

Assess the Knowledge Pregnant Women have on HIV/AIDS, Mother to Child Transmission of HIV/AIDS and How PMTCT Services are Utilized in a Tertiary Health Facility in the Gambia

Robert Ninson^{1*}, Elizabeth DaSilva Ninson²

¹Team Lead/Senior Public Health Consultant, Access For Humanity, Juba, South Sudan

²Immunization Officer, Unicef Country Office, The Gambia

Abstract

Mother-to-child transmission (MTCT) is by far the largest source of HIV infection in children below the age of 15 years. The virus may be transmitted during pregnancy, child birth or breast feeding. Globally 2.7 million children under the age of 15 years have died of AIDS. Over 9 in 10 were infected by their mothers. Recently however, many interventions are available to reduce mother to child transmission, such as anti-retroviral drug and avoidance of breast feeding. To assess the knowledge pregnant women have on HIV/AIDS, mother to child transmission of HIV/AIDS and how PMTCT services are utilized in a tertiary health facility in The Gambia. A structured questionnaire was used to obtain data from 150 women that consecutively attended the antenatal clinic of Hands On Care. Approval was obtained from the Director of Hand On Care. Sexually active population (15 – 24yrs) constituted 34% whilst 72.0% were housewives. Myths and misconceptions of HIV/AIDS, 42.7% said mosquito bites can cause HIV; 25.3% said sharing of meals with infected person can transmit HIV. Utilization of PMTCT services was high with 92.7% tested for HIV. Out of those respondents 50.0% had ever discussed PMTCT services with their husband. Utilization of PMTCT services among pregnant women was high. However, knowledge on the causes and transmission of HIV was inadequate. Need to formulate policies aim at sensitizing women about the causes and transmission of HIV/AIDS. Promoting the uptake of PMTCT services will also go a long way reducing the transmission of unborn babies by infected mothers.

Keywords: Antenatal Care; HIV/AIDS; Knowledge; Prevention of Mother to Child Transmission; Pregnant Wome; Utilization.

Introduction

Human Immune-deficiency Virus and Acquired Immune-deficiency Syndrome (HIV/AIDS) is a pandemic that has affected every part of the world. It is now the number one overall cause of death in Africa and has moved up to fourth place among all causes of death worldwide United Nations Joint Programming against AIDS [1]. Of the forty million people living with HIV/AIDS Worldwide at the end of 2003, (2.5 million were

children under 15 years of age. In the year 2002 alone, 700,000 children were newly infected with HIV/AIDS virus. The most significant source of HIV infection in children and infants is transmission from mother to child during pregnancy, labour and delivery and breastfeeding [2].

Mother-to-Child Transmission (MTCT) of HIV is a major component of the AIDS epidemic, especially in Sub-Saharan Africa and the less developed countries of South and East Asia. In more developed countries, obstetric

Received: 26.02.2023

Accepted: 28.02.2023

Published on: 30.06.2023

*Corresponding Author: ninr5791@gmail.com

interventions, anti-retroviral treatment and replacement feeding for the infant has resulted in significant reduction in transmission rates. Limited accesses to the above-mentioned intervention are the main reasons for the differences in transmission rates [3]. The rate of perinatal transmission of HIV in developing countries ranged between 19% to 36% and HIV prevalence in some areas are up to 25% [4]. In The Gambia, the current prevalence rate of 1.65% is derived from national sentinel surveillance of antenatal attendees aged 15 to 49 years drawn from rural and urban communities throughout the country [5]. This survey seems to indicate an increase in HIV prevalence in The Gambia compared to 1.4% and 1.6% obtained in 2007 and 2008, respectively. Currently, in The Gambia, several attempts have been made by government and non-governmental organizations to provide cost-effective anti-retroviral regimens to prevent perinatal transmission of HIV.

HIV testing is recommended for all pregnant women. Services are also available to help pregnant women prevent HIV transmission as well as care for women who might refuse the test for themselves and their infants [6].

Methods

Study Design and Methods

The cross sectional research approach was considered to be appropriate for this study because it allow data collected at one point in time on several variables such as Demographic variable, pregnant women's knowledge about HIV/AIDS and utilization of PMTCT services.

Study Setting & Population

The Kombo Central District is the largest district in The Gambia under the west coast region with over eighty-four thousand inhabitants and about 30k south of the capital city Banjul.

The Brikama area is an area within the Kombo Central districts which comprises of villages and towns. Brikama being the

administrative area and seat of the Area Council is the local transport hub for the South bank. The study was conducted at Hands on Care in Brikama Kombo Central district. The population in this study was pregnant women of childbearing age. The target population was pregnant women who were using the ANC services in Hands on Care.

The inclusion criteria were:

1. The participants were pregnant women.
2. The participants who were willing to participate in the study and gave written consent.

Sampling

The sampling base selected was Hands on Care Clinic which is providing VCT in PMTCT and it was reported to be fully operational since the introduction of the PMTCT program in August 2004. Using A-priori Sample size calculation for multiple regressions ("Statistics Calculator," 2011) the sample size for the general population is 150 respondents, with Alpha level 0.05 and Number of predictors 12, anticipated effect size at 0.35, and Desired Statistical power 0.8. The sample size was decided in a way that it is representative but cannot be generalized to the population. One hundred and fifty (150) pregnant women were conveniently sampled to provide information on the study questions.

Study Participants

The sister in charge of the clinic identified all the women who came to attend ANC clinic and are eligible to be part of the study. Participants were identified according to the set criteria mention earlier on. They were referred to the researcher in the office of the sister in charge who explained to them about the research in a dialect they understand. Permission was sought to conduct individual interviews. The participants gave written consent to sign before starting the interview and those were not able to sign were ask to thumb print on the form if consented.

Data Collection & Management

Data collected among pregnant women who presented themselves for antenatal services at Hands on Care during the month of August and September. Participants who have completed secondary school level the questionnaire was given to them to fill. The rest of the participants who did not complete secondary school and who are also below the level of secondary school the items of the questionnaire are being translated to the participants in a dialect they understand using the same wording and tone by the researcher.

At the time of data collection, the HIV status of the study subjects was not known. Immediately after the interview, the researcher checked the questionnaire for completeness and followed up any queries. Data was also keyed in alongside with the interview. Data was analysed using SPSS. Version.18. Descriptive statistic was used to answer the research question and objectives. Data was clean using initial frequencies and looking for missing and out of range values. Results were presented in tables of frequencies and a correlation between variables.

Ethical Consideration

A written approval was granted to carry out the study by the Director of Hands On Care. The aim of the study was explained to all the potential participants. Ensuring the anonymity and confidentially regarding information provided by the participants enhanced the participant's right to privacy.\

There was no name and no label on the completed interview questionnaire. Only figures and statistics of group data were provided but no individual woman's name was mentioned. To protect the human subject as they are part of the vulnerable group the researcher's contact number was given to each participant and were ask to contact her at any time they need her or have any question about the study.

Results

Demographic Characteristics of the Respondents

Demographic characteristics of the 150 pregnant women who participated in this study are presented. The data are presented in table 3 in percentages and frequency according to the age distribution, level of education, marital status, school attendance, and occupation.

It indicates that majority 47(31.3%) are within the age bracket of 25-29 years. Among those who had some education, 44(29.3%) have attained secondary level education whilst the majority 54 (36.0%) have not been into formal education. The majority 134 (89.3%) of the respondents were married, 14 (9.3%) were single, 1 (0.7%) divorced and 1 (0.7%) widowed. Occupation of respondents, 108 (72.0%) were housewife 13 (8.7%) were farmers, while 4 (2.7%) were civil servants and 25 (16.7%) were involve in other forms of jobs such as business, or petty trading. The results of the study support demographic research evidence that suggests that majority of Gambian women are not gainfully employed and depend on the kind gesture of their husbands or male partners.

Utilization of PMTCT and HIV/AIDS Services

In The Gambia utilization of PMTCT is proven to be high as it part of the antenatal services given to women during pregnancy. Though acceptance to be tested as part of the PMTCT services is high there are still few women who don't want to be tested. The period of waiting time to see a health worker can be as discouraging to the women (Table 2). Of those who utilized the ANC clinic, 139 (92.7%) of the respondents have been tested as part of the PMTCT services offered during ANC. On the issue of the types of counselling offered, 32 (21.3%) had "alone counselling"; 2 (1.3%) had couple counselling and 116 (77.7%) had group counselling. When the respondents were asked

whether they know their husband's HIV Status, 90 (60.0%) answered "No" while 40% answered "Yes" they know their husband's HIV status. On timely receipt of results, 92 (61.3%) received their results on the same day while 18 (12.0%) received theirs a day after and 40 (26.7%) received it 2 days after. On the issue of disclosure 88 (58.7%) answered "Yes" that they were ready to disclose their spouses about their HIV status. Responding to the issue of waiting to see a service providers majority of the respondents, 88 (58.7%), mentioned that they spent over one hour before seeing a service provider; 18 (12.0%) mentioned between 31min to 1 hour, 37 (24.7%) mentioned 15 to 30 minutes, and only 7 (4.7%) mentioned less than 15 minutes. Access to services also contribute to the uptake of health related services or social services. Distance from residence to the clinic was asked to the respondents. Out of the 150 respondents, 10 (6.7%) respondents travel more than 10kms to the clinic; 66 (44.0%) respondents travel between 5 to 10kms and 74 (49.3) travelled less than 5kms. Respondents also strongly believe that health workers will keep their HIV status confident 95 (63.3%) while 40 (30.0%) said they believed just slightly.

Knowledge Pregnant Women have about HIV/AIDS

Out of 150 respondents 101 (67.3%) agreed that abstinence can protect one from being infected with HIV Virus, 14 (9.3%) mentioned faithfulness and 15 (10.0%) mentioned condom use can prevent HIV infection. Out of 150 respondents, 68 (45.3%) disagreed that a person can get HIV from mosquito bites, 103 (68.7%) disagreed that one can get HIV by sharing a meal with someone who is infected and 134 (89.3%) believe that a person can get HIV by getting injections with a needle already used by someone else. One Hundred and twenty-six (84.0%) agreed that a healthy looking person can be HIV positive while 17 (11.3%) did not

agree and 7 (4.7%) said they don't know. Majority of the respondent believed that HIV can only be acquired through sexual intercourse and do not consider other modes of HIV transmission. There is a great need to give the correct Information Education and Communication (IEC) to pregnant women about how HIV infection can be acquired. In other countries studies have shown that there are myths about how HIV is transmitted. People believe that abstaining from sex may be the best way to prevent one from getting infected by HIV but this concept stands to be corrected.

Knowledge Pregnant Women have about PMTCT

In this study women show their knowledge about prevention of mother to child transmission of HIV/AIDS but there are still women who do not agree that HIV can be transmitted during pregnancy, labour and through breastfeeding and some women who don't know. Regarding the knowledge on PMTCT, 112 (74.7%) agree that can transmit the HIV virus to her baby through breastfeeding and 16 (10.7%) did not agree that the virus can be transmitted. When the respondents were asked if a mother and baby are infected they will die prematurely 71 (47.3%) agreed while 35 (23.3%) disagree that both mother and baby will die prematurely. Out of 150, 130 (86.7%) agree that if a mother is infected the baby can have HIV during pregnancy or delivery, and 117 (78.0%) of the respondents said "HIV can be passed from Mother to Child during breastfeeding Though respondents believe that an infected mother and baby will die prematurely majority of the them believe that with antiretroviral drugs both mother and baby can live a normal life when taken. More Information Education and Communication (IEC) are needed for people to understand the different ways of mother to child transmission and how mother to child transmission can be prevented.

Table 1. Demographic Data of Respondents (N=150)

Variable	n	%
Age		
15-19	14	9.3
20-24	37	24.7
25-29	47	31.3
30-34	33	22.0
35-39	13	8.7
>40	6	4.0
Educational level		
Didn't complete primary school	16	10.7
Primary school & Madrassa	32	21.3
Secondary school	44	29.3
Tertiary	4	2.7
Don't go to school	54	36.0
Marital status		
Married	134	89.3
Single	14	9.3
Divorced	1	0.7
Widow	1	0.7
Occupation		
Farmer	13	8.7
Housewife	108	72.0
Civil servant	4	2.7
Business	25	16.7

Table 2. Utilization of PMTCT (N=150)

Variable	n	%
Tested for HIV as part of PMTCT		
Yes	139	92.7
No	11	7.3
Type of counseling		
Alone counseling	32	21.3
Couple counseling	2	1.3
Group counseling	116	77.7
Know husband's HIV status		
Yes	60	40.0
No	90	60.0
Period to wait for results		
Same day	92	61.3
Two days	18	12.0
>Two days	40	26.7
Disclosure of results		
Yes	88	58.7

No	62	41.3
Waiting time to see a health worker		
<15 min	7	4.7
15 - 30 min	37	24.7
30 min - 1 hr	18	12.0
>1hr	88	58.7
Distance from residence to clinic		
<5Km	74	49.3
5-10Km	66	44.0
>10Km	10	6.7
Health workers will keep HIV status confidence		
No	10	6.7
Slightly believe	45	30.0
Strongly believe	95	63.3

Table 3. Knowledge on HIV/AIDS (N=150)

Variable	n	%
Prevent yourself from acquiring HIV/AIDS		
Abstinence	101	67.3
Faithfulness	14	9.3
Condom use	15	10.0
Others	20	13.3
Mosquito bites cause HIV		
Yes	64	42.7
No	68	45.3
Don't know	18	12.0
Sharing meals with infected person transmit HIV		
Yes	38	25.3
No	103	68.7
Don't know	9	6.0
Used needles transmit HIV		
Yes	134	89.3
No	10	6.7
Don't know	6	4.0
Healthy looking person can be HIV positive		
Yes	126	84.0
No	17	11.3
Don't know	7	4.7

Table 4. Knowledge on PMTCT (N=150)

Variable	n	%
If I have HIV/AIDS, I can transmit it to my baby through breastfeeding		
Agree	112	74.7
Not agree	16	10.7
Don't know	22	14.7
If I and my new born baby are HIV infected, will we die prematurely		
Agree	71	47.3
Not agree	35	23.3
Don't know	44	29.3
If a mother is infected the baby can have HIV during pregnancy or delivery		
Agree	130	86.7
Not agree	7	4.7
Don't know	13	8.7
If I am HIV infected, my baby have the chance to get HIV during breastfeeding		
Agree	117	78.0
Not agree	15	10.0
Don't know	18	12.0
If a mother and baby are infected they can have a normal life when taking antiretroviral drugs		
Agree	139	92.7
Don't agree	4	2.7
Don't know	7	4.7

Discussions

In The Gambia, women attending antenatal Clinics are a unique cohort group and have been used to determine the national HIV seroprevalence since the epidemic of HIV in The Gambia in 1986. In the absence of HIV population based surveys and Demographic Health Survey (DHS), this group provides a proxy or best estimates for HIV prevalence in the country. Evidence of new infections from the national survey is an indicative factor of an increasing number of children infected with the virus linked mainly to mother to child transmission [7]. Pregnant women are more accessible and would come to ANC clinics every month, and it is important to know that every pregnant woman there is a man involved. The most common way of transmitting the virus is through sex and it still ranks high among the modes of transmission of HIV. This study

revealed that majority of the respondents were of the age group 20 – 29 years is within the sexually active age group identified in The Gambia. Moreover, in 2011 the national sentinel survey conducted in The Gambia, shows that the highest prevalence of HIV was found in the age group 15 – 25 years making this subset highly significant in HIV prevention programs in The Gambia.

Utilization of PMTCT Services

According to the findings of this study, it was revealed that majority of the respondents, 139 (92.7%) were tested as part of the PMTCT services, and 116 (77.7%) of the respondents had group counselling. A similar result was observed in the study conducted in Pakistan by Afridi et al in 2010 in which, 82.8% had the knowledge of the importance of checking ones HIV status [8]. This indicated that pregnant women attending reproductive and child clinic

services have the chance of an Opt-out approach to counselling and testing. This strategy aims at getting information across to all pregnant women attending antenatal clinics before individual counselling. The probability that this is high was the fact that information on the benefits of knowing one HIV status that accounted for the high number of pregnant women tested for HIV. Disclosure of HIV status has been a critical aspect in tackling the HIV/AIDS epidemic. A total of 60 (40.0%) agreed to have known their husband HIV status while the majority 90 (60%) did not know their husband's HIV status. In many cultures and social norms, male dominance plays a pivotal role and it is not surprising in this study to have 88 (58.7%) of the respondents revealed that they will not share their results, likely because they fear being divorced, stigmatized and discriminated or otherwise. Long waiting time and distance have shown to be a major barrier to utilization of services and this study is no exception. A total of 88 (58.7%) of the respondents, wait for more than one hour before being seen by a health worker. This alone can impede the willingness to opt for waiting for additional hours to be counselled and tested for HIV. PMTCT programme is identified as a virile opportunity for pregnant women and their spouses to know their HIV status so as to guard against infecting the unborn child pre- and post-delivery. However, 92% of the respondents indicated they were tested as part of the PMTCT services and majority knew their HIV status. The low uptake of services observed in Nigeria [9]. does not reflect in this study. The confidence expressed by majority of the women in this study (58.7%) to willingly disclose their HIV status to spouse or other family members should be encouraged. In this study, 40% of the respondents revealed that they knew the sero-status of their husbands [10]. Suggest that males should be involved at the onset of PMTCT through couple counselling. Disclosure of HIV test results to partners will make it easier for women to access the complete package of

PMTCT services and follow programme recommendations. The results suggest an urgent need for public health education on HIV/AIDS and the benefits of VCT to control MTCT, particularly targeting young women and those with little or no education [11].

People fail to undergo testing due to fear of discrimination and stigma while some fail to disclose their status for the same reason. People would rather keep relatives who were infected with HIV/AIDS a family secret while they were willing to work in the same office as infected non-family members but would rather not share a meal with them or buy items from them if they were shop owners [12]. A study conducted by [13] found that 69.2% of their respondents said that they would be discriminated against socially and/or culturally if they tested HIV positive. Although some of the respondents in this study indicated that people living with HIV/AIDS were accepted and supported in their community, the challenge of rejection and fear of being avoided was still widespread in the community.

Knowledge on HIV/AIDS

An assessment of the knowledge women had on HIV/AIDS issues in this study revealed that high proportion of women though with good knowledge of HIV/AIDS are yet to fully understand the dynamics of the HIV infection which was corroborated by the report [9] For instance, majority of the respondents (79.3%) understood how to protect oneself from HIV/AIDS, although for some Mosquito bites can cause HIV. A significant number of the respondents in the study, 101 (67.3%) believe that abstinence can prevent one from acquiring HIV/AIDS infection, in real terms, abstinence is not possible and it does not reflect the reality of the world. However, 15 (10.0%) of the respondents mentioned condom use; 14 (9.3%) mentioned faithfulness, which in this study are more applicable to prevent one from acquiring the HIV/AIDS disease. Although, the number of respondents is not significant the latter two

responses, the study had shown that more efforts are needed to educate the population including pregnant women in varying ways of preventing HIV/AIDS infections. Respondents (25.3%) believe that sharing meals with HIV infected person transmit HIV.

A lot of myths and misconceptions have occurred in the past and still now it does exist. In this study, when respondents were asked if mosquito bites can cause HIV infection, sharing meals with infected person can also transmit HIV and if healthy looking person can be HIV positive, like other studies [12]. 64 (42.7%) of the respondents indicated “yes” mosquito bites can cause HIV. This information is in correct and it still reflects the fact that after three decades of the epidemic and response people still have the belief that mosquito bites can cause HIV infection. Vigorous campaign in terms of information, education and communication should be intensified to educate the population.

Blood transfusion is another form of transmitted HIV and other blood borne diseases and while the study identified faithfulness and use of condom help prevent HIV/AIDS blood transfusion is also a mode of transmission that people should know however all blood transfusions in the Gambia is screen for HIV/AIDS as part of the Blood safety policy of The Gambia.

A total of 126 (84.0%) of the respondents indicated yes that a healthy looking person can still be HIV positive, even though HIV virus can only be confirm by blood testing but people still know that care have to be taken to be infected because not every on looking healthy is free for the HIV virus. Awareness of the mode of transmission of the HIV virus (sexual and through mother-to-child) and the fact that 84% of the respondents alluded to the fact that a person may appear healthy and yet carries the virus does not outweigh the number of respondents 25.3% who indicated that sharing meals with HIV infected persons can be a possible mode of transmission. According to a

study conducted by Jallow [7], this emphasizes the existence of poor understanding of the mode of transmission/spread of HIV/AIDS among other factors that drive the epidemic among women in The Gambia.

On HIV prevention issues, responses were varied according to the level of knowledge of HIV transmission among the women. For example, 8.0% of the respondents disagreed that having one uninfected faithful partner can prevent HIV infections which corroborates 6.0% of the respondents who revealed that multiple partner are at risk of getting HIV infection. On the other hand, HIV is spreading at an alarming speed causing untold suffering and death and creating profound development challenges. In order to avert the present somewhat gloomy situation, concerted efforts which may be driven by strong political leadership and public commitment should be in place [14].

Knowledge on PMTCT

This could indicate that more emphasis is laid on sexual intercourse as a mode of transmission compared to this particular mode of transmission which has serious implications for mother-to-child transmission of HIV among pregnant women. In the study, the respondents’ knowledge on PMTCT was very high, unlike their knowledge on general HIV/AIDS. Respondents have a good knowledge on how HIV/AIDS can be transmitted from mother to child. However, some form of misunderstanding existed among respondents. A total of 71 (47.3%) of the respondents believed that newly born babies will die prematurely if infected with HIV. This suggests that most of the respondents and the general population need to be educated on the availability of services and treatment in order to address the misunderstanding. In his study another interesting finding is respondents are aware of the need to take antiretroviral drugs for both the mother and child to live normal life. A study found that although the majority of

women (89.9%) had good knowledge of the modes of transmission, knowledge of specific aspects of prevention of mother-to-child transmission was nevertheless poor [15]. A study also found that mother-to-child transmission of HIV is responsible for more than 90% of the cases of HIV infection in infants and children in sub-Saharan Africa [11].

Adeneye et al study [11] also found that approximately 90% of the women had heard of HIV/AIDS, but only about 27% knew HIV could be transmitted from mother to child. Of those, almost 94% believed in the reality of HIV disease, while the majority (64%) believed they were not at risk for HIV infection, and a slightly greater proportion (70%) did not understand the benefits of voluntary HIV counselling and testing (VCT).

It also emphasise that while people were aware of their risk in having unprotected sexual intercourse, they failed to adopt risk reduction behaviour [15]. The rapidly increasing spread of HIV among African women is one of the many tragedies of the AIDS epidemic [16]. PMTCT services which are tailored toward preventing not only the uninfected woman but also the baby, before and after delivery need to be supported to cater for the teeming population of women. Indeed, no group of women is spared. Many programmes in the past focused upon sex workers because of the direct risk of HIV infection inherent in their work but young women, wives and mothers, and survivors are also now being increasingly infected and affected. Therefore interventions must target these women differentially with selective services that address the unique problems and needs that each distinct group faces. Most of the respondents who know their HIV status had voluntary test offered.

A recent study found that 90.8% of women knew that someone could be HIV positive and look healthy [13]. This indicated a knowledge gap that could lead to exposure to HIV infection. Someone can feel and look healthy for many years but still be infected, and can also

transmit the virus to other people [17]. This gap informs the need for health workers to educate and emphasise this to pregnant women during antenatal health talks. This study reveals a knowledge gap among some of the respondents on this mode of MTCT. There is a 5% to 10% possibility of transmission to the baby from an HIV-positive mother during pregnancy [27]. These findings concur with the statement by that health systems need to be strengthened so that interventions to prevent MTCT of HIV infection, including the use of antiretroviral drugs, can be safely and effectively implemented [18]. Moreover, HIV testing in pregnancy has benefits in terms of prevention and care for mother and child. Nevertheless, to avoid or minimize negative consequences, testing must be voluntary and confidential and accompanied by quality counselling. Timely administration of antiretroviral drugs to the HIV-diagnosed pregnant women and their newborn can significantly reduce the risk of mother-to-child HIV transmission. HIV-positive mothers should also be provided with access to ART for the protection of their own health.

This reveals a knowledge gap among some of the respondents on this mode of MTCT. In addition, it was found that the majority of women (89.9%) had a good knowledge of the modes of transmission, but poor knowledge of specific aspects of PMTCT [19]. A study found that 75.5% (n=77) of the respondents knew that not all babies born to HIV-positive women will become infected, health workers should still educate antenatal mothers on this. Mother-to-child transmission of HIV accounts for more than 90% of infections in children under the age of 15 years globally [15, 20]. In the absence of specific interventions, the estimated rate of MTCT of HIV ranges from 15% to 25% in developed countries to between 35% and 45% in developing countries with prolonged breastfeeding [21]. With 95% interventions, however, MTCT rates can be reduced to less than 2%, through effective VCT, access to

antiretroviral therapy, safe delivery practices and the widespread availability of breast milk substitutes [22]. Unprotected sex as a risk of getting HIV infection accounts for 20.7% of the respondents and the use of condoms as a means to protecting sex depends on the male. Heterosexual intercourse remains the major route of transmission of HIV in sub-Saharan Africa while, MTCT account for over 90% of paediatric HIV infections in sub-Saharan Africa [10].

Although the mechanism through which unprotected sexual intercourse with two or more different partners may predispose to vertical HIV-1 transmission is unknown, studies have shown that a possibility exists [23].

Studies have postulated that unprotected sexual intercourse with multiple sexual partners in a population with a high HIV-1 seroprevalence may well increase the diversity of HIV-1 variants in the mother and thus the likelihood of Mother to Child Transmission (MCT) [24, 25].

Multiple partners may also facilitate transmission to infants by increasing the likelihood for sexually transmitted diseases (STD) [26]. The protective effects of ‘staying with only one uninfected faithful partner’ and ‘abstaining from sexual intercourse’ were well responded by both urban and rural subjects. This has to be strengthened and the impact should be studied.

Limitations of the Study

The study was restricted to one clinic in Brikama. Accordingly, the research findings could not be generalized to HIV-positive pregnant women’s utilisation of PMTCT services in other parts of The Gambia, or at other hospitals. The study was limited to a small sample. A large sample is therefore more representative of the population. Due to low reliability tested knowledge can only be examined on individual items further development of instrument with better reliability and validity is needed.

Conclusions

The study discloses that utilization of PMTCT services among pregnant women was very high. However, knowledge on the causes and transmission of HIV was inadequate. There is need to formulate policies aim at sensitizing women in order to clear the misconception about the causes and transmission of HIV/AIDS. A widespread public education using correct and relevant materials on HIV/AIDS is required to create more awareness and basic facts about HIV/AIDS. Scaling up of PMTCT services up to primary health care level will increase uptake of services and reduce HIV and other sexually transmitted infections that can be transmitted vertically or horizontally to infants during perinatal or postnatal periods. Awareness creation and community mobilization by government and non-governmental organizations should be intensified in order to successfully fight against stigma and discrimination.

Recommendations

Based the findings, the study makes the following recommendations for practice and further research.

For Clinical Practice

Knowledge of HIV Transmission and PMTCT

The study recommends that on-going health talks should be provided to pregnant women attending antenatal clinics to further educate them on PMTCT and its benefits.

Regular talks on the topic will increase understanding of the issues and help the mothers to comprehend and appreciate the implications of not using the services, especially for those who are HIV positive. Emphasis should be done on the mode of transmission of HIV/AIDS and MTCT.

Utilising PMTCT Services

The study recommends that Health care workers should make an effort to improve male

involvement to encourage their support of their HIV-positive wives/partners. Health care workers should also talk to HIV-positive women to find out their challenges and work with them on options that will enable them cope with the situation so that they obtain the optimal benefit from the services available.

HIV-positive mothers who have HIV-negative babies should be invited to serve as counsel for newly identified HIV-positive mothers.

For Policy

Policy for testing both parents should be mandatory not only should the pregnant mother be tested during ANC clinic. Policy for Pre-marital testing of couples should be established. Policy should be made where by all men should be part of the PMTCT to help the issue of stigma and discrimination in the community.

Further Research

Further studies should be conducted on the following topics:

1. Barriers and/or enablers to utilisation of PMTCT services in other settings, especially rural communities.
2. Knowledge and attitude of service providers involved in the delivery of PMTCT services at antenatal clinics, labour, and postnatal wards.
3. Why HIV-positive pregnant women choose to go elsewhere to deliver rather than where they registered for antenatal services.

Conflict of Interest

I do declare that there is no conflict of interest.

Acknowledgements

The authors would like to thank all the authorities of the National AIDS Control Programme, National AIDS Secretariat, Hands On Care Clinic staff, Clients attending the ANC clinic, data collectors and by extension to all those that have provided the needed support and openness to discuss the findings.

References

- [1] UNAIDS W. AIDS epidemic update: December 2000. Geneva: Joint United Nations Programme on HIV. AIDS. 2000;
- [2] Van Rensburg D, Friedman I, Ngwenya C, Pelsler A, Steyn F, Booysen F, et al. Strengthening local government and civic responses to the HIV/AIDS epidemic in South Africa. Centre for Health Systems Research & Development; 2002.
- [3] Stringer EM, Sinkala M, Stringer JS, Mzyece E, Makuka I, Goldenberg RL, et al. Prevention of mother-to-child transmission of HIV in Africa: successes and challenges in scaling-up a nevirapine-based program in Lusaka, Zambia. *AIDS* (London, England). 2003;17(9):1377.
- [4] Abdool K, Abdool KQ, Adhikari M. Vertical HIV transmission in South Africa: translating research into policy and practice. *The Lancet*. 2002;359(9311):992–3.

- [5] Peitzmeier S, Mason K, Ceesay N, Diouf D, Drame F, Loum J, et al. A cross-sectional evaluation of the prevalence and associations of HIV among female sex workers in the Gambia. *International journal of STD & AIDS*. 2014;25(4):244–52.
- [6] Amornwichee P, Teerarattkul A, Simonds RJ, Naiwatanakul T, Chantharajwong N, Culnane M, et al. Preventing mother-to-child HIV transmission: the first year of Thailand's national program. *Jama*. 2002;288(2):245–8.
- [7] Secretariat NA. The Gambia Global AIDS Response Progress Report. 2015.
- [8] Afridi NK, Khan S, Fatima S. Factors affecting accessibility and acceptability of voluntary counselling and testing among high risk group (HRG) for human immunodeficiency virus (HIV) in NWFP Pakistan. *JPMA The Journal of the Pakistan Medical Association*. 2010;60(4):265.
- [9] Gobezie F. Assessment of Opportunities and Challenges towards the Implementation of PMTCT Guideline in Public Hospitals of Addis Ababa City

- Government [PhD Thesis]. Addis Ababa University Addis Ababa, Ethiopia; 2014.
- [10]Theuring S, Mbezi P, Luvanda H, Jordan-Harder B, Kunz A, Harms G. Male involvement in PMTCT services in Mbeya Region, Tanzania. *AIDS and Behavior*. 2009;13(1):92–102.
- [11]Adeneye AK, Mafe MA, Adeneye AA, Salami KK, Brieger WR, Titiloye MA, et al. Knowledge and perception of HIV/AIDS among pregnant women attending antenatal clinics in Ogun State, Nigeria. *African journal of AIDS research*. 2006;5(3):273–9.
- [12]Jallow C. The Gambia 2010 behavioral surveillance survey on HIV & AIDS. Banjul: Actionaid the Gambia, National AIDS Secretariat. 2011.
- [13]Okonkwo KC, Reich K, Alabi AI, Umeike N, Nachman SA. An evaluation of awareness: attitudes and beliefs of pregnant Nigerian women toward voluntary counseling and testing for HIV. *AIDS Patient Care and STDs*. 2007;21(4):252–60.
- [14]Alene GD. Knowledge and practice of condom in preventing HIV/AIDS infection among commercial sex workers in three small towns of northwestern Ethiopia. *The Ethiopian Journal of Health Development*. 2002;16(3).
- [15]Ekanem EE, Gbadegesin A. Voluntary Counselling and Testing (VCT) for Human Immunodeficiency Virus: A study on acceptability by Nigerian women attending antenatal clinics. *African Journal of Reproductive Health*. 2004;91–100.
- [16]Kibombo R, Neema S, Ahmed FH. Perceptions of risk to HIV infection among adolescents in Uganda: are they related to sexual behaviour? *African journal of reproductive health*. 2007;11(3):168–81.
- [17]Bassett MT, Mhloyi M. Women and AIDS in Zimbabwe: the making of an epidemic. In: *Women's Health, Politics, and Power: Essays on Sex/Gender, Medicine, and Public Health*. Routledge; 2020. p. 269–83.
- [18]Control C for D, Prevention (CDC. HIV surveillance–United States, 1981-2008. *MMWR Morbidity and mortality weekly report*. 2011;60(21):689–93.
- [19]Unaid. 2008 UNAIDS Annual Report. World Health Organization; 2010.
- [20]Chama C, Gashau W, Oguche S. The value of highly active antiretroviral therapy in the prevention of mother-to-child transmission of HIV. *Journal of obstetrics and gynaecology*. 2007;27(2):134–7.
- [21]Kasenga F, Hurtig AK, Emmelin M. Home deliveries: implications for adherence to nevirapine in a PMTCT programme in rural Malawi. *AIDS care*. 2007;19(5):646–52.
- [22]Newell ML. Current issues in the prevention of mother-to-child transmission of HIV-1 infection. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 2006;100(1):1–5.
- [23]Wolinsky SM, Wike CM, Korber BT, Hutto C, Parks WP, Rosenblum LL, et al. Selective transmission of human immunodeficiency virus type-1 variants from mothers to infants. *Science*. 1992;255(5048):1134–7.
- [24]Ariyoshi K, Weber J, Walters S. Contribution of maternal viral load to HIV-1 transmission. *Lancet (British edition)*. 1992;340(8816).
- [25]Bulterys M, Chao A, Dushimimana A, Habimana P, Nawrocki P, Kurawige JB, et al. Multiple sexual partners and mother-to-child transmission of HIV-1. *AIDS (London, England)*. 1993;7(12):1639–45.
- [26]Moses AE, Chama C, Udo SM, Omotora BA. Knowledge, attitude, and practice of ante-natal attendees toward prevention of mother to child transmission (PMTCT) of HIV infection in a tertiary health facility, Northeast-Nigeria. *East African journal of public health*. 2009;6(2):128–35.
- [27]NAS. (2006) Unpublished. The Gambia PMTCT Impact Study: National AIDS Secretariat.