

# Prevalence of HIV/AIDS Among Pregnant Mothers Aged 18 – 49 Years Attending Antenatal Clinic At Mukono Health Centre IV.

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## Abstract



### Introduction:<sup>a</sup>

The HIV/AIDS epidemic is a serious threat to social and economic development around the world. Uganda's HIV/AIDS prevalence rate has shot up from 6.4% in 2005 to 7.3% whereas in pregnant mothers of all ages is at 6.1%. The prevalence of HIV/AIDS in Mukono district in Uganda worries leaders, and according to the local newspaper, the general prevalence in this area is said to be 9%. No study has documented the prevalence among pregnant women attending antenatal care at Mukono Health centre IV.

### Methods:

The study took place at Mukono HCIV which is found in Mukono municipal council Mukono district on Kampala - Jinja road. The design was cross-sectional using both quantitative and qualitative methods where the pregnant mothers between the ages 18-49yrs were involved in the study at the antenatal clinic using the methods that are provided for their inclusion and exclusion study purposes. The data was summarized in form of bar graphs, pie charts, and tables using Microsoft excel program and SPSS.

### Results:

The general prevalence of HIV/AIDS among pregnant women who sought ANC in Mukono Health Centre IV was 7 %. The research indicated that the majority of the pregnant women n=88, were in the age group of 25-31 years 49 (55.7%), 31(35.2%) had attained a secondary level of education while 30(34.1%) had attained a tertiary level of education.

### Conclusion and recommendation:

Positive mothers should get access to psychological support hence enhancing the utilization of VCT by the mothers. Men's involvement is necessary, and they need to be encouraged and sensitized from the communities to accompany their partners to the clinic and attend counseling sessions, this is to help equip them both with the necessary information on PMTCT.

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## 1 Background of the study

The background of the study is about the prevalence of HIV/AIDS in pregnant mothers. HIV is a lentivirus (a member of the retrovirus family) that

causes AIDS (Jawetz *et al.*, 2007). It causes AIDS where the immune system begins to fail, leading to life-threatening opportunistic infections. It attacks CD4 helper lymphocytes which are the first line

of defense; it then proceeds to invade monocytes, macrophages leading to progressively weakening the body's immune system resulting in immune deficiency. Following infection, a virus takes over the synthesizing activities of its host cell, directing the cell to transcribe and, or, translate its genetic information to produce the protein and nucleic acid components required to make new virions (Cheesbrough, 2005).

Two types of HIV have been recognized, HIV-1 and HIV-2. HIV-1 is more virulent and more widely spread than HIV-2 which is mostly found in West Africa (Yesufu *et al.*, 2011). The first cases of HIV/AIDS were identified by doctors in San Francisco and New York, while in Uganda were identified in 1982 in Rakai district. Studies show that HIV/AIDS killed more than 25 million people between 1981 when it was first recognized, and 2005, making it one of the most destructive pandemic in recorded history (UNAIDS & WHO, 2005).

Despite improved access to antiretroviral treatment and care in many regions of the world, the AIDS pandemic claimed an estimated 2.8 million (between 2.4 and 3.3 million) lives in 2005 of which more than half a million (570,000) were children (CDC, 2006).

According to statistics of the global HIV and AIDS published by UNAIDS in NOV/2009, 15.7million women were living with HIV/AIDS in 2008. Sub-Saharan Africa statistics for HIV and AIDS by the end of 2008 was 22.4 million adults and children living with HIV/AIDS, 1.9 million adults and children newly infected, the adult prevalence aged (18-49)years was 5.2%, and 1.4million deaths of adults and children. 2million deaths were registered in this very year despite improvements in access to antiretroviral treatment.

In rural South Africa population-based HIV, prevalence estimates for all women are rated at 25.2% and pregnant women 23.7% significantly lower than that for ANC attendees (37.7%) (Rice *et al.*, 2007).

HIV/AIDS is not strictly a disease of poverty as it affects people at all income levels. But evidence from some countries at advanced states of epidemic shows that new HIV infections disproportionately affect poor people, unskilled workers, and those lacking literacy skills especially young women in each of these categories (Bjorkman, 2002).

Uganda's women and so Mukono are vulnerable to HIV given their low status, lower education

attainment, higher unemployment, and weaker negotiating skills in relationships (Kiddugavu *et al.*, 2003).

According to Uganda's poverty reduction strategy paper, at the level of the household, poverty is related to rural residence, land shortage, low levels of education, being headed by a female widow or by someone old, unequal sharing of resources within the household reflects not only cultural factors but unequal access to education and physical assets like land in which women are disadvantaged (IMF, 2000).

The HIV/AIDS epidemic is a serious threat to social and economic development around the world. In Uganda, the prevalence rate has increased from 7.5% to 8.3% among women compared to 6.1% among men and that in pregnant mothers of all ages is 6.1% (UNAIDS, 2014). The prevalence of HIV/AIDS in Mukono worries leaders as the general prevalence in this area is 9% (New Vision, 6th/Feb/2014). According to the DHO, Mukono, Dr. Elly Tumushabe this high prevalence is thought to be due to the place being urban, made of islands, landing sites, poor participation for the males in HIV testing, lack of women empowerment, revenge tendencies, poverty, malice, multiple partners, religious beliefs where the use of condoms may be prohibited. These and many others can lead to high exposure rates of HIV/AIDS to the highly vulnerable mothers and so reduction in the economic stand and so morbidity and mortality as this is well reflected in the report where the HIV/AIDS-infected pregnant or post-partum women have around eight times higher mortality than their HIV-uninfected counterparts. Based on this estimate, it is predicted that roughly 24% of deaths in pregnant or post-partum women are attributable to HIV in sub-Saharan Africa (ALPHA, 2008). Their measures were put in place to curb down the disease like the use of the ABC approach and others but the disease is still just advancing. Therefore the major aim of this research was to establish the prevalence of HIV/AIDS in pregnant mothers at the antenatal Clinic at Mukono HC IV.

## 2 METHODOLOGY

### Study area

The study took place at Mukono HCIV which is found in Mukono municipal council Mukono district on Kampala - Jinja road. This is generally in the

Buganda region part of Uganda and its catchment areas include Wantoni, Dandila, Nakabago, Namuyenje, Mukono, Bugujju, Nabuti, Kitega, Mpoma, Nantabulirirwa, Sombe, Nasuti, Seeta, Kigombya, Kigunga, Lutengo, Kilowoza, Kyetume, Namataba, Kasangalabi, Kawuga and many other places.

The health center has a functional outpatient department, inpatient department, laboratory, antenatal clinic and it offers the following services; VCT, PMTCT, RCT, minor and major operations on addition, it conducts outreaches, and VCT programs to enable me to understand the prevalence and the factors leading to the spread of HIV/AIDS in mothers this area.

### Study population

The study population was the pregnant mothers between 18 and 49 years attending Antenatal Clinic Mukono HCIV.

### Study design

The design was cross-sectional using both quantitative and qualitative methods where the pregnant mothers between the ages 18-49 shall be involved in the study at the antenatal clinic using the methods that are provided for their inclusion and exclusion study purposes.

### Study variables

The dependent variables were the pregnant mothers, age, abstinence, and type of family

The independent variables included; factors leading to the spread of HIV/AIDS in pregnant mothers attending ANC at Mukono HCIV and Sero- status.

## 3 Sample size determination

The sample size was determined using the formula of Kish and Leslie.

$$N = \frac{Za^2pq}{d^2}$$

### N= Sample size

Za Standard deviation at confidence level of 95% = 1.96

P = Prevalence = 6.1 %

Q = 1- P

d = standard error = 0.05 or 5%

$N = \frac{1.96^2 \times 0.061 \times 1 - 0.061}{0.05 \times 0.05}$

N (Sample size) = 88

### Sampling procedure

The method of sampling used was simple randomisation whereby numbered lists of all the units (Respondents) in the population were made from which the researcher drew the sample. Each unit

on the list was numbered in sequence from 1 to N (where N is the size of the population) and the sample size was decided and selected from the same using "lottery" whereby each unit in the population was represented by a slip of paper and these were put in a box and mixed, and a sample required was drawn from the box. Eleven respondents daily for eight working days were interviewed to complete data collection for all the 88 respondents.

### Inclusion and exclusion criteria

All pregnant mothers between the ages of 18-49 who had been counseled and obtained an informed written consent were included in the study. The mothers, who were not counseled, never obtained informed and no written consent was excluded from the study. The mothers' particulars like name, age, treatment obtained, and the number of times one has been tested shall be kept confidential.

### Study instrument

A well-developed questionnaire was administered to the pregnant mothers of age 18-49 years attending ANC Mukono Health Centre IV.

### Reliability and validity of the research instruments

To ensure accurate results, items in the instruments were adequately and appropriately organized according to the objectives of the study. The data collection instruments were further discussed with the research supervisor to ensure accuracy and appropriateness.

For consistent and reliable results from the research instrument used, the researcher ensured that the instruments used were constructed using simple language and appropriate vocabulary for the selected respondents.

Before administration of the tool, the tool was pre-tested using mothers from other health Centres, and thereafter, the tool was edited to fill in all missing information.

### Data collection procedure

One data research assistant from within the Health Centre was orientated about the study mainly on the data collection tool and on how to collect data from the records. Data collection took eight working days and eleven respondents were interviewed per day. The research assistant was under my supervision in interviewing the clients.

### Data Management

The computer package that was used was SPSS computer application software version 14.0.

The Data Cleaning was done by erasing unnecessary information and the use of only one typist who worked as a data entry clerk.

The coding of data was done followed by proof-reading to check for normality and transformation.

## 4 Data analysis

The data collection tool used was a questionnaire and other information was obtained from the records and analysis was done with the help of a statistician, and the data was summarized in form of bar graphs, pie charts, and tables using Microsoft excel program and SPSS computer application software version 14.0.

### Ethical consideration

The proposal was presented to the research committee of Health Tutors' College for approval.

Permission to carry out the study was sought from the in the charge of Mukono Health Centre IV and also every mother who was recruited in the study consented.

## 5 Limitation of the study

- The busy schedule of respondents disrupting the data collection process
  - Climate changes especially rain<sup>1</sup>
  - Insufficient funding

## 6 ANALYSIS AND PRESENTATION OF RESULTS

Source: Data collected from Mukono Health Centre IV for this research project

From Table 1, out of the 88 pregnant women who completed the questionnaire, 49 (55.7%) were in the age group of 25-31 years, closely followed by those in the age group of 15-24 years 26(29.5%) 79(89.8%) were married, 5.0(5.7 %) were widowed and 04 (4.5 %) were single.

As regards the education level, 31(35.2%) had attained secondary education while 30(34.1%) had attained tertiary education, 25(28.4%) had attained primary and 2(2.3%) had never acquired formal education.

Of all the pregnant women who came to the health facility for antenatal care, 69(78.4%) of them were Baganda followed by Basoga 6(6.8%).

43(48.9%) of all the pregnant women who attended Mukono Health Centre IV were Catholics, followed by Anglicans who were 30(34.1%).

The social-economic status of the people stands as 39(44.3%) employed as a way of livelihood while 51(55.7%) were jobless.

The results also showed that very many people are aware that HIV/AIDS is still a problem 87/88(98.9%) indicating that only 2(0.1%) say HIV/AIDS is no longer a problem.

Most of the pregnant women knew about HIV/AIDS through sources like the Media and the health facilities where they sought health care services.

Source: Data collected from Mukono Health Centre IV for this research project showed that 84(95.5%) of the women who attended the health center claimed that they did not have any extramarital affairs while only 4(4.5%) asserted that they were involved in extramarital relationships respectively.

87(98.9%) of all the pregnant women reported that they sought antenatal care services in the health facility free of charge compared to only one client 1.1% who claimed to have been charged at the health facility.

A very low number 34(38.6%) of the pregnant women who attended Mukono Health Centre IV had tested for HIV/AIDS as a couple.

Almost all of the pregnant women 87(98.9%) who attended the facility for Antenatal health care reported that HIV/AIDS was still a big problem both socially and economically in contrast to only 1.1% who claimed otherwise.

The method of prevention for HIV/AIDS preferred by the respondents were recorded as follows; abstinence 3(3.4%) condom use 18(20.4%) while faithfulness accounted for 67(76.2%).

Finally, only 54(61.4%) of the pregnant women reported that they were satisfied with the nature of antenatal care services that they received from the health facility.

6(7%) of all the women who attended to the health centre were HIV positive while 82(93%) were negative as shown in figure 2 above.

The majority of the respondents 54/88(61.4%) reported that the commonest way through which HIV/AIDS is spread is through unprotected sex with an infected partner, this was closely followed by MTCT which accounted for 22/88(25%) as shown in figure 3.

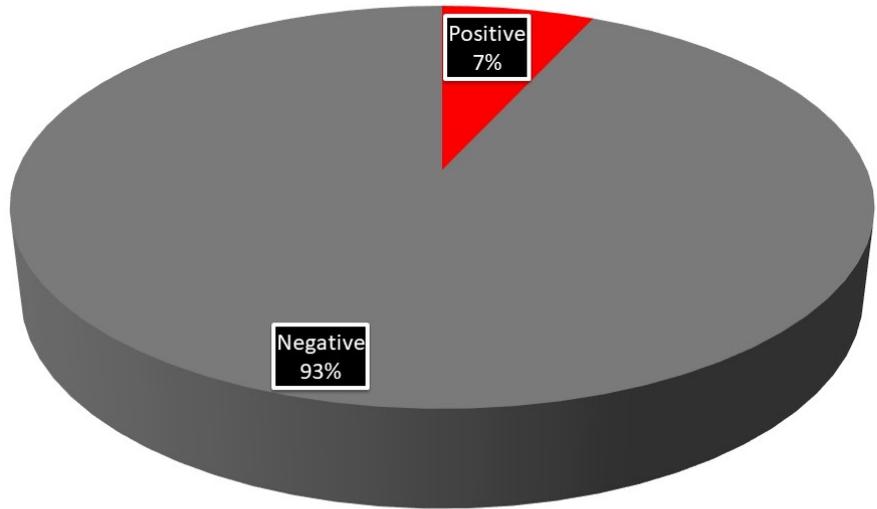


Figure 1. Prevalence of HIV/AIDS in pregnant mothers attending the ANC at Mukono Health Centre IV

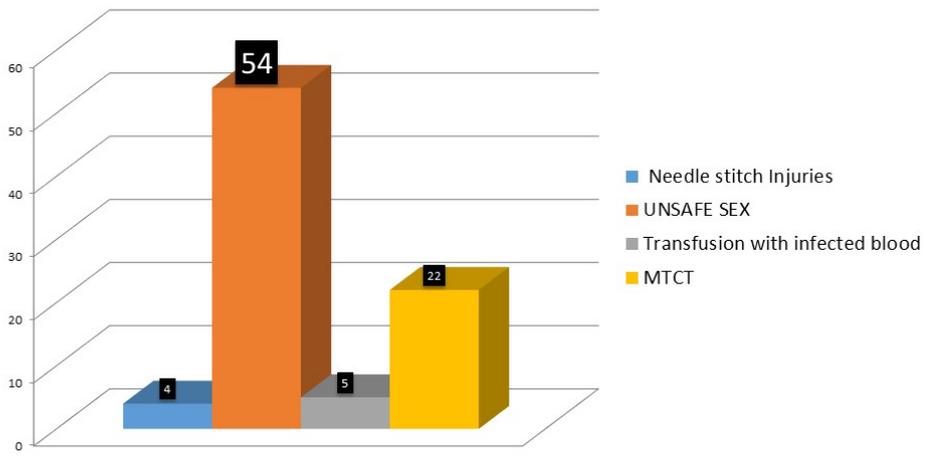


Figure 2. Ways through which HIV/AIDS is transmitted

**Table 1. Demographic characteristics of the respondents (n=88)**

Characteristics	Frequency	Percentage (%)
<b>Age</b>		
18-24	26	29.5
25-31	49	55.7
32-38	10	11.4
39-45 and above	03	3.4
<b>Marital status</b>		
Single	04	4.5
Married	79	89.8
Widowed	05	5.7
<b>Level of Education</b>		
Primary	25	28.4
Secondary	31	35.2
Tertiary	30	34.1
None	02	2.3
<b>Tribe of respondents</b>		
Baganda	69	78.4
Basoga	06	6.8
Banyankole	03	3.4
Others	10	11.4
<b>Employment status</b>		
Employed	39	44.3
Unemployed	51	55.7
<b>Religion</b>		
Anglican,	43	48.9
Catholic,	11	12.5
Muslim, Adventist	4	4.5
<b>Area of residence</b>		
Urban	41	6.6
Rural	27	30.7
Semi urban	20	22.7

## 7 DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

From the results of this study, the prevalence of HIV/AIDS in the Mukono H/CIV Mukono district was found to be at 7%.

According to this study, Sexual transmission of HIV accounts for about 61%. The major risk factors for the high prevalence of HIV/AIDS according to this study were reported to be having sex with an infected partner which was in support with findings from a study conducted by (Vithalani *et al.*, 2018) which reported that the potential for sexual activity to transmit HIV/AIDS is more than a quarter were sexually active is with more than one partner.

The study identified the level of education, occupation, and age as being significantly associated

with the level of knowledge on the general spread of HIV/AIDS. Only 38.6% of the pregnant women who attended Mukono Health Centre IV had information concerning HIV/AIDS tests by the spouse. Almost all of the pregnant women 98.9% who attended the facility for Antenatal health care reported that HIV/AIDS was still a big problem both socially and economically. These findings are supported by a study by Kayeyi, *et al.*, (2019) that reported that educational attainment was found to be a strong determinant of HIV infection in both urban and rural population. This study also revealed that 7% of the HIV-positive pregnant women are more knowledgeable than HIV-negative women about variables like the use of ARV and PTMCT. This may be because being HIV positive raises concerns about one's health and that of the unborn

**Table 2.** Factors affecting prevalence of HIV/AIDS in Mukono Health Centre IV

Variable	Frequency (N=88)	Percentage (%)
<b>Extra marital relationship</b>	4	4.5
Yes	84	95.5
No		
<b>Challenges in testing for HIV/AIDS</b>	2	2.3
Absence of kits.	1	1.1
Inappropriate patient to health worker ratio.	2	2.3
Bad language by health worker.	82	93.2
All the above.		
None of the above.		
<b>Payment of services</b>	1	1.1
Yes	87	98.9
No		
<b>Tested for HIV with spouse</b>	34	38.6
Yes	8	9.1
No	46	52.3
I don't know		
<b>Is HIV/AIDS still a problem</b>	87	98.9
Yes	1	1.1
No		
<b>Prevention of HIV/AIDS</b>	4	4.5
Abstinence	62	70.5
Faithfulness	18	20.5
Condom use	4	4.5
EMTCT	3	3.4
<b>Methods preferred by respondents</b>	67	76.2
Abstinence, Faithfulness,	18	20.4
Condom use	54	61.4
<b>General comments on ANC</b>	33	37.5
Satisfactory	1	1.1
Average		
Unsatisfactory		
<b>Knowledge about HIV/AIDS</b>	87	98.9
Yes	01	1.1
No		
<b>Source of information about HIV/AIDS</b>	23	26.1
Media	34	38.6
Health facility	31	35.2
All the above		

child. Also during counseling HIV positive pregnant women are given additional information on ARV prophylaxis, infant feeding issues, disclosure, and partner testing. The attitude a person has on something may affect the interest of that person knowing or utilizing it. Most of the pregnant women felt that it was important for pregnant women to be tested for HIV and a few did not see the importance of knowing. The reason for this may be the fear of being stigmatized by the community.

In this study, there was a slightly low level of testing for HIV/AIDS among couples for various reasons ranging from stigma to being divorced by the partners. Most of the women who attended the health facility were satisfied with the health care services that they were given. Finally, this study showed that there was a general prevalence of 7% of HIV/AIDS among the pregnant women who attended antenatal clinic at Mukono health center IV, these findings are in line with that that was obtained by NHSBS of 2004/05 estimated HIV prevalence among women at 7.5% relative to 5% among men. This pattern is more significant in urban areas and also among young women where for example the prevalence rate among the 15-19-year-olds was about 9 times higher among young women than young men. HIV prevalence was higher among urban residents at 10.2% compared to 5.7% among rural residents.

## 8 Conclusions

From this study, it was concluded that the general prevalence of HIV/AIDS among pregnant women who sought ANC in Mukono Health Centre IV was 7%.

### Recommendations

More sensitive techniques like Elisa, DNA/PCR methods should be used to screen mothers who test negative due to window periods.

Positive mothers should get access to receive continuous psychological support hence enhancing the utilization of VCT by the mothers.

The antenatal laboratory should be supported with standard operating procedures on HIV screening (SOPs).

Men's involvement is necessary, and they need to be encouraged and sensitized from the communities to accompany their partners to the clinic and attend counseling sessions, this was help equip them both with the necessary information on PMTCT.

The government of Uganda should facilitate all local leaders from grassroots in villages to enforce laws that make it mandatory for every pregnant woman in their society to always seek antenatal care services in the nearest health facilities around them.

Furthermore, the government should provide incentives to pregnant women like the provision of free treated mosquito nets and free ART treatment and dietary supplements to all those who are tested positive to boost their immunity in preparation for childbirth.

The provision of FP services appears to be passive in HIV settings. In some VCT settings, clients receive information only if they ask for it. Provision of information and methods should be more proactive by providers, backed up by guidelines and protocols.

Policymakers should be sensitized to the desire among HIV-positive women and men for access to contraception to help them have the number of children they want.

## 9 Acknowledgment

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## 10 ABBREVIATIONS

<b>AIDS:</b>	Acquired Immune Deficiency Syndrome
<b>HIV:</b>	Human Immune Deficiency Virus
<b>UDHS:</b>	Uganda Demographic and Health Survey

**UNAIDS:** Joint United Nations Programme on HIV/AIDS  
**UBS:** Uganda Bureau of Statistics  
**HSD:** Health Sub District  
**HIS:** HIV Indicator Survey  
**WHO:** World Health Organisation  
**UNGASS:** United Nations General Assembly Special Session  
**UNICEF:** United Nations Children Fund  
**UHSBS:** Uganda HIV Sero-Behavioral Survey  
**CD4:** Cluster Differentiation  
**PMTCT:** Prevention of Mother to Child Transmission of HIV  
**PEP:** Post-exposure Prophylaxis  
**PCR:** Polymerase Chain Reaction testing  
**VCT:** Voluntary Counselling and Testing  
**RCT:** Routine Counselling and Testing  
**PDF:** Picture Document File  
**STDs:** Sexually Transmitted Diseases  
**ALPHA:** Analyzing Longitudinal Population-based HIV/AIDS data from the network for Africa  
**UPEP:** Uganda poverty reduction action plan  
**UAC:** Uganda Aids Commission  
**JUNPA:** Joint United Nations Programme on HIV/AIDS

## 11 OPERATIONAL DEFINITIONS

**AIDS** Acquired Immuno Deficiency Syndrome  
**Prevalence** Number of cases (HIV) present expressed in percentage  
**Mortality** Number of people dying in a given period of time  
**Post partum** Means the life of the mother immediately after delivery  
**Antenatal** As the period between the periods of conception to delivery  
**Opportunistic infection** Are infections which come as a result of immune suppression  
**Meningitis** Inflammation of the meninges  
**Research assistant** Is one who employed to aid in research  
**Incidence** Is the number of new cases of a condition.

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