KNOWLEDGE OF HIV/AIDS TRANSMISSION AND RISK PERCEPTION AMONG ANTENATAL CARE ATTENDEES IN ABAKALIKI, SOUTHEAST NIGERIA

Abstract.

Background: Human immunodeficiency virus (HIV) has become a major public health problem and has affected Sub-Saharan Africa heavily. Despite awareness campaigns, preventive measures, and more recently promotion of antiretroviral regimens, the prevalence of cases and deaths has not decreased significantly with mother-to-child transmission of HIV accounting for 20% of all HIV transmissions. HIV risk perception has been identified as an important antecedent for one's adoption of protective behavior against contracting the disease. Available evidence had shown that knowledge alone is not enough pertaining to HIV/AIDS prevention and control.

Objective: To assess knowledge of HIV/AIDS, evaluate risk perception among antenatal attendees in Federal Teaching Hospital Abakaliki, Ebonyi State, Nigeria.

Methods: A descriptive cross-sectional study conducted among 400 women attending antenatal care clinic (ANC) in Abakaliki using a systematic sampling technique. The clients were interviewed using a pre-tested semi-structured interviewer administered questionnaire. Good knowledge of HIV transmission was assessed by the proportion of respondents who correctly answered 80% of the knowledge questions. Risk perception of HIV infection was assessed by the proportion of respondents who answered yes to questions on no risk at all, low and high risk respectively. Data analysis was done using SPSS statistical software version 20 and level of significance was determined by a p-value < 0.05.

Results: The mean age of respondents was 28±9 years. The majority (97%) were married and had formal education. All (100%) respondents were aware of HIV/AIDS but only 84% (those married with secondary education and above) had good knowledge of HIV/AIDS. Knowledge was significantly associated with marital status, educational level and occupation

(p<0.05). Perceived low susceptibility to HIV infection was significantly associated with respondents' marital status and educational level (p<0.05).

Conclusion: Knowledge of HIV/AIDS among the respondents was high. However, the low perceived susceptibility to HIV infection compared to actual risk is one of the major challenges to HIV prevention effort. There is need for intensification of mass media campaigns and other public measures aimed at increasing knowledge on HIV perception and susceptibility.

Key words: Knowledge; HIV/AIDS; Risk perception; ANC attendees.

INTRODUCTION

HIV/AIDS pandemic has become a major and serious health problem all over the world[1]. An estimated 36.9 million people are living with HIV worldwide as shown on WHO 2015 report[2]. The HIV/AIDS epidemic predominantly affects Nigerian females (57%) than males (43%)[3]. It has since extended beyond the high risk groups to the general population. After the discovery of the first Nigerian case of HIV the epidemic continued to rise at an alarming rate with the National prevalence rate at 1.8% in 1991, 4.5% in 1996, 5.4% in 1999, 5.8% in 2001, 5.0% in 2003, 4.4% in 2005, 4.6% in 2008, 4.1% in 2010and 3.1% in 2013[4]. The antenatal HIV rates are less variable by age group although young adults appear most affected. Knowledge of HIV/AIDS by pregnant mothers is very important in prevention of Mother-to-child transmission of HIV. The most effective intervention to reducing transmission from mother-to-child depends on a woman's knowledge of her HIV status. Attitude of individuals, family and communities contribute in no small measure to stigma and discrimination towards people living with HIV/AIDS in the society. The perceived susceptibility to HIV infection among individuals compared to the actual risk is a major challenge in HIV prevention campaigns[5].

Findings in Lagos among ANC attendees showed that many of the women surveyed did not perceive themselves to be at risk of HIV infection[5]. In Ahmadu Bello University Teaching Hospital it was found that 84.2% of pregnant women believed HIV/AIDS patient should be given care and support[6].

Knowledge of HIV/AIDS transmission is essential for a person to make an informed decision about engaging in, or continuing certain behaviors that may increase or decrease risk of infection. Even though knowledge alone is insufficient, it is assumed to be a very component of behavioral change decision making, in addition to providing clues for action. Estimating the level of knowledge of HIV/AIDS transmission among groups at risk is crucial in guiding public health programmes, especially those directed towards reducing the transmission of the disease[7].

HIV risk perception has been identified as an important antecedent for one's adoption of protective behavior against contracting the disease[7].

Available evidence also showed that knowledge alone is not enough pertaining to HIV/AIDS prevention. It is therefore necessary to determine the knowledge of HIV/AIDS and risk perception among the antenatal attendees in Abakaliki. This study was conducted to assess the knowledge of HIV/AIDS, risk perception among ANC attendees in Abakaliki, Nigeria.

MATERIALS AND METHODS:

Study area: This study was carried out at the ANC clinic of the Federal Teaching Hospital Abakaliki, Ebonyi State. Nigeria. The hospital is a tertiary health centre and research institution. Abakaliki is located in the administrative capital of Ebonyi State in the Southeast Nigeria. About three-quarters (of 4.3 million) of the population dwell in the rural area with farming as their major occupation[8].The facility which serves as the teaching hospital for the

College of Health Sciences of Ebonyi State University Abakaliki has a total of 604 beds. It offers specialist services in all specialties of Medicine and also serves as a center for the training of specialist Doctors. About 50 women attend antenatal care in the facility on each working day and approximately 4000 women book annually with an average of 1,500 deliveries per annum[8].

Study design: This was a health facility based descriptive cross-sectional study.

Study Instrument: A pretested semi structured questionnaire which was developed by the researchers was used for the study. This was administered to the women using the local language, Igbo by trained research assistants. Information was obtained on socio-demographic characteristics of the clients, their knowledge on HIV/AIDS transmission and their risk perception.

Study population/selection criteria: The study population consisted of pregnant women attending antenatal care in Federal Teaching Hospital Abakaliki who consented to and had voluntary counseling and testing for HIV/AIDS during booking for antenatal care.

Sample size determination: The minimum sample size for the study was determined by the formula used for single proportions[9]. A total of 400 respondents were recruited for the study based on a type 1 error (α) of 0.05, a tolerable margin of error of 0.05 and a prevalence of 0.5% representing the proportion of women attending antenatal care who had good knowledge of HIV/AIDS from a study in Nigeria[9].

Sampling Technique: A systematic sampling technique using facility register was used to select the clients as they present in the antenatal care clinic on each day of data collection. The last six months attendance to the antenatal clinic was used to determine the sampling frame. An average of 1014 clients presented in the antenatal clinic on a monthly basis. The period of data collection for the study was one month, hence a sampling frame of 1014 was used. Sampling interval was determined by dividing the sampling frame of 1014 by the sample size of 400, hence a sampling interval of 3 was used. So every third client was recruited for the study, based on the order of registration of clients on

each day of the study.The index patient was selected by simple random sampling method through balloting and to ensure that a patient was not selected twice, there was a register for all clients that had been included in the study and this was cross checked by the research assistants before a new client was included.

Data Analysis: Data analysis was done using Statistical Package for Social Sciences (SPSS) statistical software version 20. Frequencies and cross tabulation were generated. Chi square test of statistical significance was used in the analyses and level of significance was determined by a p-value of less than 0.05. Clients' good knowledge of HIV/AIDS transmission was assessed by the proportion of the women who correctly answered 6 or more of the eleven variables that were used to elicit knowledge of HIV/AIDS transmission. Risk perception of HIV infection was assessed by the proportion of respondents who answered yes to questions on no risk at all, low and high risk respectively and factors associated with perceived risk susceptibility was analysed using Yates correction[9].

Ethical consideration

Ethical approval was obtained from the Research Ethics Committee of the Federal Teaching Hospital Abakaliki with approval number FETHA/REC/Vol.1/2015/047 and written informed consent was obtained from the study participants with explanations on the confidentiality of the information collected.

RESULTS: Table 1: Socio-demographic characteristics of respondents

Variable	Frequency (n =400)	Percent (%)
Age (years)		
Mean (±SD)	28±9.0	
Age group (years)		
≤24years	75	18.7
25 – 29 years	204	51.0
30 – 34 years	85	21.3
≥35 years	36	9.0
Ethnicity		
Igbo	387	96.7
Others*	13	3.3
Religion		
Christianity	391	97.7
Others**	9	2.3
Marital status		
Married	388	97.0
Never married	8	2.0
Separated	4	1.0
Educational attainment		
No formal education	10	2.5
Primary education	36	9.0
Secondary education	219	54.8
Tertiary education	135	33.7
Employment status		
Housewife/unemployed	67	16.8
Salaried employment	100	25.0
Self employment	233	58.2
Booking gestational age (weeks**)**		
≤ 13	32	8.0
14 – 27	257	64.3
28 – 40	111	27.7

*Hausa, Yoruba ** Islam, Traditional religion

Table 1 shows the socio- demographic characteristics of the respondents. The mean age of respondents was 28±9.0 years. Majority were married (98%) and 54.8% of respondents had secondary education. Majority of the clients, (64.3%) registered for antenatal care during the second trimester while a very minor proportion of 8% booked in the first trimester.

Table 2: Respondents' Knowledge of HIV/AIDS transmission

Can HIV/AIDS be transmitted through the following means?

Variable	Frequency n=400	Percent (%)
Having sex with HIV infected person	400	100
Transfusion with infected blood	387	96.8
Sharing sharp objects with HIV infected person	375	93.8
Use of unsterilized equipment for surgery	363	90.8
From Mother-to- Child	358	89.5
Kissing HIV infected person	299	74.8
Sharing eating utensil with infected person	187	46.8
Sharing toilet with infected person	125	31.5
Hugging HIV infected person	123	30.8
Mosquito/Bed bug bite	74	23.5
Witch craft/Charm	41	10.3
Good knowledge of HIV/AIDS transmission	336	84.0

Table 2 shows that all the respondents correctly identified sexual intercourse as a possible route of transmission. Majority of the respondents, 96.8%, 93.8% and 90.8% correctly identified transfusion with HIV infected blood, sharing sharp objects with infected person and use of unsterilized equipment for surgery as routes of transmission of HIV/AIDS respectively. Also, majority of the respondents (89.5%) were aware that HIV/AIDS could be transmitted from mother to child. A higher proportion of respondents, (84.0%) had good knowledge of HIV/AIDS transmission.

Table 3: Factors associated with good knowledge of HIV/AIDS transmission

Variable	Knowledge of HIV transmission n=400		χ^2	p-value
	Good knowledge N(%)	Poor knowledge N(%)		
Age				
<30years	233 (83.5)	46 (16.5)	0.163	0.686
≥30 years	103 (85.1)	18 (14.9)		
Marital status				
Single***	5 (62.5)	3 (37.5)	16.496	<0.001
Married	343 (85.8)	57 (14.2)		
Educational level				
Primary education and less	28 (60.9)	18 (39.1)	20.691	<0.001
Secondary education and more	308 (87.0)	46 (13.0)		
Employment status				
Housewife/unemployed	65 (97.0)	2 (3.0)	16.315	<0.001
Salaried employment	89 (89.0)	11 (11.0)		
Self employment	182 (78.1)	51 (21.9)		

Table 3 shows factors associated with good knowledge of HIV/AIDS transmission. A significantly higher proportion of respondents who were married, (85.8%) had good knowledge of HIV/AIDS transmission when compared to those who were single, 62.5% ($p<0.001$). A higher proportion of the respondents who had secondary education and above had good knowledge of HIV/AIDS transmission when compared with those who had primary

education and less (60.9%) and the difference in proportions was found to be statistically significant ($p<0.001$).

`Figure 1:RESPONDENTS'RISK PERCEPTION OF HIV INFECTION

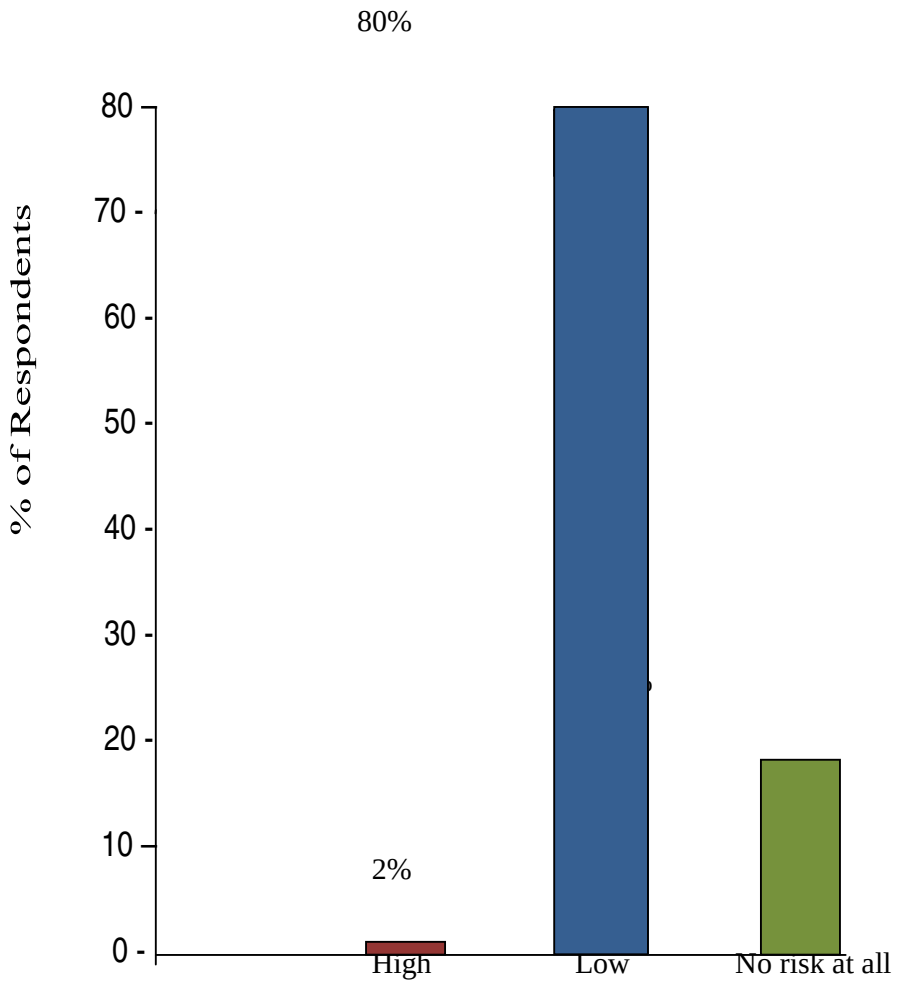

Figure 1 above shows respondents' risk perception of HIV infection**.** Eighty percent (80%) of ANC attendees believed they had low chance of getting infected with HIV because they have only one sexual partner. Eighteen percent (18%) believed they had no risk at all because they trust their partners and also use condom sometimes while 2% felt they had high chance of getting infected with HIV because they had had blood transfusion and had more than one sexual partner.

Table 4: Perception of susceptibility of ANC attendees by demographic characteristics (n=400) using Yates correction

Variables	Perception			Z(p-value)
	No risk at all	**Low**	**High**	
Age (in years)				
<30	59	76	1	
≥30	16	247	1	82.4 (0.01)
Marital status				
Single	2	6	0	
Married	55	335	2	7.8 (0.025)
Educational status				
Primary education and less	13	32	1	
Secondary education and more	34	317	3	12.9 (0.01)

Table 4 shows factors associated with perceived susceptibility to HIV infection. A significantly higher proportion of respondents who are 30 years and above (93.6%) and are married (85.5%) had perceived low risk of HIV infection when compared to those 30 years and below (55.8%) and are single,75% ($p<0.025$). A higher proportion of those who had secondary education and above (89.5%) had perceived low risk when compared with those who had primary education and less (69.6%) and difference in proportions was found to be statistically significant ($p<0.01$).

Table 5: Reasons for being at low/no risk of HIV infection

Reasons for being at low/no risk	Frequency	Percent (%)
Have only one sexual partner	320	80
Trust my partner	67	16.7
Use of condom	5	1.3
Ensure injection wit sterilized needle	5	1.3
Ensure safe blood transfusion	2	0.5
Trust in God	1	0.2

Table 5 shows reasons for being at low/no risk of HIV infection by respondents. The main reason for respondents rating themselves at low or no risk of getting infected with HIV was having one sexual partner (80%). Sixteen percent represents those who trusted partners. These gave them sense of security hence the perceived low susceptibility to HIV infection.

Table 6: Reasons for being at high risk HIV infection

Reasons for being at risk	Frequency (n=8)	Percent (%)
Has a blood transfusion	2	25
Did not use condom	2	25
Have more than one sexual partner	4	50

Table 5 shows reasons for being at high risk of HIV infection. Having more than one sexual partner (50%) was the main reason for being at high risk of getting infected with HIV while blood transfusion and inability to use condom altogether accounted for 50%.

DISCUSSION: All the respondents were aware of HIV/AIDS and 51% of ANC attendees were in the age range 25-29 years. They had good knowledge of HIV/AIDS transmission compared to 21% of those in age range of 30-34 years. This is comparable to a study in Nnewi where awareness of HIV/AIDS was 99%[10] and in Lagos where knowledge of HIV/AIDS among respondents was 100%[11]. This high level of knowledge may be as a result of the high level of HIV/AIDS awareness campaign carried out by the government in collaboration with various non-governmental organizations in Ebonyi State. There is need to sustain this high level of knowledge for individuals and communities to be armed with the necessary information that will enable them protect themselves against HIV/AIDS and MTCT of HIV.

Knowledge of HIV/AIDS transmission by pregnant mothers is very important in the prevention of mother-to-child transmission. This will enable the individuals, families and communities take decisions that affect their lives.

A National HIV/Syphilis sentinel survey in Nigeria showed that 89.9% of respondents had good knowledge of HIV transmission[12], while in Lagos and Zaria 100%[11] and 94.6%[6] of the respondents were aware of HIV/AIDS respectively. In Nnewi, awareness of HIV/AIDS was 99%[10].

This study found marital status, level of education and employment status of the ANC attendees to be significantly associated with knowledge of HIV/AIDS transmission ($p<0.05$). This is comparable with another study in Lagos where the respondents' educational level was significantly associated with knowledge of HIV transmission[11]. It is obvious that the better educated the respondent, the more access she would have to information on HIV. Most of the respondents were in the self and paid employment status with good access to mass media.

This may have led to the high level of knowledge of HIV/AIDS transmission among them. In all 84% good knowledge of HIV/AIDS transmission was found among ANC attendees.

PERCEPTION AND ATTITUDE TOWARDS HIV/AIDS INFECTION

Attitude of individuals, family and communities contribute in no small measure to stigma and discrimination towards people living with HIV/AIDS in the society. The perceived susceptibility to HIV infection among individuals compared to the actual risk is a major challenge in HIV prevention campaign[5]. This study found low risk perception of HIV infection among respondents. This finding is comparable to a study in Lagos, Nigeria where respondents did not perceive themselves to be at risk of HIV infection[5]. In Zaria, 84.2% of pregnant women believed HIV/AIDS patient should be given care and support[6].

This study found that the self -risk assessment of HIV infection was low as only2% of respondents believed they were at high risk. This may be due to the fact that majority of respondents were married and may have viewed themselves as faithful partners to their spouses. It was also found that perceived low susceptibility to HIV infection was significantly associated with marital status and educational level ($p<0.001$) . The more educated ANC attendees had more knowledge of HIV transmission and felt more at risk than the less educated. This is comparable to a study in Nigeria where 81.6% perceived themselves at no risk at all[4].

CONCLUSION: The low perceived susceptibility to HIV infection among ANC attendees compared to the actual risk is one of the major challenges to HIV prevention effort. There is need to intensify campaign on mode of HIV/AIDS transmission and awareness of risk factors to enable people truly and correctly identify when susceptible.

Limitation of the study: It was an institutional based study and its findings may not accurately reflect the true picture in the general population.

Suggestions for future research: A) To investigate knowledge and risk perceptions among greater proportions of unmarried women in this community.

B) Qualitative exploration in forthcoming studies could also explain in more depth, whether and how HIV/AIDS knowledge influences risk perceptions.

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