WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 6.805
Volume 5, Issue 10, 476-487. Research Article ISSN 2277– 7105

DETERMINING THE SEROSTATUS AND FREQUENCY OF ILL HEALTH OF HIV EXPOSED INFANTS IN ISHAKA ADVENTIST HOSPITAL, UGANDA

B. M. Ambrose[1], Iwueke A. Vivien[2], Miriam N.[3], Shimwela D. M.[4], R. Deshpande[5] and G. R. Neel*[6]

[1,3,6] Faculty of Medicine, Kampala International University. Uganda, and [2,4,5] Kampala International
University. Tanzania

Article Received on
02 August 2016,
Revised on 22 August 2016,
Accepted on 10 Sept 2016
DOI: 10.20959/wjpr201610-6786

***Corresponding Author**
Dr. G. R. Neel
Faculty of Medicine,
Kampala International
University, Uganda.
grneel@gmx.com

ABSTRACT

Background: Acquired Immune deficiency syndrome was first reported in the United States in 1981 and has since become a major worldwide epidemic. An estimated 34 million people are living with HIV, according to UNAIDS estimates released early December 2011. This study determined the serostatus and frequency of ill health of HIV exposed infants in Ishaka Adventist hospital. **Method. STUDY DESIGN:** The study design was descriptive cross sectional study to determine the serostatus and frequency of ill health among HIV exposed infants and the feeding options chosen by mothers. **STUDY POPULATION:** The study focused on HIV exposed infants brought in the EID clinic from Bushenyi, Mitooma, Rubirizi, Sheema and Buhweju districts. According to the incharge EID clinic, the clinic gets about 10 patients per day and runs from Monday to Friday. The prevalence rate of HIV among mothers attending antenatal care in Bushenyi district is 7.2%. “Incharge EID clinic said” This gives a reflection of HIV exposed infants. The majority of people in Bushenyi district are small scale subsistence farmers, earning less than 1 dollar per day. The main cash crop is coffee and food crop is matooke. Other food crops include; Millet, cassava, potatoes, beans, groundnuts and peas. The animals kept mainly are; cows, goats, sheep and hens.(District records 2014).**SAMPLING PROCEDURE:** To determine the prevalence of HIV, a systematic random sampling method using EID numbers was used. To determine the feeding options and frequency of ill health, a ballot paper was used to determine the participants among the clients who attend to the clinic.

Results: A total of 100 respondents were used. Majority of the mothers 51(51%) said PMTCT offers services like HIV counseling and Testing especially pregnant mothers for safe delivery after knowing your serostatus, 20 (20%) said it involves health education to pregnant mothers on safe motherhood, while minority 2(2%) said it involves breastfeeding, most of the mothers 80 (80%) had an idea about breast feeding options among mothers who are HIV positive, 4 (4%) were confused and16 (16%) did not know about any option. Majority of the mothers 55 (55%) said that ARV's should be taken for PMTCT to be possible, 12(12%) said attending ANC and delivering in hospital, 17 (17 %) said feeding well, 2 (2%) said abstaining, and 2(2%) didn't know.

KEYWORDS: PMTCT (Preventing mother-to-child transmission), Serostatus, HIV, Ishaka Adventist, Uganda.

BACKGROUND

Acquired Immune deficiency syndrome was first reported in the United States in 1981 and has since become a major worldwide epidemic. An estimated 34 million people are living with HIV, according to UNAIDS estimates released early December 2011. The number of AIDS linked death globally is steadily dropping from a peak of 2.2 million seen in 2005 to 1.8 million in 2010.[1]

Uganda was one of the first sub Saharan countries to be affected by HIV epidemic. The first acquired Immune deficiency syndrome case reported in the country was recognized in 1982. Following this report, efforts were mounted to deal with the epidemic.[2] According to Uganda AIDS commission (UAC), close to 128,980 people acquired HIV in 2010 up from 124261 in 2009. UAC estimates that 64016 people die in Uganda from HIV/AIDS per year. This trend points to decline in both institutional and individual levels in crucial interventions such as testing. In 2013, an estimated 1.6 million people were living with HIV, and an estimated 63,000 Ugandans died of AIDS-related illnesses.[3] In Uganda Adults aged 15 to 49 prevalence rate is 7.3% [6.6% - 8.1%].[4]

In 2010, around 390,000 children aged under 15 became infected with HIV. Almost all of these infections occur in low and middle income countries and more than 90% are the result of mother to child transmission during pregnancy, labour and delivery, or breast feeding. Without interventions, there is a 15-45%chance that a baby born to an HIV infected mother will become infected.[5]

In low and middle countries, there are numerous barriers to prevention of vertical transmission: antenatal care attendance is low, particularly in rural areas; too few pregnant women have access to HIV testing; access to optimal antiretroviral prophylaxis or therapy is insufficient, and alternatives to breast feeding are uncommon.[6]

The government of Uganda in collaboration with UNAIDS and UNICEF and other partners initiated a pilot programme for prevention of mother to child transmission of HIV services in 2000 and was scaled up to all Districts by 2004. The programme involved provision of a comprehensive package of care including administration of prophylactic antiretroviral drugs to pregnant mothers living with HIV during pregnancy, labour and immediate post partum period.[7] Presently every pregnant mother should seek for ANC services as early as after missing 2 menstrual periods and all facilities offering ANC have the capacity to test every mother for HIV as part of ANC and to institute treatment for a mother that tests positive following guidelines issued by MOH. The treatment aims at caring for the mother's health and protection of the baby.[8]

In order to diagnose HIV infection definitively in children aged 18 months, virological tests are required. HIV infection can definitively be diagnosed in most infected infants by 4-6 weeks by using PCR viral diagnostic assays. HIV DNA virological test is used in testing children below 18 months.

The Uganda National programme in charge of PMTCT and ART has put in place diagnostic protocols to ensure systematic testing of HIV exposed infants and symptomatic children where HIV is suspected. DNA PCR test facilities are now accessible at District and Health centre 4 units with an Active ART programme. This makes it possible to make an early diagnosis of HIV infection in children less than 18 months. In addition, dried blood spots on filter papers can be obtained from infants by finger or heel prick and transported to regional referral laboratories for PCR.[9]

Once diagnosis of HIV has been confirmed, the child is started on ART and continues with cotrimoxazole prophylaxis.[10]

DATA COLLECTION METHODS

Data was collected by the principle investigator himself using a principle investigator administered questionnaires to determine the feeding options chosen by mothers and also the

frequency of ill health of infants. A record review tool was developed to collect relevant data from the early infant diagnosis of HIV register to determine the prevalence of HIV among HIV exposed infants.

Since EID clinic runs daily from Monday to Friday, data was collected daily for 2weeks to achieve the sample size.

DATA ANALYSIS AND PRESENTATION

The data was analyzed manually and interpreted in averages and percentages and presented on tables, Graphs, Pie charts and Histograms.

DATA QUALITY CONTROL

The questionnaire was pretested in a similar population in Ishaka Adventist Hospital Bushenyi District in Western Uganda to ensure clarity of questions. Wrongly stated questions were corrected. At the end of the interview, I always checked for completeness of the questionnaire. Participants were chosen randomly to eliminate bias.

ETHICAL CONSIDERATION

I seeked approval from KIU authorities and the research committee of KIU western Campus, who in turn upon approval, granted me permission to conduct the study with an introductory letter. The letter was addressed to the medical Director Ishaka Adventist Hospital who introduced me to the in charges of the departments concerned with my study. Verbal consent was soughed from mothers of HIV exposed infants to interview them and also confidentiality was strictly observed at all stages of research.

RESULTS

Presented are the findings from a sample of 100 mothers, data was analyzed in terms of percentages and frequencies and presented in frequency distribution tables, short statements, pie charts and bar graphs.

DEMOGRAPHIC DATA

TABLE 1: AGE DISTRIBUTION OF MOTHERS n=100

Variable (Age in years)	Frequency	Percentages
18 - 20	28	28
21 - 24	30	30
25-29	24	24
30-34	12	12

35-39	4	4
40-45	2	2
Total	100	100

Most of respondent by age of the mothers 30(30%) were aged between 20-24years, while minority2 (2%) were aged between 40-45years.

TABLE 2: TRIBE OF MOTHERS n = 100

Variable (Tribe)	Frequency	Percentages
Banyankole	54	54
Batooro	20	20
Others	26	26
Total	100	100

Majority of respondents 54 (54%) were Banyankole, while Batooro 20(20%) and other tribes like Baganda, bagika etc were 26(26%).

TABLE 3: RESPONDENT BY RELIGION OF MOTHERS n=100

Variable (Religion)	Frequency	Percentages
Catholics	48	48
Protestants	20	20
Muslims	12	12
SDA	18	18
Others	2	2
Total	100	100

Less than a half of the mothers 48(48%) were Catholics, 20(20%) were Protestants and others 2(2%) were from various religions like Jehovah's Witness and Legio Maria.

TABLE 4: OCCUPATION OF MOTHERS n=100

Variable (Occupation)	Frequency	Percentages
House wife	54	54
Business woman	16	16
Peasant	9	9
Teacher	7	7
Others	14	14
Total	100	100

Most mothers 54(54%) were house wives, 16(16%) were Business women, 9(9%) were peasants,7(7%) teachers and finally others were 14(14 percent).

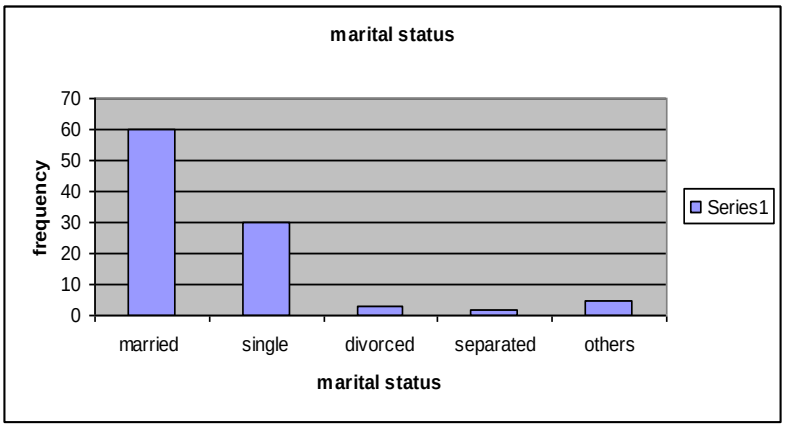


FIG. 1: MARITAL STATUS OF MOTHERS n=100

Most of the mothers 60(60%) were married while 30(30%) were single,3(3%) were divorced,2(2%) had separated and 5(5%) did not know their marital status.

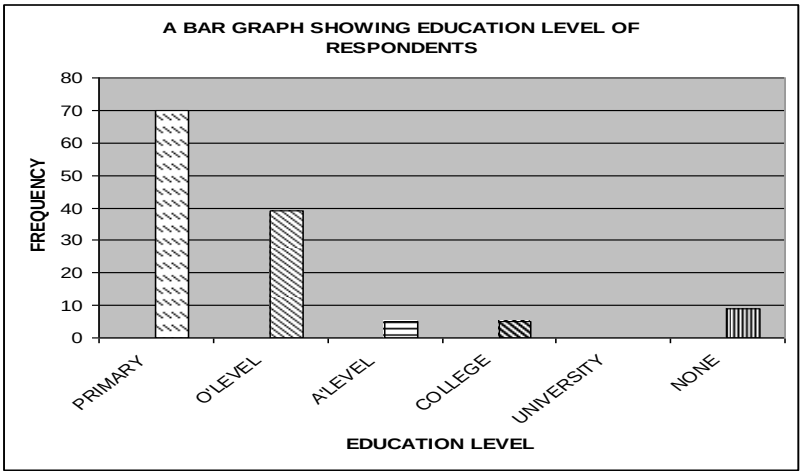


FIG. 2: LEVEL OF EDUCATION OF RESPONDENTS n=100

More than half of the mothers 70(70%) had attained primary education none of the mothers had reached university level.

AWARENESS OF MOTHERS SEROSTATUS THOUGH PMTCT

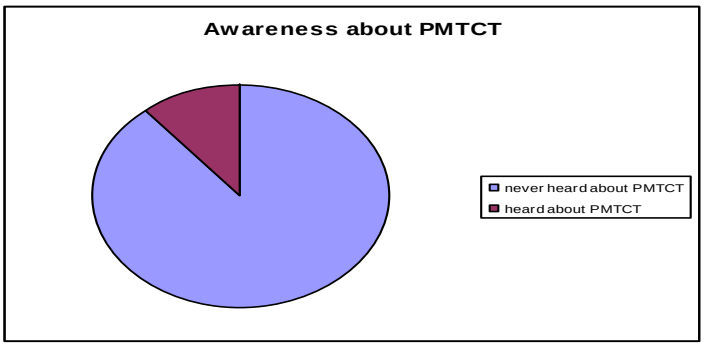


FIG. 3: AWARE OF PMTCT n=100

Majority of the mothers 89(89%) had ever heard about PMTCT and there importance while minority 11(11%) had never heard about PMTCT.

PMTCT INFORMATION TO PREGNANT MOTHERS

Table 5: source of information n=100

Source of information	Frequency	Percentages
Health worker	20	20
Television	30	30
Radio	30	30
News paper	4	4
Friend	16	16
Total	100	100

The main source of information on PMTCT to the mothers was through the radios and televisions 30 (30%), followed by health workers 20(20%), then least by newspapers 4 (4%).

KNOWLEDGE ON SERVICES OFFERED DURING PMTCT BY THE MOTHERS

TABLE 8: SERVICES GIVEN DURING PMTCT n=100

Things involved	Frequency	Percentages
HIV Counseling and Testing to know the serostatus of the pregnant mothers	51	51
Health education on safe motherhood	20	20
Attending ANC	14	14
Feeding well	13	13
Breastfeeding	**2**	**2**
Total	100	100

Majority of the mothers 51(51%) said PMTCT offers services like HIV counseling and Testing especially pregnant mothers for safe delivery after knowing your serostatus, 20 (20%) said it involves health education to pregnant mothers on safe motherhood, while minority 2(2%) said it involves breastfeeding.

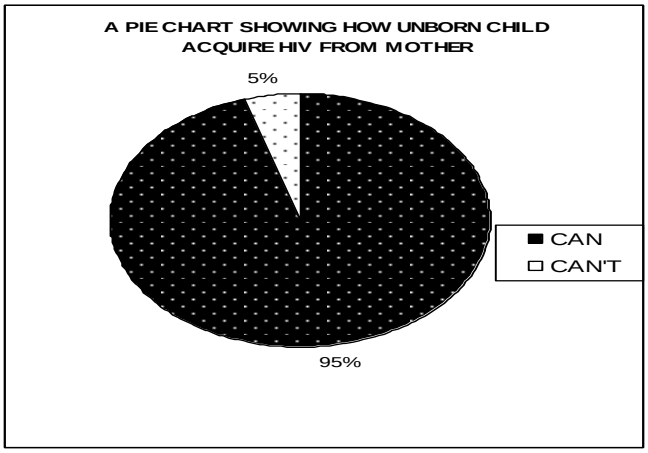
KNOWLEDGE ON option of breast feeding among HIV mothers

Table 6: Responses on what PMTCT is all about n=100

Feeding options	Frequency	Percentages
Had Idea	80	80
Don't know	16	16
Confused	4	4
Total	100	100

Most of the mothers 80 (80%) had an idea about breast feeding options among mothers who are HIV positive, 4 (4%) were confused and16 (16%) did not know about any option.

KNOWLEDGE ON WHETHER UNBORN CAN ACQUIRE THE VIRUS FROM MOTHER n=100



Majority 95(95%) said the unborn could acquire the virus from the mother, while a minority of 5 (5%) said the unborn could not acquire virus from infected mother. There was a high degree of knowledge among the mothers.

KNOWLEDGE ON WHEN A CHILD ACQUIRES VIRUS n=100

When child acquires virus	Frequency	Percentages
At birth	58	58
During breast feeding	7	7
In uterus	33	33
Don't know	2	2
TOTAL	100	100

Majority of the mothers 58 (58%) said the child acquires virus at birth, a third of the mothers 33(33%) said the child acquires virus while still in uterus, 7 (7%) said the virus is acquired during breast feeding and 2(2%) did not know.

ACCESSIBILITY OF PMTCT

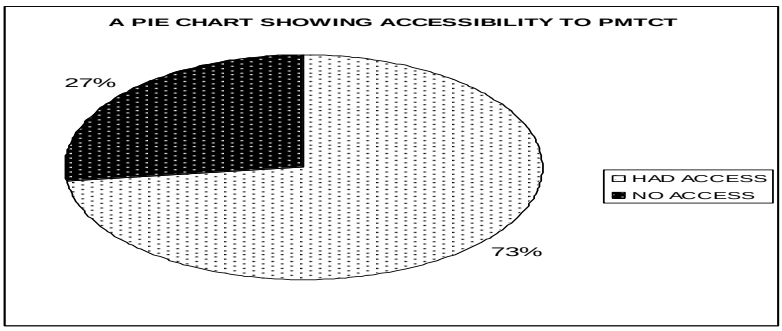


FIG. 9: ACCESSIBILITY OF PMTCT SERVICES n=100

Majority of the mothers73 (73%) had PMTCT services in the nearest health unit while (27.0%) did not have PMTCT in the nearest health unit.

TABLE 13: DISTANCE TO NEAREST HEALTH UNIT n=100

Distance in km	Frequency	Percentages
Less than 2km	4	4
3-5km	12	12
More than 5km	28	28
Don't know	56	56
Total	100	100

Majority of the mothers 56(56%) did not know the distance from their places of residence to the hospital while a minority of 4 (4%) said the distance from their residence to hospital is less than 2km.

TABLE 14: TRANSPORT MEANS n=100

Transport means	Frequency	Percentages
Hired taxis	60	60
Motor bike	16	16
Walking	10	10
Bicycle	6	6
Private vehicle	2	2
Others	6	6
Total	100	100

Majority of the mothers 60(60%) travelled to hospital by means of a hired taxi while a minority of 2(2%) travelled by means of a private vehicle.

DISCUSSION

This chapter discusses the study finding. According to the study findings in chapter four, respondents by age shows that**, m**ost of respondent by age of the mothers 30(30%) were aged between 20-24years and this is the reproductive age that is mostly exposed to the HIV positive and they transmit it during the process of delivery to their infants, while minority2 (2%) were aged between 40-45years.

Majority of respondents 54 (54%) were Banyankole, while Batooro 20(20%) and other tribes like Baganda, bagika etc were 26(26%). Hence this shows that the inhabitants or residents of the study are Banyankole who most of them are one way or another exposed to HIV and its consequences, their infants are exposed to HIV at birth unless proper preventive measures are taken.

Less than a half of the mothers 48(48%) were Catholics, 20(20%) were Protestants and others 2(2%) were from various religions like Jehovah's Witness and Legio Maria therefore Christians are more exposed to HIV and their infants than any other religion.

Most mothers 54(54%) were house wives, this shows that poverty is also a factor that contributes to the prevalence of HIV to mothers and their infants because pregnant mothers who are HIV positive cannot seek PMTCT services or clinics because she has no money or even cannot look for ARVs, 16(16%) were Business women, 9(9%) were peasants,7(7%) teachers and finally others were 14(14 percent).

Most of the mothers 60(60%) were married while 30(30%) were single,3(3%) were divorced,2(2%) had separated and 5(5%) did not know their marital status. Married mothers are likely to be exposed to HIV if there is no faithfulness and the consequence is death as a result leading to single parenthood.

More than half of the mothers 70(70%) had attained primary education none of the mothers had reached university level. Hence level of ignorance is very high and ignorance is among the factors contributing to high prevalence of HIV among mothers and their infants.

Majority of the mothers 89(89%) had ever heard about PMTCT and their importance while minority 11(11%) had never heard about PMTCT and they said how important it is to pregnant mothers before giving birth. And they said that main source of information on PMTCT to the mothers was through the radios and televisions 30 (30%), followed by health workers 20(20%), then least by newspapers 4 (4%).

Majority of the mothers 51(51%) said PMTCT offers services like HIV counseling and Testing especially pregnant mothers for safe delivery after knowing your serostatus, 20 (20%) said it involves health education to pregnant mothers on safe motherhood, while minority 2(2%) said it involves breastfeeding, most of the mothers 80 (80%) had an idea about breast feeding options among mothers who are HIV positive, 4 (4%) were confused and16 (16%) did not know about any option. Majority of the mothers 55 (55%) said that ARV's should be taken for PMTCT to be possible, 12(12%) said attending ANC and delivering in hospital, 17 (17 %) said feeding well, 2 (2%) said abstaining, and 2(2%) didn't know.

About knowledge on Transmission of HIV from mother to Child majority 95(95%) said the unborn could acquire the virus from the mother, while a minority of 5 (5%) said the unborn could not acquire virus from infected mother. There was a high degree of knowledge among the mothers. Majority of the mothers 58 (58%) said the child acquires virus at birth, a third of

the mothers 33(33%) said the child acquires virus while still in uterus, 7 (7%) said the virus is acquired during breast feeding and 2(2%) did not know. They also said that PMTCT services offered are very far and its also a contributing factor to transmission of HIV from mother to Child majority of the mothers73 (73%) had PMTCT services in the nearest health unit while (27.0%) did not have PMTCT in the nearest health unit, majority of the mothers 56(56%) did not know the distance from their places of residence to the hospital while a minority of 4 (4%) said the distance from their residence to hospital is less than 2km. Lastly due to there status of poverty to most of mothers they could not seek medical services because the means of travelling is costly which includes the following. Majority of the mothers 60(60%) travelled to hospital by means of a hired taxi while a minority of 2(2%) travelled by means of a private vehicle.

CONCLUSION

Majority of respondents more than 70 percent have knowledge on what is PMTCT and the advantages of PMTCT programs to pregnant mothers and they said during this time of services is when the serostatus of the mother is determined and preventive measures taken.

They mention some of the advantages as;

- Prevention of transmission of HIV/AIDS to the child during delivery,
- Screening exercise to know mothers sero status.
- Starting on ARVs incase screened positive,
- regular medical check ups

But they also said that this services are not possible and it leads to mothers transmitting HIV to there infants because of not being screen on time and also not delivering from the health facility because of the following reasons like, poverty, Distance is too far to health facility, travelling means are expensive and ignorance as some of many factors.

REFERENCES

1. Igor Gedilaghine. HIV spreading all over Europe but Aids cases on the decline. *Friday, December 2: 2011.*
2. Richard M. Selik, Acquired immune deficiency syndrome (AIDS) trends in the United States, 1978–1982. March 1984; 76(3): 493–500.
3. HIV and AIDS estimates. UNAIDS, Uganda 2014.
4. Avert, Global information and advice on HIV & AIDS. Uganda.
5. Avert, Global information and advice on HIV & AIDS. May 2015; Uganda.

6. Marc Lallemant, M.D., Shing Chang, Ph.D., Rachel Cohen, M.P.P., and Bernard Pecoul, M.D., M.P.H. New England Journal Medicine 2011; 365: 581-583.
7. Laura Lopez Gonzalez. National Consolidated Guidelines for PMTCT and the Management of of HIV in Children, Adolescents and Adults.**17th** national consolidated guidelines for the prevention. 2015**.**
8. Robert Byamugisha. Dramatic and sustained increase in HIV-testing rates among antenatal attendees in Eastern Uganda after a policy change from voluntary counselling and testing to routine counselling and testing for HIV: a retrospective analysis of hospital records, 2002-2009. BMC Health Serv Res. 2010; 10: 290.
9. R.K.Sharma. Indian journal of public health research and development. Volume 3, July-September 2012.
10. CDC.Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. March 24: 2009.