and solely dependent on men for their needs.

In term of marital status of the respondents. Majority (88.1%) of the respondents was married with one or more wives. 11.3% were single, 0.3% were divorced and 0.3% were widowed. The findings revealed that at least, 50% of the respondents had more than one wife. Informal discussion with key informant revealed that some women may be in second or third marriage as found in the study area. The fluidity of relationship among men and women means that there is an indication of a tendency for sexual continuation, particularly among the married people. Polygamy is a show of wealth in the study area.

Table 2 : Distribution of respondents according to household size

Number of children	Frequency	percent
1-5	194	48.5
6-10	89	22.3
Above 10	60	15.0
None	57	14.3
Total	400	100

Source : Author's work, 2011

Table 2 presents the household size. Only 14.3% of the respondents did not specify the number of children. 48.5% had 1 – 5 children. These large sizes may be difficult to maintain in view of poverty, types of accommodation not spacious and with little cross ventilation while those who did not specify number of children may be due to their belief. The household size may constitute a veritable source of labor in the study area.

Table 3 : Distribution of respondents according to ethnic composition and religion

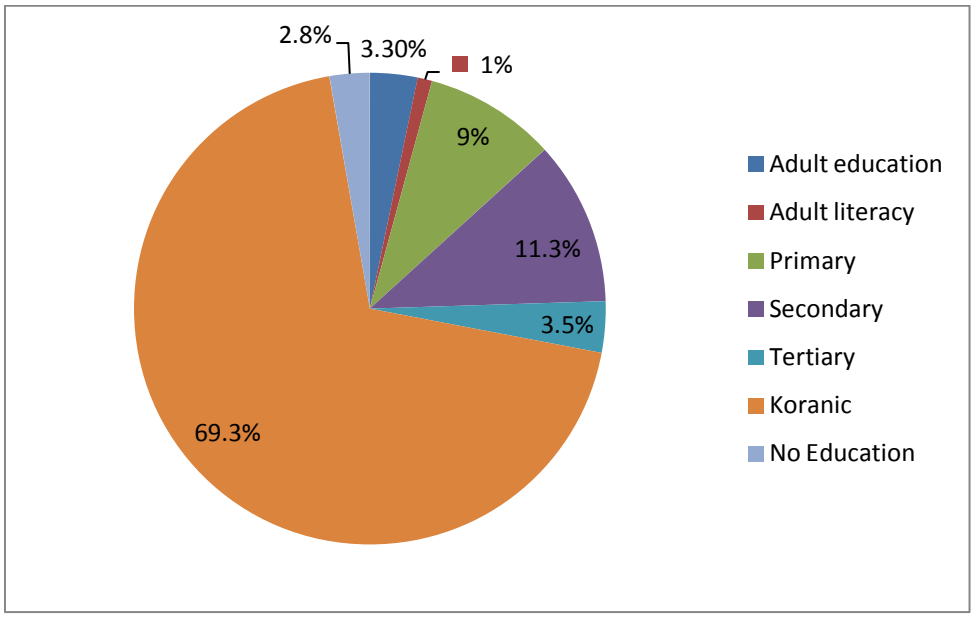
Ethnic composition	Frequency	Percent
Hausa	200	50.0
Bussawa	67	16.8
Lopawa	66	16.5
Kamberi	49	12.3
Urhobo/Ijaw	3	0.8
Yoruba	15	3.8
Religion		
Islam	382	
Christianity	16	95.5
Tradition	2	4.0
		0.5
Total	400	100

Source : Author's work, 2011

Table 3 shows the ethnic composition of the respondents. 50% were Hausa, 0.8% was Urhobo/Ijaw, and 3.8% were Yoruba. The fishing communities composed of diverse ethnic composition. This result is agreed with Oyedipe (1977) on the ethnic composition identified living around the Kainji. The various ethnic groups except the Urhobo/Ijaw and Yoruba are more or less permanent features and contributed to the economy in the study area. A wide range of languages were been spoken and different belief expressed. This suggests that HIV/AIDS interventions should take language for communication into account.

On the religion of the respondents in the study area. Majority (95.5%) of the respondents were Muslims. This religion allows polygamy. Only 4% of the respondents were Christians. This finding revealed that men could have more than one wife; it is more acceptable for them to have multiple relationships than for women.

Figure 1: showing the educational attainment of respondents



Source : fieldwork 2011

Figure 1 presents the education qualification of the respondents. 3.5% of the respondents have tertiary education while about 71% had no western education. The level of western education among the respondents is very low. It is interesting to know that many of the people are not interested in the western education but rather are more interested in sending their children to Quaranic School within and outside the study area than western education. Therefore, the low level of western education may affect the knowledge of HIV/AIDS increasing the ignorance of the people on HIV/AIDS and also limits the job opportunities available to the people restricting to intra occupational activities. It is evident that education levels need to be improved especially for women lacking literacy skills which are generally the poorest in the rural areas.

Table 4 : significant correlation between Fisherfolk socio-economic characteristic and their vulnerability to HIV/AIDS

Variable		cases of HIV in the village	level of infection in the village	estimated number	most affected in the village
Age	Pearson Correlation	-.039	-.088	.063	-.011
	Sig. (2-tailed)	.434	.081	.210	.824
	N	400	398	400	397
Sex	Pearson Correlation	.129(**)	.135(**)	-.073	-.037
	Sig. (2-tailed)	.010	.007	.143	.459
	N	400	398	400	397
educational attainment	Pearson Correlation	.205(**)	.181(**)	-.126(*)	-.044
	Sig. (2-tailed)	.000	.000	.012	.382
	N	400	398	400	397
primary income	Pearson Correlation	-.093	-.082	-.003	-.021
	Sig. (2-tailed)	.064	.104	.947	.680

	N	400	398	400	397
marital status	Pearson Correlation	.070	.016	-.092	.070
	Sig. (2-tailed)	.163	.751	.065	-.040
	N	400	398	400	.428
primary income	Pearson Correlation	-.093	-.082	-.003	397
	Sig. (2-tailed)	.064	.104	.947	-.021
	N	400	398	400	.680
alternative income	Pearson Correlation	.006	.040	-.051	397
	Sig. (2-tailed)	.897	.428	.313	-.016
	N	400	398	400	.749
					397

* Correlation is significant at the 0.05 level (2-tailed).** Correlation is significant at the 0.01 level (2-tailed).

Source : Author's work, 2011

Table 4 shows the outcome of correlation analysis for respondents' socio-economic characteristic and HIV/AID vulnerability revealed that only that only the respondents' education variable impacted significantly on the level, estimated number, as well as the cases reported. The relationship between education and level was negative, implying that education did not reduce the spread/ level of HIV in the respondents study area. This may probably be because they have not been given any education relating to their sexually transmitted diseases especially HIV/AIDS. The same negative relationship applies to education versus the number of those affected by HIV. This implies that there may be more cases of HIV/AIDS prevalence in the fishing communities of Kainji lake basin

a) Pre-disposing factors to HIV/AIDS in Kainji Lake Basin

Table 5 : Distribution of respondents according to perception of factors pre-disposing them to HIV/AIDS scourge

	Pre-disposing Factors to HIV/AIDS Vulnerability	U	%	D	%	SD	%	A	%	SA	%
i	Idleness	100	25	82	20.5	76	19.0	102	25.5	40	10.0
ii	Alcohol and drug abuse	93	23.3	96	24.0	40	10.0	136	34.0	35	8.8
iii	Over indulgence in sex	52	13.0	81	20.3	36	9.0	147	36.8	84	21.0
iv	Multiple sexual partners	79	19.8	78	19.5	30	7.5	148	37.0	65	16.3
v	Unprotected sex	82	20.5	30	7.5	6	1.5	209	52.3	73	18.3
vi	Inadequate health care	80	20.0	53	13.3	8	2.0	186	46.5	41	10.3
vii	Lack of health information	80	20	8	2.0	4	1.0	240	60.0	68	17.0
viii	Daily disposable income	112	28.0	53	13.3	8	2.0	186	46.5	41	10.3
ix	Low female male ratio	118	29.5	134	33.5	18	4.5	101	25.3	29	7.3
x	Many commercial sex workers	97	24.3	130	32.5	24	6.0	100	25.0	49	12.3
xii	High mobility	133	33.3	53	13.3	13	3.3	155	38.8	46	11.5
xiii	Risky occupation	146	36.5	43	10.8	16	4.0	156	39.0	39	9.8
xiv	Long periods away from spouse	125	31.3	74	18.5	30	7.5	137	34.3	34	8.5
xv	Predominance of sexually active age groups	143	35.8	80	20.0	25	6.3	108	27.0	44	11.0

Source : Author's work 2011

Key
U=undecided
D=Disagreed
SD=Strongly Disagreed
A=Agreed
SA=Strongly Agreed

Table 5 presents factors pre –disposing respondents to HIV/AIDS infection in the study area. 17.0% of the respondents strongly agreed with the statement "lack of health information, 60.0% of the respondents agreed with the statement and 20.0% were undecided. Likewise, with the statement "unprotected sex, 18.3% of the respondents strongly agreed, 52.3% of the respondents agreed with the statement and 20.5% were undecided. 10.3% of the respondents strongly agreed with the statement "daily disposable income"46.5% of the respondents agreed with the

followed by other factors such as high mobility, over indulgence in sex and long period away from spouse as shown in the table below.

The majority of men in fishing communities earn cash on a daily basis. It was obvious that some of their income may go on sex, alcohol and drugs as these are viewed as compensation for the discomfort during their fishing activities. The culture of alcohol and drug abuse may reflect lack of recreational activities. Some key informants recognized that drug abuse led to high risk behavior despite knowledge of HIV/AIDS of transmission. High level of unprotected sexual activity was also due to ready availability of cash that encourages commercial sex workers to migrate in conjunction with levels of fish catch and the resulting disposable income in the study area.

It was not surprising that lack of health information (77%) was a major factor. The absence of regular sensitization, prevention, care and treatment programme were clearly evident and may have contributed to lack of perceived benefit linked to accessing health related information. Neither government extension services nor non-governmental organizations (NGOs) were active in the study area.

b) Socio-cultural pre-disposing factors

Table 6 : Distribution of respondent perception of socio-cultural factors pre-disposing them HIV/AIDS Scourge

	Socio-cultural values and taboos relating to sex	U	%	D	%	SD	%	A	%	SA	%
i	In the community, family planning is believed to offend the gods	44	11.0	105	26.5	110	27.5	65	16.3	76	19.0
ii	Talking to children on sexuality is not morally acceptable in the community	49	12.3	100	25.0	13	3.3	118	29.5	120	30.0
iii	The practice of marrying more than one wife is not part our culture	31	7.8	83	20.8	55	13.8	88	22.0	143	35.8
iv	Exchange or sharing of blood during initiation or oath taking is not practiced in the community	81	20.3	104	26.0	52	13.0	107	26.8	56	14.0
v	Forced sex or rape is not a feature in the community	72	18.0	29	7.3	16	4.0	210	52.5	73	18.3
vi	Women are often taught to leave sexual initiative to men	89	22.3	30	7.5	7	1.8	229	57.3	45	11.3
vii	Women are expected to limit the sexual relation to marriage	66	16.5	16	4.0	5	1.3	259	64.8	54	13.5
viii	Men are to express social status by having many partners	81	20.3	79	19.8	8	2.0	191	47.8	41	10.3
ix	Women don't have control over sex whether safe or unsafe	69	17.3	17	4.3	8	2.0	252	63.0	54	13.5
x	Women are expected to tolerate the sexual behavior of their male partners	45	11.3	17	4.3	8	2.0	274	68.5	56	14.0
xi	In our tradition, a stiff sanction is imposed on sex outside marriage	46	11.5	10	2.5	11	2.8	191	47.8	142	35.5
xii	Engaging in sex before marriage is not encourage in the community	48	12.0	38	9.5	14	3.5	192	48.0	108	27.0

Source : Author's work 2011

Key
U=undecided
D=Disagreed
SD=Strongly Disagreed
A=Agreed
SA=Strongly Agreed

Table 6 presents the socio - cultural factors that may be contributing to HIV/AIDS vulnerability in the study area. In response to this statements "In the community family planning is believed to offend their gods, 27.5% of the respondents strongly disagreed to the statement, 26.5% disagreed and 11.0% were undecided. The result is a reflection of the people believe that procreation is of God why should we want check the God's commandment and against the belief of their forefathers. Their low level of education and religion may contribute to failure or negative attitude towards a proposed family planning programme in the study area. 30.0% agreed that talking to children on sexuality is not morally acceptable which corroborates some of the findings of Ezumah 2000 that even among couples, parents and children is taboo to educate one another on sex. 7.3% of the respondent disagreed that forced sex or rape is not a feature in the community. Any

victim of rape may likely to be engaged in unprotected sex to confirmed the statement of Gupta(2000) that individual who were sexually abused were more likely to be engaged in unprotected sex. Likewise, 35.8% of them strongly agreed to the statement that "The practice of marrying more than one wife is part of culture", 22.0% of the respondents agreed to the statement and 7.8% were undecided. This is a major factor that will be difficult to overcome because is more of an injunction from the religion that predominates in the study area. It may imply that the cases of HIV/AIDS recorded may be from heterosexual behavior of the people. Furthermore, 13.5% of the respondents strongly agreed to the statement that "women don't have control over sex whether safe or unsafe, 63% of the respondents agreed with the statement and 17.3%b were undecided. This result shares the view of Poggie *et al* (1995) that social and cultural attitudes, beliefs and values play an important role in the perception of, and response to danger.

The findings revealed the marginalization of women may likely put them at risk. No wonder that it has been reported in literature that where heterosexual transmission dominates, more women are infected than men because of economic dependence of the women on the husband which consequently leads to her inability to negotiate safe sex with her husband even when she suspects him of being infected, poverty and consequently unequal power relation, lack of education viable livelihood strategies and access to information and intimidation and violence against the girls. Thus foster economic dependence as found in the assertion of Romero-Daza and Himmelgreen, 1998; Ackerman and De Klerk, 2002, Jewkes and Abrahams, 2002; Dunkie, *et al* 2004; Schoepf, 2004). This situation make it difficult to take precaution necessary to avoid HIV/AIDS concurring to the assertion that " women living and working in fishing communities are highly susceptible to HIV/AIDS infection and very vulnerable to the impact of the infection"(Tanzarn and Bishop Sambrook, 2003).

Major pre-disposing factors of HIV/AIDS vulnerability

The PCA tool was employed to derive the major pre-disposing factors of respondents to HIV/AIDS. Table 7 shows that the Kaiser Meyer Olkin measure of sampling adequacy (KMO) is 0.839, therefore the variable data is suitable for the PCA analysis. Another test for indicating continuity in the utilization of PCA for examining our data is the bartlett's test of sphericity. Since we have found $P < 0.001$ we can conclude that there is relationship between our variables implying the suitability of our data for PCA analysis.

Table 7 : KMO and Bartlett's Test for the Drive Factors of HIV/AIDS in the study area

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.839
Bartlett's Test of Sphericity	Approx. Chi-Square	3747.624
	Df	325
	Sig.	.000

c) Total Variance Explained by component Eigenvalues

Figure 2 presents the scree plot of pre-disposing factors in the study area. Out of 26 components of pre-disposing factor, only seven (7) components was extracted because only these seven components an eigenvalue (a measure of explained variance) greater than 1.0. additionally the PCA criteria for the scree plot shows the place where the smooth decrease of eigenvalues appears to level off to the right of the plot is just after component 1 (Cattell criterion,). Only seven components explain respondents pre-disposing factors on HIV as will be seen in the components scores from the rotated component matrix in table 8

d) Major Pre-disposing Factors to HIV/AIDS Vulnerability

Table 8 : Rotated component matrix, communalities extraction percentages for Respondents Pre-disposing Factors

Pre -disposing factors	Component							Communalities extraction percentage %
	1	2	3	4	5	6	7	
Idleness	357	327	.562	63.0				63.0
Alcohol and drug abuse	471	436	.	356				63.5
Over indulgence in sex		.748						67.7
Multiple sexual partners		.761						67.8

Inadequate health care	394	.538						46.9
Lack of health information	532	350						.3..3
Daily disposable income								50.7
Low female male ratio	657			.548				61.4
Many commercial sex workers	492							
High mobility	.400	427		437				55.9
Risky occupation	.							63.4
Long periods away from spouse	775							74.2
Predominance of sexually active	.824	321						63.5
Family planning is believed to	665					369		
offend the gods								70.1
Talking to children	.812					.818		
Having more than one wife				.614		780		57.3
Sharing of blood					606		30	
Forced sex					764	314	2	73.6
Sexual initiative to men					.652			70.3
Female sexual relation to								
marriage					470			
Men to express social								62.5
status								64.5
Women don't have control over			.451					67.4
sex								
Tolerate sexual behavior			604					61.8
Stiff sanction for sex outside			641	335				60.3
marriage							.57	
Engage in sex before marriage			.706				8	54.3
			626					54.9
	.323		378	-.348			83	65.2
							0	
								77.1

Source : Author's work 2011

Table 8 shows that out of 26 hypothesised pre-disposing factors, only 7 components was extracted because only these seven components have an **eigenvalue** (a measure of explained variance) greater than 1.0. Another criteria use in extracting important component is an equal or more than five percentage of variance which is presented in the table. Based on the result on the components scores from the rotated matrix, it is clear that respondents 'pre-disposing factors' is sub-summed in seven components. They are: risky occupation, multiple sexual partners, women don't have control, family planning is believed to offend the gods, forced sex, talking to children and engaging in sex before marriage, are the principal respondents' drive factors for HIV/AIDS. These seven variables load 0.824, 0.761, 0.706, 0.614, 0.764, 0.819, and 0.830 from components 1, 2, 3,4,5,6 and 7 respectively. Their communalities are 74.2%, 67.8%, 54.3%, 57.3%, 64.5%, 73.6% and 77.1% .

Table 9 : correlation estimates between pre-disposing factors of HIV/AIDS and their HIV/AIDS profile among respondents in the study area

Variable pair	R co-efficient	
Idleness-level	-.233(**)	
Alcohol and drug abuse-level	-.211(**)	
Over indulgence in sex-level	-.114(*)	
Multiple sexual partners-level	-.251(**)	
Daily disposable income-level	-.200(**)	
Low female male ratio-level	-.236(**)	
Many commercial sex workers-level	-.206(**)	
High mobility-level	-.117(*)	
Long periods away from spouse-level	-.153(**)	
predominance of sexually active-level	-.148(**)	

** Correlation is significant at the 0.01 level (2-tailed

* Correlation is significant at the 0.05 level (2-tailed).

Source : Author's work 2011

Table 9 shows correlation relationship between factors pre-disposing of fisherfolk to HIV/AIDS and their HIV/AIDS profile among respondents in the study area. The estimated coefficient for pre-disposing factors of HIV/AIDS vulnerability obtained from the regression analysis. Among the variables under studied, idleness, alcohol and drug abuse, multiple sexual partners, daily disposable income low female male ratio, commercial sex workers, high mobility, long separation away from home and predominance of sexually active were found to have significant influence on HIV/AIDS vulnerability in the study area. In conclusion, poverty, gender inequality, inadequate healthcare, lack of education and cultural attitudes toward sexuality and reproduction are the significant factors to HIV/AIDS vulnerability in agreement with assertion of Stillwaggon (2002) states "living conditions in Africa (or other places in the developing world) provide a very different terrain from that of the United States for the propagation of infectious disease".

e) Chances of HIV/AIDS infection among the people

Table 10 : Distribution of respondents according to rate of chance of HIV/AIDS infection

Rate of chance of infection	Frequency	Percent
High	54	13.5
Low	160	40.0
No risk at all	182	45.5
Already have AIDS	-	-
No response	4	1.0
Reasons for high rate		
Share sharp objects	58	14.5
Do not use condoms	19	4.8
I have more than one sex partner	33	8.3
Sex with sex workers	12	3.0
My spouse/partner has other partners	6	1.2
Had blood transfusion	3	0.8
Use of unsterilied objects	6	1.2
Total	400	100

Source : Author's work 2011

Table 10 presents the rate of risks in the study area. 45.5% of the respondents said no risk at all to HIV infection while only 13.5% of the respondents admitted the high chance of HIV infection among the community members. 14.5% of the respondents gave reason that attitude of sharing sharp objects is prevalent while 8.3% for more than one sex partners. It is important to discourage the use sharing of sharp blade for manicure which is a common activity. The percentage of respondents who did not know the implication of someone sharing the same razor in cutting their nails corroborates the finding of an earlier study by Iwoh (2004), who reported that there was low knowledge of HIV/AIDS/STIs among prison staff in Nigeria who are suppose to be more enlightened than the fisherfolk. Below is the picture of typical example of local barber who is likely to share razor and sharp objects among his customers in the study area.

f) Respondents Perceived implications of Pre-disposing Factors

Table 11: Distribution of respondents according to perceived implication of pre-disposing factors to HIV/AIDS Vulnerability (U=undecided, D=Disagreed, SD=Strongly Disagreed, A=Agreed, SA=Strongly Agreed)

S/No	Implication of pre-disposing factors	U	%	D	%	SD	%	A	%	SA	%
i	Local supply of foodstuff may be endangered	35	8.8	53	13.3	46	11.5	196	49.0	70	17.5
ii	Too weak to fish	22	5.5	10	2.5	1	0.3	268	67.0	99	24.8
iii.	Loss of labor/skills and change in workload:	44	11.0	11	2.8	2	0.5	287	71.8	56	14.0
iv	Work time and productivity will reduce	38	9.5	5	1.3	-	-	278	69.5	79	19.8
v	Fishing near the shore	91	22.8	17	4.3	12	3.0	228	57.0	52	13.0
vi	Limited investment in gears, boat &other inputs	67	16.8	32	8.0	4	1.0	239	59.8	58	14.5
vii	A number of poor household rising in the community(increasing poverty)	52	13.0	11	2.8	3	0.8	271	67.8	63	15.8
viii.	A number of productive age are dying	74	18.5	52	13.8	5	1.3	205	51.3	64	16.0
ix	Engagement in fishing at younger ages	82	20.5	15	3.8	4	1.0	248	62.0	51	12.8
x	Engagement in in-active fishing	93	23.3	16	4.0	6	1.5	241	60.3	44	11.0

xi	Individual productivity is affected thereby affecting household food security	59	14.8	10	2.5	4	1.0	254	63.5	73	18.3
xii	Reduction and collapse of asset base	80	20.0	24	6.0	7	1.8	235	58.8	54	12.5
xiii	Change in fishing practices and cropping pattern	81	20.3	37	9.3	5	1.3	212	53.0	65	16.3
xiv	Lost access and control of productive family resources	71	17.8	36	9.0	6	1.5	235	58.8	52	13.0
xv	Declining yields	59	14.8	50	12.5	1	0.3	219	54.8	71	17.8
xvi	Reduction in area of land under cultivation	71	17.8	34	8.5	2	0.5	226	56.5	67	16.8
xvii	Loss of income and increased spending needs:	48	12.0	15	3.8	4	1.0	235	58.8	98	24.5

Source : Author's work 2011

Table 11 presents the perceived implication of pre-disposing factor among the respondents in the study area. Only 14.0% of the respondents strongly agreed with the statement that "loss of labor/skills and change in work load, 71.8% of the respondents agreed with the statement and 11.0% were undecided. As a result of loss of labor, the environment may also suffer due to the prevalent of chronic diseases which increase lack of necessary skills and knowledge to practice sustainable fishing. In addition anyone suffering from health related illness often resorts to fishing in shallow waters which poses a considerable risk to biodiversity of the environment. This practice may increase susceptibility to other infections such as schistosomiasis which is common parasites found in shallow waters of lakes as found in the water bodies and it was reported in this study area several years ago. One key informant said that there were cases but had not taken significant step to quantify the impact on fishing practices in the study area.

In response to the statement "work time and productivity will reduce" 19.8% of the respondents strongly agreed to the statement, 69.5% agreed and 9.5% were undecided. Likewise, to the statement "A number of poor household rising in the community (increasing poverty), 15.8% of the respondents strongly agreed to the statement, 67.8% agreed and 13.0% were undecided. Furthermore, 24.8% of the respondents strongly agreed to the statement "too weak to fish"67.0% agreed and 5.5% were undecided. 18.3% of the respondents strongly agreed to the statement "individual productivity will be affected thereby affecting household food security, 63.5% agreed and 14.8% were undecided. Some of perceived implications were found in the findings of Kaschula, 2008; Nguthi and Niehof, 2008; Gwatirisa and Manderson, 2009; Heymann and Kidman, 2009; Onwujekwe *et al*, 2009; Parker *et al*, 2009. This result may directly or indirectly affect household incomes, guaranteeing food insecurity as household are dependent on fish for both their staple diet and also to generate income to buying other foods. This decline in yield may have implications on the population such that they are unable to afford health care, reduced nutritional status and low resistance to infection.

Although the respondents described the perceived implication of illness and pre-disposing factor to HIV/AIDS in terms of its effect on their livelihood, household well being and difficulty in obtaining food for their families, little was said on the time being spent caring for those who were sick. This may be due to the lack of time sensitive livelihood strategies. Unlike agricultural communities where successful cultivation of crops is dependent on time spent preparing land, weeding and planting at specific time.

IV. Conclusion and Recommendations

This paper has highlighted the pre-disposing factors to HIV/AIDS and their vulnerability in fishing communities of Kainji Lake Basin of Nigeria. It was discovered that combination of poverty, gender disparities, low level of utilization of health services and local population link between mobility and a situation in which multi- partner sexual behavior is acceptable. Also availability of the daily cash income is important determinant of HIV/AIDS vulnerability which may have consequences on fishing communities: increased poverty in families, disintegration of the family unit and reduction of the most active labor force. The following recommendations are made:

- Reduce high risk sexual behavior through, education and communication activities for fishing communities
- Develop alternative livelihood activities, such as income generating activities, for fisherfolk
- Invest in infrastructure improvements in fishing communities, especially in the domains of education and health care facilities

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