

Regional Challenges to HIV/AIDS Prevention in a Rural Community in Kwara State, Nigeria: Nutritional and Educational Strategies

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Abstract: This study presents the report of an educational and nutritional initiative undertaken to prevent and control HIV/AIDS infection among inhabitants of a rural community in Kwara State, Nigeria. The goals of the initiative were to obtain base-line information relating to the inhabitants' HIV/AIDS knowledge and feeding practices and to boost participants' HIV/AIDS and nutritional knowledge and practices. In order to achieve the objectives of the initiative, survey, interview and focus group discussion procedures were employed to elicit data from 165 purposively selected male and female students and parents (comprising 67 students and 98 parents) in Oloru village, Nigeria. A 79-item Questionnaire was used to elicit data on respondents' HIV/AIDS and nutritional knowledge, food choices and feeding practices. A 33-slide power point HIV/AIDS lecture on six major aspects of HIV/AIDS was presented to boost participants' HIV/AIDS knowledge while, nutritional education and food preparation demonstration were undertaken to modify their nutritional knowledge and feeding practices. Findings of the study showed, among others, that more students than parents demonstrated adequate knowledge of HIV/AIDS education but <50% of either group appeared to have good HIV/AIDS knowledge although, local availability of classes of food was reported only carbohydrate meals were typically eaten in the community. Based on the findings, integration of HIV/AIDS, Sexuality and Life Skills education into the secondary school curriculum and more aggressive promotion of public enlightenment programmes through appropriate HIV/AIDS and nutritional education were considered critical to HIV/AIDS prevention in rural communities.

Key words: HIV/AIDS prevention, olooru community, Kwara State, nutritional strategies, educational strategies

INTRODUCTION

A report of the National Action Committee on AIDS (NACA) in 2005 showed that Kwara State had the lowest HIV prevalence in the North Central Geopolitical Zone of Nigeria as at 2003. This was in spite of the fact that the zone had the highest median HIV prevalence of all the six geopolitical zones in the country in the same year (Fig. 1).

However, there were evidences to the fact that some parts of the State had greater vulnerability to HIV infection because of a number of factors including insufficient knowledge about HIV/AIDS and the keeping of multiple sexual partners. Although, a majority had heard of AIDS, many do not know how HIV is spread and do not believe they are at risk. In a study conducted by Aboyeji *et al.* (2004), using a total of 846 respondents, it

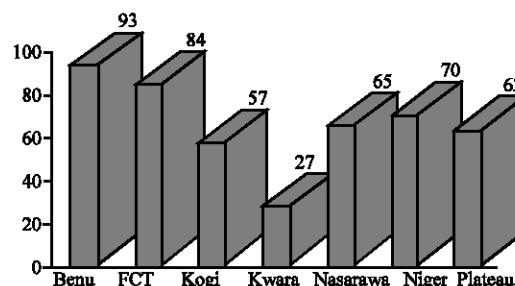


Fig. 1: HIV/AIDS prevalence in North Central Zone, 2003

was found that older teenagers were more aware of HIV/AIDS than the younger ones. Also, while 28% of the sample thought that HIV/AIDS is curable, 27.3% thought that HIV can be transmitted through sharing of towels. Similarly, in a study at Ilorin among long-distance truck

drivers, 91% of 180 drivers admitted having multiple partners. Casual sex rate was 43% and commercial sex rate was 30% (Araoye and Adegoke, 1996). A number of other psycho-social factors including concentration of long-distance drivers, commercial sex workers, sexual and nutritional health of host community may also cause widespread HIV/AIDS infection in some communities.

Keeping the HIV prevalence in Kwara State (particularly in established areas of high vulnerability to HIV infection) low thus remains a challenge to all stakeholders involved in mitigating the spread and impact of HIV/AIDS infection. One practical and effective method is by building the resistance of individuals against infection through adequate nutrition. Unfortunately however, there is a dearth of documented campaigns with focus on nutrition as a prevention method particularly in rural communities. Rather the few initiatives to which these researchers had access include the awareness campaign mounted for Motor cycle riders and drivers at the Oloru transit camp by the Nigerian Automobile Association (NATA) a non-governmental organisation in collaboration with the Kwara State Action Committee on HIV/AIDS (KWASACA) in 2006 and the launching of HIV/AIDS Club at the Oloru Community Secondary School by the wife of the State Governor also in 2006. While, acknowledging the importance of both initiatives, their limitation to the transit camp and the school (also located along the highway) limited accessibility of the host community to the benefits of the HIV/AIDS prevention campaigns.

Other related initiatives include the research of Clement (2002), who reported a growing awareness of the magnitude of the impact of HIV/AIDS on the various segments of the population most at risk, as well as Musa *et al.* (2003), who investigated the attitude and perception of students in tertiary institutions towards pre-marital HIV screening in Ilorin, Nigeria. However, these studies neither focused on rural communities nor focused on nutritional and HIV/AIDS.

The gaps created in the knowledge of varied forms of HIV/AIDS prevention strategies were what this initiative partly set out to address. The conviction that when individuals are empowered with appropriate knowledge, attitude and skills for behaviour change HIV/AIDS infection can be controlled provided the impetus for this study. Similarly, Maina and Mwadime (2002) emphasized that attention should be paid to prevention through life skills building in order to achieve significant reduction in the vulnerability of rural communities to HIV infection. Importantly, for many rural communities in the State, providing adequate nutrition even in the absence of HIV/AIDS remains a challenge whereas the potential of

malnutrition to compromise the body's immune system to fight infection and keep the body healthy can not be over emphasized.

Thus, the purposes of the education and nutritional initiative reported in this study were; to elicit base-line information relating to the inhabitants of Oloru, a rural community's, HIV/AIDS knowledge and feeding practices and to boost the community's HIV/AIDS knowledge base and nutritional knowledge and practices. According to Strand (2002), nutrition is so important that it is capable of arresting or even reversing the progress of any disease. Similarly, Awotundun (2005), reported that various nutrients serve the body by promoting growth, by regulating body processes and by protecting it against diseases. For instance, the study of Abiodun (2004) showed, through the meal diet, an average weight of 5% of body weights of male patients and 2.5% female patients monthly. A balanced nutrition is therefore, very necessary both for preventing and mitigating the effect of HIV/AIDS. A balanced nutrition is therefore, very necessary both for preventing and mitigating the effect of HIV/AIDS. It can be given to boost or strengthen the immune response and improve its effective functioning. This applies to people dwelling in the rural communities who tend to be less concerned or who may be ignorant of the possible connection between what they eat and HIV infection.

Empowering communities in this regard was therefore important for enhancing the spread of vital awareness to inhabitants of Kwara State and contributing towards the goal of achieving a reduction in HIV/AIDS prevalence to <1% of the population by the year 2010.

The initiative derived theoretical underpinning from the behaviour modification perspective of cognitive theory, which argues that human beings are active information processors whose behaviours are constantly modified by ability to consciously analyze and apply information in their environment (Houston, 1991).

Building on this theory, persuasion researchers like Petty and Wegener (1998), Petty *et al.* (1995) and Eagly and Chaiken (1993) in their elaboration model, reported that when persuasive messages motivate people to think elaborately and cognitively respond to issues, any changed attitude (evolving there-from) will more likely persist, resist attack and influence behaviour (Myers, 1999). Guided by this behaviour modification model, issues that were of relevance to the needs and values of the community were incorporated into the HIV/AIDS and Nutritional lecture. The primary aim of the lecture-cum food preparation demonstration was to provide participants up-to-date information on HIV/AIDS and nutritional issues, which could empower them to

develop appropriate attitude and take actions with potential to prevent HIV/AIDS infection (Rudd *et al.*, 2004).

This education initiative was considered significant particularly because no such comprehensive educational initiative had been conducted in Oloru community in spite of its established vulnerability to HIV infection. Outcomes of the initiative should therefore provide objective data which could inform further pragmatic initiatives, responsive to the specific needs of inhabitants of Oloru community and other similar communities in the State.

The following questions sharpened the focus of the initiative:

- What are the levels of HIV/AIDS and nutritional knowledge among the students and parents?
- What is the typical attitude of each group to HIV/AIDS -related issues?
- What is the extent of each group's involvement in HIV-risk behaviours?
- What are the prevailing feeding practices in the community?
- What factors influence food choices in the community?
- What is the impact of HIV/AIDS and nutritional education on participants HIV and nutritional knowledge?
- What is the impact of HIV/AIDS and nutritional education on participants?

MATERIALS AND METHODS

Location: The research was carried out in Oloru village in Moro Local Government Area of Kwara State,

Nigeria. The choice of Oloru as the locale of the initiative was informed by laboratory reports at the University of Ilorin Teaching Hospital and informed opinion of officers of the Kwara State Action on Aids (KWASACA) both of which suggested the vulnerability of the community to HIV infection. The fact that the indigenous community had hither-to not benefited directly from any HIV/AIDS sensitization campaign also informed the choice of the community for this initiative.

Oloru is located some 30 km to the North of Ilorin the Capital of Kwara State and is surrounded by Kanbi to the North, Shao to the South, Onigari to the East and Alufa to the West (Fig. 2).

The village falls in the Wet tropical climate and in the Guinea Savannah region. Its location on the Trunk A road, which links the Southern and Northern States of Nigeria, makes it a convenient transit camp for long distant drivers from the North, West and Eastern parts of Nigeria. Thus, although >90% of the approximately 10,000 inhabitants are engaged in farming, but motor spare parts trading and related commercial activities including prostitution also flourish in the transit camp (about 10% of which had been destroyed by storm) in the indigenous part of the village, but a handful of Igbo spare part traders and Hausa food sellers also reside on both sides of the high way along the transit camp.

Although, a couple of churches are in the community, the indigenous population is predominantly Moslems and mostly polygamists, while a few traditional worshippers also abound. Available social amenities include a primary, Arabic and secondary schools, portable water, electricity supply and Transformer, Basic Health Centre, Federal Road Safety Office and limited Global System for Mobile Telecommunication (GSM) service.

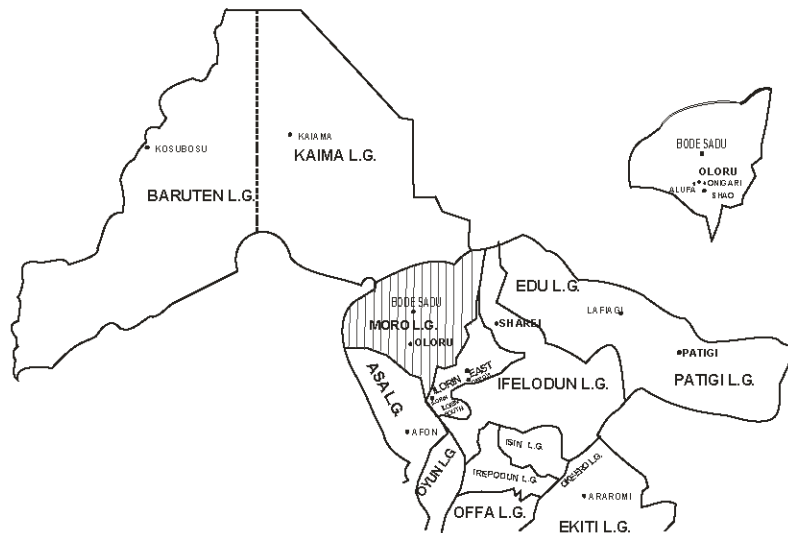


Fig. 2: Map of Kwara state showing the local govt. (Areas and location of Oloru village)

Participants: All Senior Secondary I-III students of the single Secondary school in the community who were present in the school at the time of the data collection (June, 2006) participated in the survey, while all parents encountered (in the 16-compound indigenous area of the community) during the period of data collection were interviewed. In all, 75 students (46 males and 29 females) and 87 parents (45 males and 42 females) participated in the survey and interview, respectively. Thirteen members of the HIV/AIDS Club (4 females and 9 males) who were present in the school during the time of data collection participated in the FGDs while, all students and teachers present in the school the following day participated at the lecture cum food preparation demonstration. Similarly, the Community Head, his Chiefs and all interested members of the community participated at the HIV/AIDS education and Food Preparation Demonstration undertaken in the indigenous area of the community.

Instrumentation: Data were gathered through questionnaire response, Interview and Focus Group Discussions (FGDs). The primary aim of eliciting data from multiple sources as listed was to generate qualitative data in sufficient quantity required for triangulation to arrive at objective and verifiable conclusions presented in this report.

Survey and interview: A questionnaire, titled 'HIV/AIDS Awareness and Feeding Practices Questionnaire' was developed to elicit data on respondents' HIV/AIDS knowledge, attitude and practice, nutritional knowledge, food choices and feeding practices. The 79-item instrument was adapted from Olasehinde-Williams *et al.* (2006), Gari (2002) and Maina and Mwadime (2002). Respondents were requested to either select from a number of response options, to indicate yes or no option or to supply responses applicable to them for the items on the questionnaire.

Focus group discussion: To gain further insight into the students' responses a 6-item interview schedule on such issues as sexuality knowledge, parent-child communication, peer pressure for sex, sexual experience and concerns, HIV/AIDS knowledge and feeding practices were elicited.

HIV/AIDS and nutritional education: A 33-slide power point presentation on six major aspects of HIV/AIDS education (concepts, transmission, prevalence, signs and symptoms, prevention, treatment and care) was developed

to boost participants' HIV/AIDS knowledge, while locally available and common food items (including yams, rice, beans, fruits, cold pap, soya beans, soya cheese, leafy vegetables, melon, fish and palm oil) were provided for the nutritional education and food preparation demonstration.

Experts in psychology, medicine, guidance and counselling, evaluation, agriculture, food and nutrition in the University of Ilorin, Nigeria established the face and content validity of the questionnaire after which it was trial-tested on 10 male and female SSI-III secondary school students and 10 male and female parents in a rural community different from the locale of the study. As a result of the trial-testing, the survey/interview instrument, which originally contained 85 items, was reduced to 79 because of the ambiguities in some items and especially because of the long time (about 65 min), it took participants to complete responding. This notwithstanding, the eventual instrument remained adequate for obtaining complete and reliable data, which were crucial to the initiative and took about 40 min to complete. A test-retest reliability check, with a three-week interval, was then undertaken among different sets of 20 male and female SS I-III students and 20 parents and yielded 0.68 coefficient of stability. The FGD instrument was trial tested on 5 female and 5 male SS I-III students in the same rural community used for trial testing the survey instrument and was found appropriate.

Prior to the final data collection, a preliminary visit was made by the research team to the KWASACA HIV/AIDS Chairman for Moro local government area in which Oloru village falls. The HIV/AIDS Chairman facilitated the entrance of the research team to the Oloru community, which began with a courtesy call on the Alangua (village head). The visit afforded the team the opportunity to brief the chief about the purpose and benefits of the project and to seek his permission, as the 'gate keeper', to undertake the project in the community. A similar visit was made to the secondary school principal.

The data collection and education were completed in two days working from morning to evening each day by the members of the team and 10 trained research assistants. The survey and interviews were completed simultaneously in the school and community, respectively from 10 am to 4 pm on Day one; while the FGDs with male and female members of the HIV/AIDS Club were completed in the school same day immediately after the completion of the survey.

On 2nd day, the education and food demonstration session for the students and teachers took place from

11 am to 12:30 pm in the school. For attention grabbing, the lecture kicked off with a 5 min video clip from the HIV/AIDS documentary titled *Be Afraid, Be Very Afraid* by the daughters of St Paul, South Africa (2002) after which the 33-slide power point presentation on HIV/AIDS education was presented in about 50 min, by the principal investigator and the nutritional education cum food demonstration which lasted about 30 min was undertaken by a research assistant. A week later, 70 of the initial 75 students who participated in the survey the first day again responded to the same questionnaire to enable an assessment of the effect of the training on their HIV/AIDS and nutritional knowledge.

At the instance of the village head, the education and food demonstration session commenced in the community after the Friday Congregational prayer. The fact that the village head personally announced the programme during the Congregational prayer at the Community hall, venue of the programme, next to the Central Mosque facilitated the attendance of male, female and children members of the community at the programme. Following a 14 min presentation of a video documentary on HIV/AIDS prepared by the United Nations Children Education Fund (UNICEF), made available to the research team by KWASACA, a 30-min enlightenment talk on HIV/AIDS was presented in Yoruba, the local language, by the principal investigator and the nutritional education and food preparation segment was handled by a research assistant.

Preparation of leafy vegetables with soya melon, fish and soya cheese was demonstrated at both venues because of their local availability and affordability. In addition, the procedures for utilizing soya beans as cheese, melon and milk extract were taught. The prepared soup was served with cold pap (a cheap source of carbohydrate and very popular meal in the community), soya milk extract and bananas at both venues.

Ethical considerations: To ensure adherence to ethical principles of research, participants at the survey, interviews and FGDs were clearly informed of the purpose of the interaction, their involvement, assurance of confidentiality of their responses and the potential benefits of the study. Their informed consent was sought, their identities were protected and their permission was sought to take photographs and video record the proceedings. To ensure uniformity, the students were taken through each item on the questionnaire by the principal investigator, while adequate spaces were created among them to ensure uninhibited responding. The FGDs

were conducted in privacy for homogeneous groups (males and females separately), no teacher was present and no attempt at value judgment was made. Trained research assistants accompanied other members of the research team in the house-to-house interviews and openness was encouraged by ensuring that the interviews were conducted in privacy. Absolute respect for the culture and religion of the community was maintained in the timing of the education programme, in the mode of dressing of members of the research team, in the choice of words/expressions (for instance in appropriate use of honorific titles) and in the choice of the research assistant who handled the food preparation demonstration to members of the community. The fact that no member of the research team was from the community also enhanced the objectivity of reporting and prevented the introduction of any possible observer bias just as the fact that the survey and interviews were conducted simultaneously in the school and in the community should minimise response faking through any form of group interference.

RESULTS AND DISCUSSION

Seventy-five students (46 males and 29 females) aged 13-24 years and 87 parents (45 males and 42 females) aged 27-85 years participated in the survey and interview, respectively. Of the 162 participants in both groups, 13 (8.6%) were Christians, 146 (90.1%) were Muslims, while the remaining 3 (1.9%) were Traditionalists. The number of wives per household ranged from 1-4 with a mean of 3, while the mean dependant per household was 4. Of the 87 parents, 65 (74.7%), comprising 40 males and 25 females, had no formal education; 16 (18.4%), 5 males and 11 females had primary education, while the remaining 6 (6.9%), all females had secondary education.

Knowledge of HIV/AIDS and nutrition (question D): Percentage distribution of each group of respondents (parents and students) who correctly identified items relating to HIV/AIDS transmission, prevention and treatment were calculated and summarized in Table 1-3. While >90% of each group correctly identified sexual intercourse and blood transfusion as potential causes of infection, about the same proportions of both groups also endorsed kissing and sharing of things with infected person as possible causes (Table 1).

As shown in Table 2, close to 90% of the parents and students recognised having good knowledge about HIV/AIDS and about 80% of both groups also endorsed avoiding prostitutes as critical to preventing

Table 1: Distribution of respondents on knowledge of HIV/AIDS transmission

Items	Parents		Students	
	Yes (%)	No (%)	Yes (%)	No (%)
Sexual intercourse	82 (94.3)	5 (5.7)	68 (90.7)	7(9.3)
Sharing needles and sharp objects	50 (57.5)	37 (42.5)	61 (81.3)	14 (18.7)
Blood transfusions	84 (96.6)	3 (03.4)	72(96)	03 (04)
During pregnancy	12 (13.8)	75 (86.2)	62 (82.7)	13 (17.3)
During child birth	15 (17.2)	72 (82.8)	53 (70.7)	22 (29.3)
Through breast milk	25 (28.7)	62 (71.3)	62 (70.7)	13 (29.3)
Through body marking	10 (11.5)	77 (88.5)	25 (33.3)	50 (66.7)
Mosquito/insect bites	74 (85.1)	13(14.9)	21 (28)	54 (72)
Contact with sweat of infected person	67 (77)	20 (23)	65 (86.7)	10 (13.3)
Curse/spiritual attack	69 (79.3)	18 (20.7)	48 (64)	27 (36)
Contact with infected person's tooth brush/shaving material	41 (47.1)	46 (52.9)	57 (76)	18 (24)
Contact with infected person's blood	60 (69)	27 (31)	66 (87)	9 (13)
Through hand shake	64 (73.6)	23 (26.4)	35 (46.7)	40 (53.3)
Through kissing	83 (95.4)	04 (04.6)	69(92)	6 (08)
Sharing things such as food, cup, clothes with infected person	82 (94.3)	05(05.7)	68 (90.7)	7(09.3)

Table 2: Distribution of respondents on knowledge of HIV/AIDS prevention

Items	Parents		Students	
	Yes (%)	No (%)	Yes(%)	No (%)
Abstaining from sex	76 (87.4)	11 (12.60)	56 (74.7)	19(25.3)
Reducing number of sex partners	26 (29.9)	61 (70.1)	48 (64)	27(36)
Avoiding prostitutes	78 (89.9)	9(10.3)	59 (78.7)	16(21.3)
Using antibiotic immediately after sex	77(88.5)	10(11.5)	55 (73.3)	20(26.7)
Having good HIV/AIDS knowledge	77(88.5)	10 (11.5)	67(89.3)	08(10.7)
Having sex with a virgin	60(69)	27(31)	29(38.7)	46 (61.3)
Not sharing needles for injection	25(28.7)	62(71.3)	64 (85.3)	11(14.7)
Eating good food	35 (40.2)	52(59.8)	34 (45.3)	41 (54.7)
Keeping away from infected person	63 (72.4)	24(27.6)	52 (69.3)	23((30.7)
Taking blood test	67(77)	20(23)	54(72)	21 (28)

Table 3: Distribution of respondents on knowledge of HIV/AIDS treatment

Items	Parents		Students	
	Yes (%)	No (%)	Yes (%)	No (%)
Use of drug (ART)	48 (55.2)	39 (44.8)	51 (68)	24 (32)
Use of local herbs	60 (69)	27 (31)	34 (45.3)	41 (54.7)
Eating balanced diet	10 (11.5)	77 (88.5)	26 (34.7)	49(65.3)
Isolation	80 (92)	07 (08)	56 (74.7)	19(25.3)
Traditional healing (e.g., incisions and sacrifices)	66 (75.9)	21 (24.1)	29 (38.7)	46(61.3)
Having sex with a virgin	25 (28.7)	62 (71.3)	28 (37.3)	47(62.7)
Prayer and fasting	53 (60.9)	34 (39.1)	43 (57.3)	32(42.7)
Anti HIV/AIDS vaccine	77 (88.5)	10(11.5)	60 (80)	15 (20)
Use of condoms	47 (54)	40 (46)	55 (73.3)	20(26.7)
Having sex with an albino	34 (39.1)	53 (60.9)	25 (33.3)	50(66.7)

infection. However, while <35% of the two groups agreed that eating good food can prevent infection, >70% believed that using antibiotic immediately after sexual intercourse was a potent prevention method.

More than 60% of both groups correctly recognized having sex with a virgin or an albino as invalid treatment options. However, while close to 90% of parents and 65% of the students did not appreciate the role of balanced diet in HIV/AIDS treatment, over 90% and approximately 75%, respectively endorsed isolation as adequate treatment methods (Table 3).

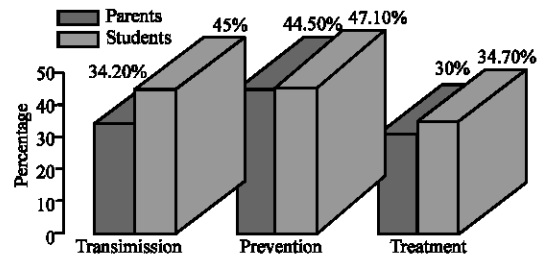


Fig. 3: Distribution of respondents on HIV/AIDS knowledge by different categories

A comparative analysis of the average proportions of respondents who endorsed correct options suggested that more students than parents demonstrated adequate knowledge of HIV/AIDS transmission, prevention and treatment but <50% of either group appeared to have good understanding of any of the three variables. Also both groups appeared to have the greatest understanding of prevention techniques, they both similarly appeared to have the least knowledge of treatment methods (Fig. 3).

Nutritional knowledge: To assess their levels of nutritional knowledge, respondents were requested to

Table 4: Distribution of respondents on nutritional knowledge

Groups	Awareness	Carbohydrate	Protein	Vitamins	Fat and oil
Parents	Yes	83 (95.4%)	42 (48.3%)	12(13.8%)	68 (78.2%)
	No	04 (04.6%)	45 (51.7%)	75(86.2%)	19 (21.8%)
Students	Yes	75 (100%)	63 (84%)	55 (73.3%)	71(94.7)
	No	00 (00%)	12 (16%)	20(26.7%)	04(05.3)

Table 5: Distribution of respondents on attitude to HIV/AIDS

Items	Parents		Students	
	Agree (%)	Disagree (%)	Agree (%)	Disagree (%)
There is no need to go for HIV test	65 (74.7)	22 (25.3)	53 (70.7)	53 (70.7)
HIV/AIDS is not as serious as people are talking about it.	50 (57.5)	37 (42.5)	17 (22.7)	58 (77.3)
I can take care (e.g., feed or bath) somebody in my family who becomes sick with AIDS	32 (36.8)	55 (63.2)	14 (18.7)	61 (81.3)
I will do away with a friend who becomes infected with HIV	54 (62.1)	33 (37.9)	46 (61.3)	29 (38.7)
There is nothing wrong with being in the same class/house with any student /family member who has HIV infection	23 (26.4)	64 (73.6)	34 (45.3)	41 (54.7)
I will let others know if I am infected with HIV.	15 (17.2)	72 (82.8)	24 (32)	51 (68%)
I can share things (e.g. food, room, toilet) with any student /family member infected with HIV	27 (31)	60 (69)	22 (29.3)	53 (70.7)
There is benefit in having adequate information about HIV/AIDS	69 (79.3)	18 (20.7)	71 (94.7)	04 (05.3)
Any person infected with HIV should be given better foods than others in the family	23 (26.4)	64 (73.6)	41 (54.7)	34 (45.3)
I hate to use condom when having sex	76 (87.4)	11 (12.6)	46 (61.3)	29 (38.7)

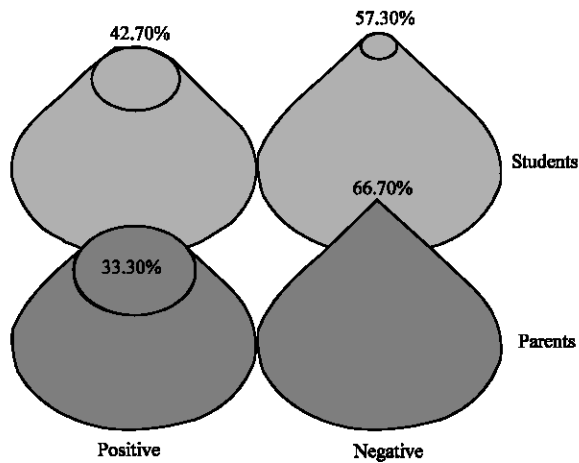


Fig. 4: Distribution of respondents on attitude to HIV/AIDS

supply three foods relevant to each of four classes of carbohydrate, protein, vitamins, fats and oil. In general, higher proportions of respondents from both groups demonstrated adequate nutritional knowledge than HIV/AIDS knowledge. For instance, almost all respondents (95.4% parents and 100% students) accurately identified carbohydrate foods although, only 12 (13.8%) of the parents could correctly identify vitamins (Table 4).

Apparently, most parents were familiar with vegetables, soya beans cheese and palm oil which they often ate, yet only a handful of them could categorize the foods on the basis of their nutritional values. The observed high disparity between the two groups on this measure was an indication of the students' familiarity with

the concept of nutrition in the school curriculum; whereas only 27% of the parents had either primary or secondary school education and were probably only familiar with energy-giving foods, which they mostly required for their farm work.

Attitude to HIV/AIDS (question 2): To determine the typical attitude of the respondents to HIV/AIDS-related issues, they were required to indicate, whether they agreed or disagreed with each of 10 items. Findings from the analysis of responses showed that of the parents, 76 (87.4%) and 72 (82.8%) were not favourably disposed to condom usage and disclosure of HIV status, respectively but 69 (79.3%) and 65(74.7%) considered HIV/AIDS education and Voluntary Testing and Counselling (VTC) important. Comparatively, of the students, 51 (68%) and 46 (61.3%) did not favour disclosure of HIV status and the use of condom respectively; although 71 (94.7%) and 70 (93.3%) were favourably disposed to special nutrition for people living with AIDS (PLWA and HIV/AIDS education) (Table 5).

Of the 162 respondents, 61 (37.7%) had positive attitude to HIV/AIDS (i.e., they were positively disposed to VCT, PLWA and HIV/AIDS education if available). However, whereas 32 (42.7%) of the 75 students were positive in their attitude to HIV/AIDS, only 29 (33.3%) of the 87 parents were similarly positive (Fig. 4). That an appreciable proportions of the respondents had positive attitude to HIV/AIDS may be due to the awareness campaigns in the media and (for the students), the recent lurching of the HIV/AIDS Club in the school. This finding was considered significant because of its potential to

Table 6: Distribution of respondents on involvement in HIV/AIDS risk behaviours

Items	Parents		Students	
	Agree (%)	Disagree (%)	Agree (%)	Disagree (%)
I have tattoos /incisions on my body	55(63.2)	32 (36.8)	48 (64)	27 (36)
I have experienced sexual intercourse	85(97.7)	02(02.3)	55(73.3)	20(26.7)
I have had sexual intercourse with a person of the same sex	05(05.7)	82(94.3)	07 (09.3)	68(90.7)
I sometimes take alcohol	30(34.5)	57(65.5)	05(06.7)	70(93.3)
Once in a while it is fun to have sex after taking alcohol.	25(28.7)	63(71.3)	19 (25.3)	56(74.7)
I have been forced to have sexual intercourse	30(34.5)	57(65.5)	13(17.3)	62(72.7)
I have been tricked to have sexual intercourse	32(36.8)	55(63.2)	09 (12)	68 (88)
I have more than one sexual partner	66(74.7)	22(25.3)	28 (37.7)	67(62.3)
I rarely use condom because it reduces sexual pleasure	74(85.1)	13(14.9)	49(65.3)	26(34.7)
I have tested for HIV	00(00)	100(100)	4(05.3)	71(94.7)

Table 7: Summary of foods frequently eaten in percentages

Item	Parents	%	Students	%
Breakfast	1 Amala	62	Rice	73
	2 Corn pap	57	Yam	58
	3 Rice	53	Bread	49
Lunch	1 Cold pap	55	Fufu	51
	2 Gari	46	Gari	48
	3 Amala	45	Eba	40
Dinner	1 Pounded yam	74	Pounded yam	76
	2 Amala	65	Eba	61
	3 Eba	44	Amala	50

Table 8: Summary of locally available and acceptable food crops/fruits/vegetables in percentages

Items	Parents	%	Students	%
Foods	1 Corn	84	1 Corn	79
	2 Yam	81	2 Yams	66
	3 Cassava	76	3 Cassava	65
Fruits	1 Oranges	67	1 Mangoes	82
	2 Pawpaw	56	2 Oranges	72
	3 Mangoes	55	3 Pawpaw	58
Vegetables	1 Okro	87	1 Okro	91
	2 Efo (Leafy vegetables)	66	2 Efo	63
	3 Orunla	56	3 Orunla	56
	3 Ewedu	53	(Dried okro)	

facilitate the success of HIV/AIDS prevention and control measures that might be initiated in the community.

Involvement in HIV/AIDS risk behaviours (question 3): Risk behaviors were measured by the respondents' sexual experience and behaviour, alcohol usage and body marks. While all 87 parents interviewed had experienced sexual intercourse and none reported to have tested for HIV; 74 (85.1%) agreed they rarely used condom and 66 (74.7%) agreed they had multiple sexual partners. Among students, 55 (73.3%) had experienced sexual intercourse, 49 (65.3%) rarely used condom and 28 (37.7%) reported having multiple sexual partners however, only 5 (06.7%) and 7 (09.3%) reported alcohol usage and same sex partners respectively (Table 6).

The high prevalence of sexual promiscuity among the students (73.3%) was supported by participants at the FGDS who reported high peer pressure for sex and drop out rate among female students on account of pregnancy. Of the 4 female participants at the FGD, 2 (50%) reported

sexual experience and without the use of condom. As found in this study, sexual promiscuity and unprotected sex were apparently the most prevailing HIV/AIDS risk behaviours. Olasehinde-Williams *et al.* (2006) advanced the break down of traditional strictures surrounding sex and marriage as part of the possible factors for such risk behaviours. Beyond this however, poor knowledge of health implications and socio-cultural reasons and/or apathy among the students could also be implicated.

Prevailing feeding practices (question 4): To assess the extent to which respondents' nutritional knowledge reflected in their feeding practices, they were requested to supply foods frequently eaten in the community. As shown in Table 7, the three most occurring foods eaten for each of breakfast, lunch and dinner were all carbohydrates. The most frequently reported meals were pounded yam, rice and amala as common with most communities in the area. The major factors in the choice of meals were elicited as summarized in Table 8.

Factors influencing food choices (question 5): An assessment of food crops locally available and affordable in the community was undertaken to gain some insight into the factors determining the prevailing feeding practices.

As shown in Table 8, varieties of food crops required for intake of balanced diet were reportedly available in the community. The none inclusion of other classes of meals especially in the children's diet could thus be a reflection of limited nutritional knowledge, financial resources or superstitious beliefs about children's access to such foods as eggs and milk.

Hypothesis testing: Two hypothesis were tested for the purpose of ascertaining the impact of the lecture on students' HIV/AIDS and nutritional knowledge. The degree to which responses of students who were available to complete the questionnaire twice (i.e., before and after the lecture) differed on the variables of HIV/AIDS knowledge and attitude were determined using the Chi-square statistic.

Table 9: Degree of differences in students' HIV/AIDS knowledge at pre and post tests

Test	High	Average	Low	Total	Df	X ²	R
Pre	25	14	31	70	2	3.22	Ns
Post	35	13	22	70	-	-	-
Total	60	27	53	140	-	-	-

Table 10: Degree of differences in students' attitude to HIV/AIDS at pre and post tests

Test	Positive	Negative	Total	Df	X ²	R
Pre	28	42	70	1	1.04	Ns
Post	34	36	70	-	-	-
Total	62	78	140	-	-	-

Hypothesis 1: Only the responses of 70 students who were available to complete the questionnaire twice were involved in the analysis. The possible score on HIV/AIDS knowledge in the questionnaire was 35 with a mean of 17.5. The proportions of students scoring above, about and below the mean at both administrations were compared (Table 9).

As shown in the Table 9, 25 (35.7%) and 35 (50%) of the students had adequate HIV/AIDS knowledge (i.e., they demonstrated good understanding of HIV/AIDS transmission, prevention and control by scoring above the mean) at pre-and post-tests, respectively. However, the observed Chi-square value of 3.22 was <0.05 and therefore not statistically significant but it was evident that the lecture made appreciable positive difference in the students' HIV/AIDS knowledge.

Olasehinde-Williams *et al.* (2006) similarly observed low HIV/AIDS knowledge and a lot of misconceptions about HIV/AIDS among their respondents. The fact that the present initiative was essentially the first direct access of the community to HIV/AIDS sensitization drive (as attested to by the community head and the community spokesman) could be a major fact in the low HIV/AIDS knowledge level observed among the parents.

The students barely fared better at pre-test probably because of insufficient access to HIV/AIDS and sexuality education. As gathered from the FGDs, for instance, the generality of students had limited opportunity for communication on issues of sexuality either with their parents or even teachers. For instance, one of the female students who participated at the FGD remarked that such things are not discussed so, I don't talk to anybody about sexual issues. Aboyeji *et al.* (2004) similarly found that only about 16.2% of their respondents got sexuality information from parents and relations.

Hypothesis 2: Respondents' attitude to HIV/AIDS-related issues at pre-and post-tests were similarly compared and summarized in Table 10. Scores from 6-10 (Mean = 5) on the 10-item attitude scale were taken as indicative of positive attitude to HIV/AIDS-related issues. While 28 (40%) of the 70 students demonstrated positive attitude to HIV/AIDS, 34 (48.6%) were similarly positive on second administration. The observed difference in both scores

was however not statistically significant (<0.05), although more students scored higher on the scale at post than at pre-test.

The increase in the proportions of students who demonstrated adequate knowledge and positive disposition to HIV/AIDS related issues on second administration indicated that some students actually profited from the exposure to the HIV/AIDS lecture.

CONCLUSION

Vulnerability of rural communities to HIV/AIDS infection must be reduced in the State, then more aggressive attention must be paid to the promotion of public enlightenment programmes particularly in rural communities with tendencies for high vulnerability to HIV infection.

Findings of this initiative, though important, must be interpreted with caution, because of the limitations of the procedure. For instance, the HIV/AIDS and nutritional education initiative was undertaken only once, financial and logistic constraints did not permit collection of post test data from parents; nor any follow-up study to monitor possible behavioural changes in HIV/AIDS and nutritional knowledge status and feeding practices in the community.

However, these limitations notwithstanding, the findings of this initiative remain valid and generalisable to Oloru community, Nigeria until future findings are concluded to confirm or refute them.

RECOMMENDATIONS

Findings of this study suggest that HIV/AIDS knowledge (critical to HIV prevention) can be modified through educational and nutritional initiatives. It is therefore, important that such initiatives should be pursued from time to time among rural communities. As shown in this study, limited education, financial resources, insufficient access to sexuality education, inadequate opportunity for parent-child communication, superstition among others combined to limit participants HIV/AIDS and nutritional knowledge and feeding practices. These factors if not redressed have the

potential to compromise the health of inhabitants of the community and increase their susceptibility to HIV infection. Fortunately as also shown in the report, exposure of participants to HIV/AIDS and nutritional education as well as demonstration of appropriate food preparation, using locally available, affordable but nutritionally valuable foods are viable strategies for reversing the risk of HIV infection among the rural communities. The findings thus suggest an urgent need for the mainstreaming of HIV/AIDS, sexuality education and life skills into the secondary school curriculum to grant students cognitive empowerment, which is critical to effective coping with the dynamics of their specific developmental stage.

Follow up initiatives to this preliminary investigation should be undertaken. More comprehensive and longitudinal initiatives in rural communities are particularly desirable because of their potential to concretize behavioural gains and enable a template adaptable for application in comparable settings. Replication of this initiative, with enlarged sample is therefore considered an important area for funding by stakeholders.

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