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Full Length Research Paper

Perception about HIV testing among women attending antenatal clinics at Primary Health Centres in Osogbo, Southwest, Nigeria

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As PMTCT services are being decentralized to primary health centres, it becomes important to understand the disposition of clients at this level to HIV counselling and testing (HCT)–in order to design targeted programs. This study aimed to examine the perception about HIV testing among ante-natal clinic clients at primary health centres (PHC) in Osogbo, Southwest, Nigeria. This is a cross-sectional descriptive study. All 270 consenting pregnant women that attended antenatal booking clinic in three selected PHCs in Osogbo, between May 2009 and October 2010 were included in the study. 193 (71.5%) were aware of HCT, however, only 26.3% knew their HIV status, and the reasons for testing included; desire to know status (28, 39.4%), request by the church before wedding (11.3%), when very ill (42.3%) and other reasons (5.6%). Majority of the respondents (260, 96.3%) were willing to do the test after counselling, but only if treatment was available for positive cases (46.5%) and if anonymity is strictly maintained (16.9%). The major reason given by the respondents who were not willing to carry out the test, was that they were not at risk (7, 70.0%). Willingness to test was found to have a statistically significant relationship with specific MTCT-related knowledge (t = 2.431, p = 0.034). The level of awareness of respondents about HIV/AIDS, prevent the mother-to-child transmission of HIV (PMTCT) and HIV counselling and testing (HCT) was high among the respondents, however very few knew their HIV status. It is recommended that HIV educational activities should target special groups such as pregnant women attending PHCs and should address the challenges peculiar to these groups.

Keywords: HIV/AIDS, prevent the mother-to-child transmission of HIV (PMTCT), HIV counselling and testing, pregnant women, antenatal clinic, perception.

INTRODUCTION

The scale up of services to prevent the mother-to-child transmission of HIV (PMTCT) in Nigeria is driven by a number of global commitments such as the call of the Joint United Nations Programme on HIV/AIDS (UNAIDS) for virtual elimination of paediatric HIV, universal access to HIV treatment and the United Nations General Assembly Special Session (UNGASS) declaration of 2001. The UNAIDS 'getting to zero' strategy also provides impetus for national programs to expand coverage. PMTCT coverage is low in Nigeria despite being one of the countries with the highest burdens. Nigeria alone contributes 30% to the PMTCT gap - the difference between estimated number of HIV-positive pregnant women and those reached with antiretroviral prophylaxis for PMTCT (WHO, 2009). The coverage of antenatal screening for HIV is 13% (UNICEF, 2010), a far cry from

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the UNGASS and national targets. This low coverage is not unconnected with the concentration of services in secondary and tertiary level facilities which make up only 12.7% of health facilities offering maternity services in the country and provides access for a limited number of pregnant women. However, in 2005, representatives of governments, multilateral agencies, development partners, research institutions, civil society and people living with HIV assembled at the PMTCT High Level Global Partners Forum in Abuja, Nigeria which resulted in a 'Call to Action' (2005) for the elimination of HIV infection in infants and children and an HIV- and AIDS-free generation. To achieve this, HIV counselling and testing (HCT) was positioned as a key strategy. In recognition of the lopsided distribution of PMTCT services and its resultant effect on coverage, the Government of Nigeria in 2010, started making plans to expand services to PHCs. The socio-demographic group who attend PHCs for antenatal care is however different from those who attend other higher levels of care. It may not be sufficient to assume that availability of HCT services in these facilities will translate into automatic uptake.

There are many points on the PMTCT program cascade at which pregnant women may be missed from services – the so-called leakage points (Doherty et al., 2005); a key leakage point is the non-acceptance of testing where such services are available even when testing is offered as provider-initiated with opt-out option. Studies have identified a number of reasons that may account for non-uptake of HIV testing among ante-natal clients but there are few local studies that have looked at the primary health care level in this regard. Level of education, knowledge of MTCT and knowledge of rapid HIV testing were found to be significant predictors of willingness to test for HIV among ante-natal clients in Uganda (Bajunirwe and Muzoora, 2005). The woman's perception that her husband would approve of her testing for HIV is also a strong predictor of willingness to accept an HIV test with women who thought their husbands would approve being almost six times more likely to report a willingness to be tested compared to those who thought their husbands would not approve (OR = 5.6, 95% CI 2.8, 11.2). Another Ugandan study found that women who perceive no benefits from testing were less likely to accept testing (Karamagi et al., 2006). Primipara (OR 2.6, 95% CI 1.2-5.8), urban dwellers (OR 2.7, 95% CI 1.3-5.8), women having been counselled on HIV (OR 6.2, 95% CI 2.9-13.2), and women with husbands being their primary confidant (OR 2.3, 95% CI 1.0-5.5) were independently associated with HIV testing.

As Nigeria plans to scale up services to PHCs, it is important to examine what factors are associated with willingness to accept HCT in ANCs at PHCs where this service is currently available. This will help to anticipate potential hurdles and inform program design. This study was therefore designed to explore the perception about and willingness to accept HIV testing among pregnant women attending ANCs at PHCs.

MATERIALS AND METHODS

The descriptive cross-sectional study was carried out in Olorunda local government area (LGA), one of the 30 LGAs in Osun state with administrative headquarters in Igbona, Osogbo, Nigeria. In addition to a teaching hospital and a secondary health facility, there are 13 primary health centers (PHC) serving a projected total population of 144,818 (NPC, 2007) with an estimated 7,241 pregnant women who are predominantly Yorubas.

The study sample included 3 primary health centres in the LGA which were selected by simple random sampling using a table of random numbers. All pregnant women that attended antenatal booking clinic (first ANC visit in current pregnancy) in the selected health centres over a four month period between May and August 2009 were included in the study, and a total of 270 respondents were interviewed. The study was explained to each selected patient and only those who gave a verbal consent were recruited into the study.

The data was collected with pre-tested, semi-structured questionnaires which were interviewer administered. Data was entered into a computer and analyzed using Statistical Package for the Social Sciences (SPSS) version 15. Composite knowledge scores were computed for HIV-related knowledge by scoring 1 for each correct answer and 0 for an incorrect answer. These scores were then summed up and divided by the total number of test items to arrive at an average knowledge score per person. Association between knowledge score and willingness to test was examined by applying the T-test with significance set at the 5% level.

RESULTS

A total of 270 respondents were interviewed and majority, (68.9%) were within the age group of 20 – 29 years with a mean age of 26.0 ± 5.0 years. 161 (59.6%) and 76 (28.1%) respondents had secondary and primary education as the highest level of education respectively, and 30 (11.1%) had tertiary education. Most of the respondents were traders (59.6%), married (95.6%) and of Yoruba ethnicity (96.7%). About a third of the women were Primigravidae (34.4%) and majority were in the third trimester (61.9%) (Table 1).

On the knowledge of respondents about HIV/AIDS as shown in Table 2, majority of them understood it to be a sexually transmitted infection, (89.6%), a life threatening disease, (89.3%) and a blood disease, (87.0%); with the main source of information being the radio, (62.2%). Majority of the women knew that HIV could be transmitted through unprotected sex with infected persons (98.1%), injection with unsterilized needles (97.4%), blood transfusion (97.0%), unsterilized instruments (98.1%), transplacentally (83.3%), homosexual intercourse (62.6%) and breast feeding (85.6%).

After scoring of outcome variables, 52.6 and 57.8% of the respondents had knowledge scores up to and above the group's average score for HIV/AIDS and MTCT respectively Table 3.

Concerning MTCT, 221 (81.9%) respondents agreed

Table 1. Socio-demographic characteristics of respondents (n = 270).

Variable	Frequency	Percentage
Age group (In years)		
Less than 20	18	(6.7)
20 – 29	186	(68.9)
30 – 39	63	(23.3)
40 – 49	3	(1.1)
Educational status		
No formal education	2	(0.7)
Primary education	76	(28.1)
Secondary education	161	(59.6)
Tertiary education	30	(11.1)
Arabic school	1	(0.4)
Occupation		
Schooling	21	(7.8)
Civil service	14	(5.2)
Artisan	53	(19.6)
Trading	161	(59.6)
Others	21	(7.8)
Marital status		
Single	12	(4.4)
Married	258	(95.6)
Ethnicity		
Yoruba	261	(96.7)
Igbo	9	(3.3)
Gestational age		
First trimester	12	(4.4)
Second trimester	91	(33.7)
Third trimester	167	(61.9)
Number of previous pregnancies		
0	93	(34.4)
1	67	(24.8)
2	60	(22.2)
3	28	(10.4)
4 OR MORE	22	(8.2)

that HIV can be transmitted to a baby from an infected mother. Many of the respondents felt MTCT of HIV takes place before delivery (73.0%), during labour (66.7%) or during breast feeding (75.9%). Eighty eight (48.9%) of the women had no idea about prevention of MTCT. Others felt MTCT could be prevented by giving ART to infected mothers (53.3%), delivery by caesarean section (44.8%) and by not breast feeding (62.6%).

193 (71.5%) were aware of HCT, the health workers (45.1%) and the radio (39.4%) were their main sources of information about HCT Figure 1. Only 71 (26.3%) knew their HIV status, and the reasons for testing include; desire to know status (39.4%), because partner was tested (1.4%), request by the church before wedding (11.3%), when very ill (42.3%) and other reasons (5.6%). Majority of the respondents, (260, 96.3%) were willing to do the test after counselling, but only if treatment was available for positive cases (46.5%), if anonymity is

Table 2. Respondents' knowledge about HIV/AIDS (N = 270).

Variables	Frequency (%)
What is HIV/AIDS?	
Sexually transmitted infection	242 (89.6)
Life threatening disease	241 (89.3)
Blood disease	235 (87.0)
Source of information about HIV/AIDS	
Radio	168 (62.2)
Television	47 (17.4)
Church/Mosque	6 (2.2)
Friends	16 (5.9)
Health workers	22 (8.1)
Newspapers	1 (0.4)
School	6 (2.2)
Seminars	4 (1.5)
Modes of transmission of HIV	
Unprotected sex with infected person	265 (98.1)
Injection with unsterilized needles	263 (97.4)
Blood transfusion	262 (97.0)
Unsterilized instruments	265 (98.1)
Transplacental	225 (83.3)
Homosexual intercourse	169 (62.6)
Breast milk/breast feeding	231 (85.6)
Kissing an infected person	166 (61.5)
Mosquito bites	199 (73.7)
Sharing ward-robes and towels	116 (43.0)
Using the same swimming pool/stream	123 (45.6)
Others(spiritual/witchcraft)	47 (17.4)
Incubation period of HIV(from infection to appearance of symptoms)	
No idea	103 (38.1)
Less than a year	69 (25.6)
1 to 5 years	56 (20.7)
5 to 10 years	32 (11.9)
More than 10 years	8 (3.0)
Same day	2 (0.7)
Symptoms and signs of HIV/AIDS	
Weight loss	255 (94.4)
Prolonged fever	201 (74.4)
Chronic diarrhoea	186 (68.9)
Recurrent boils	146 (54.1)
Rashes	171 (63.3)
Chronic cough	200 (74.1)
Shingles/Herpes Zooster	123 (45.6)

strictly maintained (16.9%) and for other reasons (36.5%). The main reasons given by the 10 respondents who were not willing to carry out the test were that they were not at risk (70.0%), were not sure of confidentiality (50.0%) while some feared stigmatisation and misuse of test results by care givers (40.0%). Most of the

Table 3. Knowledge scores (n = 270).

HIV/AIDS	
Variable	**Values**
Knowledge score	
Average	43.3
Standard deviation	5.0
Categorised knowledge scores (%)	
Average and above	52.6
Below average	47.4
MTCT-specific	
Knowledge score	
Average	11.5
Standard deviation	3.7
Categorised knowledge scores (%)	
Average and above	57.8
Below average	42.2

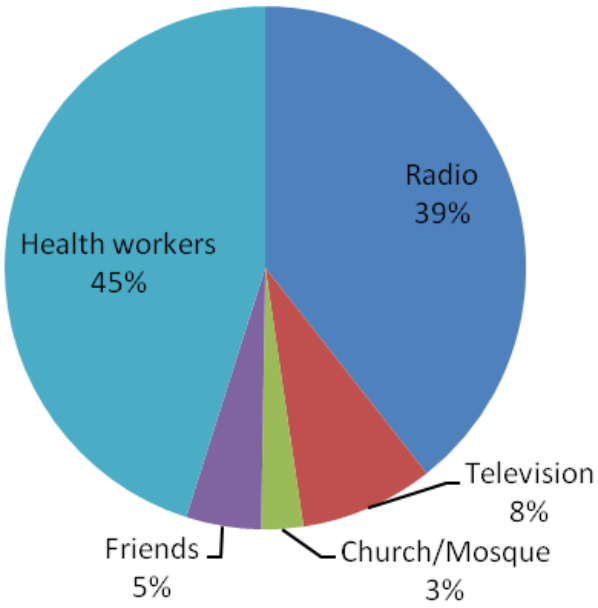

Figure 1. Source of HIV counselling and testing information (n = 193).

respondents, (62.6%) felt permission should be obtained before and after the test; 259 (95.9%) respondents would like to know the result of the test and 213 (78.9%) would also want their husbands to know Table 4.

Willingness to test was found to have a statistically significant relationship with specific MTCT-related knowledge (t = 2.431, p = 0.034) but not general HIV-related knowledge (t = 0.509, p = 0.622).

DISCUSSION

The awareness about HIV/AIDS was high among respondents with about 90% of respondents knowing it to be a sexually transmitted infection (STI), a life threatening disease and blood-borne disease. Majority of the respondents also demonstrated good knowledge of modes of transmission of HIV, symptoms and signs of HIV/AIDS

Table 4. Attitude of Respondents to HCT (n = 270).

Variable	Frequency (%)
Support for VCT	
Yes	245 (90.7)
No	13 (4.8)
Indifferent	12 (4.4)
Willing to do the test after counselling	
Yes	260 (96.3)
No	10 (3.7)
Reason for accepting to do the test (n=260)	
If treatment is available	121 (46.5)
If anonymity is strictly maintained	44 (16.9)
If partner agrees	85 (32.7)
Others	10(3.8)
Will like the following to know the result	
Husband	213 (78.9)
Employer	15 (5.6)
Religious leader	24 (8.9)
Health workers	18 (6.7)
Do you know your HIV status?	
Yes	71 (26.3)
No	199 (73.7)
Reason for going for HIV screening (n=71)	
Getting married (church request)	8 (11.3)
Partner tested	1 (1.4)
Wanted to know	28 (39.4)
When very ill	30 (42.3)
Others	4(5.6)

and modes of prevention of HIV/AIDS. This may not be surprising in view of the reportedly high level of awareness of HIV/AIDS in Nigeria. The National Demographic and Health Survey (NDHS) of 2008 reported the level of awareness about HIV/AIDS to be 88.2% and 93.5% for women and men respectively (NPC, 2009). Other studies corroborate the fact that the level of awareness of HIV/AIDS is high in Nigeria (Abiodun et al., 2007; Brieger et al., 2006; Omuemu et al., 2008) and in other parts of Africa (Addo, 2005; Harns et al., 2003; Yerdaw et al,, 2002). After scoring of outcome variables for knowledge about HIV/AIDS, slightly more than half of respondents (52.6%) had good comprehensive knowledge about HIV/AIDS. This is much higher than the reported regional (South-west) and national values of 26.5% and 23.4% respectively for women of reproductive age (NPC, 2009). This may not be unconnected with the high literacy level of the respondents with about 70% of mothers in our study having post primary school education. Education was found to be significantly associated with knowledge of respondents about HIV/AIDS (p-value=0.001) as was found in Uganda (Karamagi et al., 2006). This is further buttressed by the fact that the highest level of comprehensive knowledge in the national health survey was demonstrated by women who had post-secondary education. (NPC, 2009)

NDHS 2008 reports that the two most common local misconceptions about HIV/AIDS are that it can be transmitted by mosquito bites and by supernatural means. (NPC, 2009) This is reflected in our finding with more than 70% respondents believing that HIV/AIDS can be transmitted by mosquitoes, 60% through kissing and about 20% by supernatural means. This pattern has been similarly reported by other studies in Nigeria. (Balogun and Odeyemi, 2010; FMOH, 2005; Moses et al., 2009)

This should raise some concern in view of the heavy investment that has been made on HIV/AIDS information, education and communication. It shows that there is still more to do in addressing these common misconceptions.

Four-fifths of the respondents heard about HIV/AIDS from either the radio or the television, with health workers accounting for less than 10% as source of information about HIV/AIDS. This outstanding contribution of the electronic media, as has been similarly reported by other studies, (Abiodun et al., 2007; Addo, 2005; Adeleke et al., 2009; Igwegbe and Ilika, 2005) should be encouraged. However, the health workers need to do more in educating the public about an important public health issue like HIV/AIDS especially because that will ensure a balanced knowledge. The very little contribution of the religious organisations, which has been similarly reported by other workers, (Abiodun et al., 2007; Adeleke et al., 2009; Igwegbe and Ilika, 2005) is indeed another cause of concern because religion is one of the important building blocks for the value system of societies. It is therefore very important to involve religious leaders more in the fight against HIV/AIDS. (Adeleke et al., 2009; Lum et al., 2007)

Without interventions, between 20% and 45% of infants may become infected from HIV positive mothers and well over 90% of children less than 15 years living with HIV have been infected through mother to child transmission (WHO, 2009; Momoh and Ezugwuorie, 2010; Stone and Kaleeba, 1998). It was therefore encouraging to find that more than 80% of the respondents knew HIV could be transmitted from mother to child with most of them knowing that MTCT could take place before, during and after delivery. This pattern has been similarly reported by other researchers in the country. (Igwegbe and Ilika, 2005; Moses et al., 2009; Ogaji et al., 2008) However, about 30% had no idea on how MTCT could be prevented; about half did not know about ART and two-fifths did not know that MTCT of HIV can be prevented by not breast feeding. A study by Adeleke et al. (2009), on awareness and knowledge of MTCT of HIV among mothers attending a paediatric HIV clinic in northern Nigeria also found that more than half of the respondents had no idea on PMTCT; only 6% and 24% knew caesarean section and avoiding breastfeeding respectively could have roles to play in PMTCT. This pattern of poor comprehensive knowledge about MTCT of HIV has been identified by previous studies both within and outside Nigeria (Abiodun et al., 2007; Ekanem and Gbadegesin, 2004; Harns et al., 2003; Igwegbe and Ilika, 2005). Thus, there is need for community education programmes on HIV/AIDS to emphasise on how to prevent MTCT, as this will likely improve uptake of HCT and reduce stigmatization among people living with HIV as well as reduce spread of HIV from MTCT.

HCT has been said to be essential for all support and treatment interventions against HIV and AIDS, and critical to PMTCT of HIV (Perez et al., 2004; Rogers et al., 2006). It is therefore of concern that though the level of awareness of HIV was high, as much as 30% of the respondents were not aware of HCT. This indicates a need to increase public enlightenment on HCT and its benefits. PMTCT programmes can only be successfully implemented if the concept of HCT is well understood by the communities and if they have the knowledge of the existence and benefits of the services. (Harms et al., 2005; Omuemu et al., 2008)

Majority of the respondents (96.3%) were willing to do the test after counselling. This positive attitude has been reported in many studies in Nigeria and other parts of the world. (Antony et al., 2006; Bakari et al., 2000; Ekanem and Gbadegesin, 2004; Gysels et al., 2000; Hesketh et al., 2005; Iliyasu et al., 2005; Omuemu et al., 2008) However, only about a quarter of the pregnant women interviewed knew their HIV status. This low uptake of HCT has been generally observed in Nigeria, (Anas-Kolo, 2005; Moses et al., 2009) and it is another clear indication for much more efforts to be put into information, education and communication activities towards HIV/AIDS. It is also worthy of note that about 1 in 10 of the 71 respondents that knew their HIV status had mandatory test as a pre-condition for marriage by their religious affiliations, and similar findings have been previously reported. (Addo, 2005; Moses et al., 2009) It was interesting to observe that all respondents who cited this reason only mentioned church request, the practice in mosques will need to be further explored. There is, therefore, the need to educate religious leaders on HCT and especially the rights of their members in HCT; it also generally underscores the need to involve religious leaders in the fight against HIV/AIDS. Majority of the respondents (78.9%) would like their husbands to know the results of their HIV screening test, and this should be encouraged because involvement of male partners has been recognized as a necessary component to the realization of programme objectives. (Moses et al., 2009)

Of the 10 people not willing to do the test, 70% would not because they felt they were not at risk. Risk perception has been variously cited as an important factor in acceptance of services. Sexually active people may recognise personal risk but not appreciate the risk derived from high-risk behaviour of a partner. Denial of risk has been reported as a common coping mechanism and is an important area to focus educational activities. (Addo, 2005; Brieger et al., 2006; Vermind and Wilson, 2002)

CONCLUSION AND RECOMMENDATION

The level of awareness of respondents about HIV/AIDS, PMTCT and HCT was high, but comprehensive knowledge about HIV/AIDS and MTCT was rather poor. Though only about a quarter of respondents knew their HIV status, most of the respondents supported HCT and

were willing to be tested after counselling. This represents an opportunity for PMTCT programming. It is recommended that HIV educational activities should specifically include PMTCT messages targeted at pregnant women, couples and communities and should address the challenges peculiar to these groups. Furthermore, it is recommended that the commonly reported misconceptions should be factored into HIV/AIDS educational programmes. Religious leaders, the media and health workers (of all cadres and discipline) should also be motivated to play a more pro-active role in educating their clients.

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