



NURSING AND MIDWIFERY COUNCIL OF NIGERIA

Research Journal

ISSN

2141 - 9574

N 500

Vol. 1 No 1 April 2011

ORIGINAL RESEARCH ARTICLES

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PROMOTING AND MAINTAINING EXCELLENCE
IN NURSING EDUCATION AND PRACTICE IN NIGERIA

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PREGNANT WOMEN'S KNOWLEDGE AND AWARENESS OF PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT) OF HIV/AIDS AND VOLUNTARY COUNSELLING AND CONFIDENTIAL TESTING (VCCT) UPTAKE IN SELECTED HEALTH CENTRES IN ZARIA, NIGERIA

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Abstract

The most common route of HIV transmission to children is the vertical transmission. However, many antenatal clients are said to have inadequate knowledge of the prevention of mother to child transmission of HIV and voluntary testing. This study was conducted in Sabon Gari, Zaria to determine the knowledge and awareness of pregnant women about Prevention of Mother-to-Child Transmission (PMTCT) of HIV and voluntary counselling and confidential testing (VCCT). A convenience/ sample of 120 antenatal clients in three randomly selected health centres was used. Data were collected through a questionnaire. Findings showed a relatively lower level of knowledge (82.5%) of PMTCT of HIV/AIDS, a high awareness (93.5%) and uptake (58.3%) of VCCT among the pregnant women. Those who would not do the test (41.7%) gave various reasons for their refusal, ranging from spouse disapproval to socio-cultural and psychological factors. Many of them however were aware of many advantages of VCCT and interventions for the pregnant women who are found to be HIV positive. Antenatal talks and the electronic mass media were their main sources of information. It is recommended that health programmes focus more on the community clients and their spouses. Mass media workers should appropriately be equipped in the view of the roles they would have to play in health information dissemination.

Key words: Perceptions, pregnant women, Prevention of Mother-to-Child Transmission (PMTCT) of HIV, voluntary counselling and confidential testing (VCCT),

Introduction

Statistics from the World Health Organization (WHO) reveal that by 1998, more than eleven million people world wide had died of AIDS, while another 36.1 million were already infected with HIV (World Bank, 1998), with a daily infection rate of over 16,000 people globally. By 2002, 42 million people had been infected with HIV/AIDS globally; 38.6 million of these were adults and of which 19.2 million were women (Stover, 2003). More than 3 million children below the age of 15 years were infected worldwide within the same period, with about 5 million new infections being recorded yearly, and nearly two-thirds of these are in sub-Saharan Africa.

HIV/AIDS is found among all known population of the world, including the 'embryonic population' (unborn babies) (Nguyan et al, 2008). Nigeria's HIV sero-prevalence rate among pregnant women attending antenatal clinics rose from 1.8% in 1991 to 5.8% in 2001 (Ilyasu et al, 2005). Globally, an estimated 600,000 children are infected vertically (in utero) each year (Muula & Misiri, 2004). Where women do not breast feed, most of the transmission occurs at the time of labour and delivery. Transmission

in early pregnancy is not common. In Nigeria where most women breast feed, there is an additional risk.

About one-third of transmission is believed to be as a result of breast feeding (AIHA, 2008). According to this source, of the 5.8 million new infections in 2003, about 800,000 were children. In WHO/EIP/OSD/2000.5 (Fact Sheet 10) it was stated that 90% of these got infected through their mothers, occurring at three levels: ante partum, intra partum and postpartum. Two-third occurs during pregnancy and 1/3 during breast feeding (WHO/EIP/OSD/2000.5 Fact Sheet 1). With no vaccine or any definite cure for HIV/AIDS in sight for now, prevention of mother-to-child transmission (PMTCT) appears to be most important of all strategies for control the situation.

Prevention of mother-to-child transmission (PMTCT) of HIV is found to be a proven strategy in preventing vertical transmission of HIV (AIHA 2008). The strategy also includes voluntary counselling and confidential testing (VCCT) (WHO/EIP/OSD/2000.5 Fact Sheet 7), anti-retroviral therapy, elective Caesarean section and replacement of infant feeds or modified breast feeding (WHO/EIP/OSD/2000.5 Fact Sheet 10). An option of termination of pregnancy where it is medically indicated and the restrictive use of invasive procedure such as artificial rupture of membranes (ARM) and episiotomies are also suggested as part of the strategy. Micro-nutrient supplementation during pregnancy, cleansing of the birth canal with a

microbite during labour and delivery, detection and treatment of sexually transmitted infections (STIs) and anti-retroviral treatment to children during breast feeding period are part of the strategy. However, in many places, physicians selectively implement the policy of prenatal HIV testing (Duggan, Khuder, Sinha, and Chakraborty, 2003; and Guenter, Carroll, Kaczorowski Sellors, 2003).

Health programmes designed and tailored to change sexual and other risky behaviours have also been seen to be important in the prevention and control of HIV infection (Ayankogbe et al 2003). Public education is the main weapon to fight the spread of HIV/AIDS. The National Guideline on PMTCT of HIV is a declaration of UN General Assembly Special Session on HIV/AIDS to reduce the proportion of infants infected with HIV by 20% in 2005 and 50% by 2010 and to increase access to quality voluntary confidential counselling and testing services by 50% by the same year. The focus of PMTCT strategy is broadly on HIV/AIDS among women, prevention vertical transmission and provision of HIV/AIDS care for HIV positive mothers and their families (Ekanem Gbadegesin, 2004).

Studies show varied levels of general HIV awareness and knowledge. Ibe (2004) found a very high level of HIV awareness and knowledge among tertiary institution students. Ekanem and Gbadegesin (2004) found a far less than 100% awareness and knowledge on voluntary counselling and confidential testing (VCCT) among pregnant women and even among health workers. However, majority of the women studied had a good knowledge of mode of HIV transmission, but knowledge of specific aspects of PMTCT was poor (Rey et al, 1997; Ho & Loce 2003; Kominami et al, 2007; and Sandgren, Sandgren, Urazalin, & Andersson 2008). Close to half of the women were not aware of the relationship between breast milk and HIV transmission; despite World Health Organisation's discouragement of breast feeding in HIV positive mothers (Martins & Henderson 2004). Almost all women were willing to undergo HIV testing in pregnancy if it will assist to prevent HIV transmission to their babies. Tardesse and Muula (2004) stated that majority of the women identified HIV testing as potential benefit and necessary for the prevention and control of HIV/AIDS. It would also eliminate the stigma of yes to testing (Boyd et al, 1999). Jones (2004) opined that where women are aware of their HIV status, services should be put in place to support them through their pregnancies and life as a positive parent, the ability to minimise the risk of transmission to babies. It is vital that women understand the purpose of early diagnosis through testing and its consequences. Most women are

willing to stop breast feeding if found positive (Sandgren et al 2008).

Such knowledge and awareness of PMTCT among pregnant women in Zaria have not been sufficiently documented, particularly among women attending antenatal clinics in Primary Health Care centres. This study was therefore undertaken to assess the knowledge and awareness of pregnant women in such settings.

Methods and Materials

A descriptive study was carried in three selected health centres in Sabon-Gari in Zaria of Kaduna state, Northern Nigeria. Sabon-Gari is a multi-ethnic community, a unique home of businessmen and women, with its headquarters at Dogarawa, a growing village located at the centre of the local government area. Sabon Gari Local Government Area was established as a result of the development of communication, commerce and military establishments in the area. It was formally created as a Rehabilitation Centre for Railway workers in 1903 by the British Colonial Administration in the North. Later in August 1991, the then Military Administration under the retired General and President Ibrahim Badamosi Babangida carved out Sabon Gari District from the former Soba Local Government Council to form the existing Sabon Gari Local Government Area. When all these transformations were going on, Sabon Gari District was severally subdivided; initially into two to form Sabon Gari and Basawa districts. Additional four districts were later created from these two in April 2001 to make up the present six districts in the Sabon Gari Local Government Area, namely: Sabon Gari, Muchia, Sanani, Bomo, Hanwa and Basawa. The Local Government Area has a population of 300,000 people, bordered to the North by Kudan Local Government Area, the West by Giwa Local Government Area, to the South-West, Soba Local Government Area and Zaria Local Government Area to the East, all these in Kaduna State. It has a population high density of different ethnic groups who migrated into the area from different parts of the country. The local government is made up of several private, governmental, non-governmental establishments and commercial outfits like banks, schools, various specialised training programmes, as well as health institutions (both private, faith-based, and public).

The area has six community health centres, out of which three were randomly selected from the different districts for this study: Comprehensive Health Centre, ABUTH Sabon-Gari - Centre A, Kwata Health Centre - Centre B, and Chikaji Health Centre - Centre C. The target population was all pregnant women attending antenatal clinics in all the centres. Data were collected from a convenience sample size of 120 women through a self-constructed structured questionnaire based on literature review. Questions

consisted personal profile of respondents such as age, marital status, type of marriage, religion, occupation, level of education and parity; awareness and knowledge of HIV/AIDS including any information on HIV, causes, routes of transmission and whether there are treatments. Respondents were also asked if they had heard of PMTCT and VCCT before, their sources of information, whether they had the voluntary testing, and their reasons for not agreeing to the test.

Descriptive and inferential statistics (chi-square set at 0.05) were used to analyse the data from respondents.

Results

The socio-demographic characteristics of the respondents show that most of the pregnant women (44.2%) were aged between 20 and 30 years, housewives (43.3%) and 34.1% had non-formal education. majority (52.5%) had parity of between 1 and 4 children (Table 1).

Table 1: Socio-demographic Characteristics of the pregnant Mothers

Variables	Centre A Frequency %	Centre B Frequency %	Centre C Frequency %	Total
Age (in years)				
< 20	7 (17.5)	5(13.2)	3(7.8)	15(12.5)
21-30	21 (52.5)	15(39.5)	17(40.5)	53(44.2)
31-40	9 (22.5)	17(44.7)	18(42.9)	44(36.7)
41-50	3 (7.5)	1(2.6)	4(9.5)	8(6.6)
Total	40 (100)	38(100)	42(42)	120(100)
Marital status				
Married	32 (80.0)	38 (100.0)	41 (97.6)	111 (92.5)
Single	6 (15.0)	0	1 (2.4)	7 (5.8)
Widowed	2 (5.0)	0	0	2 (1.7)
Total	40 (100)	38(100)	42 (100)	120 (100)
Type of marriage				
Monogamous	26 (65.0)	31 (81.6)	17 (40.5)	74 (61.7)
Polygamous	14 (35.0)	7 (18.4)	25 (59.5)	46 (38.3)
Total	40 (100)	38 (100)	42 (100)	120 (100)
Religion				
Christianity	17 (42.5)	22 (57.9)	8 (19.1)	47 (39.2)
Islam	23 (57.5)	16 (42.1)	34 (80.9)	73 (60.8)
Total	40 (100)	38 (100)	42 (100)	120 (100)
Occupation				
Civil servants	3(7.5)	7(18.4)	8(19.0)	18(15.0)
Petty traders	7(17.5)	8(21.1)	4(9.5)	19(15.8)
Housewife	18(45.0)	16(42.1)	22(52.3)	56(46.7)
Business	12(30)	7(18.4)	8(4.8)	27(22.5)
Total	40(100)	38(100)	42(100)	120(100)
Level of education				
Non-formal	17 (42.5)	12(31.6)	17(40.5)	46(38.3)
Primary	8(20.0)	2(5.3)	6(14.3)	16(13.3)
Secondary	11(27.5)	7(18.4)	8(19.0)	26(21.7)
Tertiary	4(10.0)	17(44.7)	11(26.2)	32(26.7)
Total	40 (100)	38(100)	42(100)	120(100)
Parity				
0	2(5.0)	0	1(2.4)	3(2.5)
1-4	28(70.0)	15(39.5)	20(47.6)	63(52.5)
4+	10(25.0)	23(60.5)	21(50.0)	54(45.0)
Total	40(100)	38(100)	42(100)	120(100)

Table 2 indicates that the awareness level of VCCT among the study population was high (93.3%) but the knowledge of prevention of mother-to-child transmission (PMTCT) of HIV was comparatively lower (82.5%). Antenatal clinic health talks (62.5%) and the media (34.2%) were the main sources of information.

Table 2: Respondents' Knowledge/Awareness of PMTCT and VCCT Uptake and Sources of Information

Response	Centre A Frequency (%)	Centre B Frequency (%)	Centre C Frequency (%)	Total
Knowledge on PMTCT				
Yes	39 (97.0)	29 (76.0)	31 (73.8)	99 (82.5)
No	1 (3.0)	9 (24.0)	11 (26.2)	21 (17.5)
Total	40 (100)	38 (100)	42 (100)	120 (100)
Awareness on VCT				
Yes	39 (97.0)	33 (87.0)	40 (95.0)	112 (93.3)
No	1 (3.0%)	5 (13.0)	2 (5.0)	8 (6.7)
Total	40 (100)	38 (100)	42 (100)	120 (100)
Sources of information				
ANC Health Talk	39 (97.0)	7 (18.0)	29 (69.0)	75 (62.5)
Radio/TV	1 (3.0)	27 (71.0)	13(31.0)	41 (34.2)
Others: Friends	0	4 (11.0)	0	4 (3.3)
Total	40 (100)	38 (100)	42 (100)	120 (100)

In the three centres (A, B and C), there appears to be similar knowledge levels of PMTCT among the respondents' various levels of education. Similarly, it was found that the respondents' level of awareness of voluntary counselling and confidential testing (VCCT) and their occupational affiliations did not seem to differ significantly (see Tables 3 & 4).

Table 3: Relationship between level of Education and Knowledge of PMTCT

Level of Education	Knowledge		
	Good	Poor	Total
Non-formal	39 (39.1%)	7 (6.9%)	46 (38.3%)
Primary	14 (13.6%)	2 (2.4%)	16 (13.3%)
Secondary	19 (22.1%)	7 (3.9%)	26 (21.7%)
Tertiary	30 (27.2%)	2 (2.4%)	32 (26.7%)
Total	102 (85.0%)	18 (15.0%)	120 (100%)

Table 4: Relationship between Occupation and Awareness of VCT

Occupation	Awareness		
	Good	Poor	Total
Civil servants	18 (17.0%)	0 (0.0%)	18 (6.7%)
Petty trader	17 (17.9%)	2 (1.1%)	19 (15.8%)
Housewife	52 (52.7%)	4 (3.3%)	56 (46.7%)
Business	26 (25.4%)	1 (1.6%)	27 (22.5%)
Total	113 (94.2%)	7 (5.8%)	120 (100%)

Other results of the study indicate that more than half (58.3%) of respondents accepted the voluntary counselling and were tested, while 41.7% would not do the test due to a number of reasons (all respondents in Centre A had been tested). Among the reasons given for rejecting the test, husband disapproval was a factor (14.0%); while many of the pregnant women (20.0%) claimed not to be at risk of contracting HIV. Half of them (50.0%) would not give any reason for their refusal. Majority (80.0%) of them were also aware of availability of antiretroviral drugs and other PMTCT interventions used if pregnant mothers are found to be positive. Many (53.3%) of them stated some benefits that could be derived from a VCCT: to know their own health status (73.4%), to protect their babies (20.3%), and to commence early treatment of the disease, if found positive (6.3%).

Discussion

The socio-demographic variables of the respondents in this study, particularly the relative young ages, occupations and parity of the pregnant women are characteristic of this heterogeneous Nigerian community.

The study has shown that majority (98.3%) of the respondents in the three centres have heard about or seen HIV infected patients, a clear indication that awareness of HIV/AIDS is high. Similar findings (Farid and Choudhry 2003; Ilyasu et al 2005; Katz 2001) in which between 95% and 100% of the study populations were aware of the disease were reported.

Similarly, the knowledge of HIV/AIDS including the causative organism, routes of transmission, prevention and cure was also relatively high (71.1%) in the three centres. The knowledge on Prevention of Mother-to-Child Transmission of HIV, including possible interventions if tested positive, was equally high (82.5%); likewise, the awareness of Voluntary Counselling and Testing (VCT), which was 93.3% (see Table 2). In other studies, similar but higher knowledge levels were found in some places (Ilyasu et

al 2005) while in others, it was low (Meadows & Catalan 1994; Ekanem and Gbadegesin 2004). However, in the three selected sites in this, there were differential levels of knowledge of HIV across the centres, being highest in Centre A (92.5%) and lowest in Centre C, 57.1%. These differences may be related to the fact that Centre A is being run by a tertiary health institution (a Teaching Hospital), which is expected to create such awareness as part of their service focus compared to Centre C, which is a local government-run facility.

This is further explained by the respondents' sources of information (Table 2): antenatal health talk being 97.0% in Centre A, compared to 18.0% and 69.0% in Centres B and C respectively. Radio and television were significant sources especially in Centre C (71.0%) and B (31.0%). Ayankogbe et al (2003) had stated that radio/television were potent tools in the dissemination of information on HIV/AIDS, especially using local languages. The respondents' level of education and occupations did not correlate significantly with knowledge of PMTCT and awareness of voluntary counselling and testing in entire study population (see Tables 3 & 4). This may be due to the fact that it did not depend on the ability of respondents to read or write but on antenatal health talks, and information on HIV/AIDS on the electronic media, which were usually in Basic English and the local languages, particularly Hausa.

The fact that slightly more than half of the pregnant women (58.3%) accepted VCCT still leaves a gap for more health advocacy, particularly in Centres B and C where 66.0% and 59.0% respectively would not do the test for many reasons, including claims not to be at risk of infection, cultural and religious disapprovals. Jones (2004) had found similar cultural and religious reasons in London among antenatal attenders in Newham. In Tanzania, husbands were limiting factors (Kominami et al 2007) as found also in this study. In

Centre A, however, all the respondents claimed to have been tested; most likely because the centre is run by a teaching hospital where VCCT is a policy in the antenatal care programme of the hospital with the advantage of ease of access to necessary facilities for testing.

Conclusions and Recommendations

There is a high level of knowledge and awareness of prevention of mother-to-child transmission of HIV and voluntary counselling and confidential testing among pregnant women in Sabon Gari-Zaria, associated mainly with antenatal health talks and the electronic media as major sources of information. Socio-demographic variables do not appear to influence this significantly. This implies that media practitioners can be properly equipped with adequate information on health matters because of their strong influence in health information dissemination. Similarly, trained health practitioners like health educators can use the electronic media to disseminate health information to a large local target audience. Most of those who refuse voluntary testing/ some do not perceive any risk in contracting HIV even when they are exposed to sexual activity are those in local community health centres. They should therefore form a particular focus for health information programmes. Similarly, postures need further studies for in-depth exploration as well as for knowledge and awareness creation. Government policies on PMTCT such as PMTCT-MS (Monitoring Services) can also be made firmer and operational to ensure that expectant mothers are tested to protect unborn child. In two of the centres, antenatal emphasis on PMTCT and VCCT appear weak. Community health workers need to be properly integrated into the comprehensive HIV/AIDS prevention to see this as a major challenge in their preventive and health promotion roles. Related large scale studies are suggested, using available standardised instruments, to made findings more generalisable.

Acknowledgement: Our many thanks to Dr. Bature H. of Ahmadu Bello University Teaching Hospital, Zaria, who assisted us in retrieving recent information. We also thank the pregnant women who agreed to participate in the study without much push. We are grateful to the authorities of the three health centres for their permission, and support.

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