

Knowledge and Attitude of Pregnant Women towards Prevention of Mother-to-Child Transmission of HIV/AIDS at Auchi Central Hospital

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Abstract

Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) is a pandemic that the world is battling to tackle. One major way to achieve this is by preventing mother-to-child transmission during pregnancy. The level of awareness and attitude of pregnant women toward this effort is key in achieving the desired success. This study examined the knowledge and attitude of pregnant women towards the prevention of mother-to-child transmission of the disease at Central Hospital, Auchi, Edo State, Nigeria. The study adopted a descriptive survey research design and respondents comprising of pregnant women attending the hospital. It made use of a self-designed questionnaire with closed-ended questions to collect data used for analysis in the study. Results show that majority of the respondents have heard about HIV/AIDS (85.5%) and knew it to be a sexually transmitted disease (77%). Furthermore, 80% of the women had tested for HIV and 87% were aware that a mother can transmit HIV to her child. On the attitude of the women, 72.5% were of the opinion that the unborn child of an HIV/AIDS mother can be prevented from contracting the disease, while 80.5% would advise HIV/AIDS infected woman not to get pregnant. The level of awareness is high, but more efforts are needed to close the gaps in some specific areas, such as improving the attitude of pregnant women towards prevention of mother-to-child transmission and educational intervention campaigns. Health education/counselling component of the PMTCT programme should be strengthened to close the relevant knowledge gaps.

Keywords: Knowledge; Attitude; Pregnant women; Prevention of mother-to-child transmission; HIV/AIDS

Introduction

Human Immunodeficiency Virus (HIV) is a retrovirus responsible for Auto Immune Deficiency [1]. The virus infects and gradually destroys the cells in the body that usually combat infections leaving the body susceptible to diseases it would normally fight, at this stage the individual is said to have full blown Auto Immune Deficiency (AID) [2].

Acquired Immune Deficiency Syndrome (AIDS) seems very difficult to define because it is a viral disease caused by HIV virus. The virus is one of the smallest microorganisms defined as a unique group of infectious agents whose distinctiveness resides in their simple, cellular organization and pattern of reproduction. It consists of a segment of nucleic acid like DNA or RNA engulfed in portentous layer [3].

It is also estimated that almost 400,000 new-borns are infected with HIV through mother-to-child transmission every year [4].

Globally in 2015, an estimated 38.8 million people were living with HIV [5]. The HIV pandemic rate might continue to rise due to persistence of the mother-to-child transmission. This mode of transmission is responsible for more than 90% of HIV infections in children. Sexually active women in their reproductive age are prone to HIV infection. Therefore, more women living with HIV are expected to be received in the maternity units.

The mother-to-child rate has significantly reduced to less than 1% in high income countries. This reduction is attributed to the systematic use of antiretroviral drugs by pregnant women living with HIV, the avoidance amniocentesis, fetal membranes stripping, artificial rupture of membranes, fetal scalp puncture, episiotomy, instrumental delivery, milking of the umbilical cord prior to its section, systematic airways aspiration.

Other compulsory measures for the reduction of the mother-to-child transmission rate include systematic cleaning of the umbilical cord

with an antiseptic prior to injection of vitamin K and administration of antiretroviral requires to the new-born.

Mother to child transmission of HIV / AIDS also called perinatal or vertical transmission occurs when HIV is spread from a positive woman to her baby during pregnancy, labor, delivery and breastfeeding. For a HIV positive woman not being treated for HIV the chance of passing the virus to her child is about 25% during pregnancy, labor and delivery. If she breastfeeds her infant, there is an additional 12% chance of transmission [6]. There are preventive measures of HIV/AIDS. It is on record that the most reliable protection against AIDS is called 'information vaccine'. The information vaccine is not a laboratory produced drug, but simply a system of keeping the people constantly informed about the dangers of AIDS and how it can be prevented [7].

The prevention of mother to child transmission of HIV/AIDS is based on four pillars: Primary prevention of HIV infection among women of reproductive age, prevention of unwanted pregnancies among HIV infected women, prevention of HIV transmission during pregnancy or breastfeeding, treatment, care and support of HIV infected women and their families [8], advocated four key strategies for preventing mother to child transmission of HIV: Keeping women of reproductive age and their partners HIV negative through reproductive health and preventive services, Avoiding unwanted pregnancy among

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HIV infected women and women at risk of HIV, through family planning and HIV testing and counselling services, Ensuring HIV testing of pregnant women and timely access to effective antiretroviral therapy both for the health of HIV infected mothers and for prevention of mother-to-child transmission of HIV/AIDS, during pregnancy, Labor, delivery and breastfeeding, Better integration of HIV care, treatment and support for the infected women and their families.

A child is more likely to contract HIV from its mother if she has advanced HIV infection, has high viral load or low CD4 count, her water breaks at least four hours before delivery, has a vaginal delivery, uses illicit drugs during pregnancy, breastfeeding or has genital infection example STI or has difficult labor requiring episiotomy. To achieve reduction in Mother to child transmission of HIV/AIDS, there is an urgent need to provide health care services that is adequately funded and maintained both in the primary, secondary and tertiary levels. Providing adequate health care services will also empower women with information on Mother to child transmission of HIV/AIDS, and support women and families to make informed decisions about how best to feed their infants in context of HIV. It is against this background that the researcher decided to undertake this study [9].

Methodology

This chapter explained the methods and procedures employed by the researcher to arrive at a definite and concrete decision towards achieving the objects of the research. It covered research design, setting, population of the study/target population, sample and sampling techniques, instrument for data collection, validity of the instrument, method of data analysis and ethical consideration.

Research design

Descriptive survey research design was used for this study to indicate the knowledge and attitude of pregnant women towards prevention of mother to child transmission of HIV/AIDS in Central hospital, Auchi. Descriptive survey research design is being used because it explains conditions as they occur in nature. Descriptive cross section design had been used in previous research in a study on knowledge and attitude of pregnant women towards prevention of mother to child transmission of HIV/AIDS in a local clinic in Mafikang South Africa [10].

Area of the study

For the purpose of this study Central hospital, Auchi, is used for the area of study. Central hospital, Auchi, is located at Auchi Igarra road, Etsako West Local Government Area of Edo State. The hospital comprises about 15 wards/units with several clinics including antenatal clinic (ANC). The hospital is staffed with qualified doctors, nurses, pharmacist and other health care workers who collaborate together for effective diagnosis management and treatment of their clients.

Population of the study

The population for the study consisted of an estimated 180 child bearing women, attending the weekly antenatal clinic from the month of December 2022 at central hospital, Auchi (Table 1).

Table 1: Population of respondents attending weekly antenatal clinic according to stage of pregnancy.

Stages of pregnancy	Number of women
First trimester	75
Second trimester	62
Third trimester	43
Total	180

Hospital antenatal records; central hospital, Auchi (December, 2022)

Sample and sampling technique

The sample size is determined using Taro Yamane's statistical formula is stated as follows:

n = corrected sample size

N = population size ($N = 180$)

e = margin of error, $e = 0.05$ based on the research condition.

Therefore,

$n = 180 / 1 + (180 \times 0.05^2)$

$n = 180 / 1.45$

$n = 124$

Therefore, the sample size for this study will be 124 women attending antenatal clinic (Table 2).

Table 2: Sample size of respondents according to stage of pregnancy.

Stages of pregnancy	Number of women
First trimester	49
Second trimester	41
Third trimester	34
Total	124

Simple random sampling technique was used in selecting a sample from the women attending antenatal clinic for the month of December, 2022.

Simple random sampling technique is a type of sampling technique that takes a small, random portion of the entire population to represent the entire data set, where each member has equal chance of being selected. It is an unbiased sampling method. Applying this technique to the target population each woman attending the antenatal clinic for the month of November 2021 was given a specific number and the women that were eventually picked where elected based on pre assigned numbers.

However, 10% was added to account for attrition.

Instrument for data collection

The instrument for data collection was self-developed structured questionnaire. The questionnaire had four sections. The questionnaire contains closed ended questions with multiple choice answers, with questions designed using a simple Yes or No format. Section A contained five (5) questions on demographic characteristics of the respondents such as: age, marital status, religion, occupation and educational qualification. Section B considered of five (5) questions on information, about the knowledge of antenatal women towards prevention of mother to child transmission (PMTCT) of HIV/AIDS. Section C comprised of four (4) questions on attitude of antenatal women towards prevention of mother to child transmission (PMTCT) of HIV/AIDS. Section D comprised of three (3) questions on factors influencing the attitude of pregnant women towards prevention of mother to child transmission (PMTCT) of HIV/AIDS.

Validity of the instrument

The structured questionnaire was approved by the project supervisor by considering face and content validity. The researcher corrected the suggestions made by the supervisor before administering

the questionnaire to the respondent. The validation was carried out to determine the extent to which items on the questionnaire were in uniform with the stated objectives. It was found to contain adequate information to analyse the study.

Reliability of the instrument

Reliability refers to the consistency of a measure that ensures consistency of a test in a study. In this study, the researcher will make use of test-retest method of reliability testing. Here, the researcher will share questionnaire to 20% of the sample size 124, which is 24.8 approximately 25, then will issue the same questionnaire to them after two weeks. The two different scores from the pilot test will be calculated and the reliability coefficient will be obtained using the Pearson product moment correlation co-efficient which yielded a high positive correlation of 0.94.

Method of data collection

Data was collected using simple random sampling technique. Data was collected by through self-administered questionnaire towards pregnant women in the antenatal care unit. Data collection was done in the month of June, 2022; within the period of a week.

Method of data analysis

The data collected was summarized using simple frequency table, percentage and bar chart. SPSS (Statistical Package for social science) version 20 was used to analyse the data.

Ethical consideration

Permission was obtained by chief Nursing officer to collect data from Central hospital, Auchi. Participants were assured that all data collected will be kept confidential and will not be used for other purpose without their consent, participation was on voluntary bases such they can opt out of the study at any point in time.

Result

This chapter dealt with the data collected from the respondents

that were carefully tabulated and grouped according to the research questions and objectives. One hundred and thirty-five (135) copies of the questionnaire were shared and one hundred and twenty four (124) copies were used for analysis of data, producing a response rate of 96.8% which was suitable for the study.

Table 3 above presents the socio-demographic status of respondents. From the findings on the age distribution, majority of the respondents were between 26 and 30 years (29%), while most of the respondents were married (66%). On the educational qualifications, majority of the respondents had tertiary educational qualification (49.3%). Lastly, majority of the respondents (95%) were Christians while (35.5%) were civil servants. (Figure 1)

Research question one: What is the level of knowledge of pregnant women towards the preventive measures of mother-to-child transmission of HIV/AIDS in Central Hospital, Auchi?

The (Table 4) above shows the level of knowledge of pregnant women towards the preventive measures of mother-to-child transmission of HIV/AIDS in Central Hospital, Auchi. From the findings, majority of the respondents had heard of HIV/AIDS 103 (85.5%) and knew it to be a sexually transmitted disease (77%). Furthermore, 96 (80%) of the women had tested for HIV and 104 (87%) were aware that a mother can transmit HIV to her child, out of which 49 (47%) were of the opinion that MTCT occurs during labour while 31 (30%) said it occurs during pregnancy.

Research question two: What is the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS in Central Hospital, Auchi?

The (Table 5) above shows the findings on the attitudes of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS in Central Hospital, Auchi. From the above table, most of the women understand prevention of mother to child transmission of HIV/AIDS to mean Prevention of HIV/AIDS to one's unborn child (70%), while 6 (5%) thought it to be reduction of HIV/AIDS virus load.

Furthermore, on the attitude of the women, 87 (72.5%) were of

Table 3: Socio-demographic status of respondents (n=124).

Variables	Item	Frequency	Percentage (%)
Age	20-25 years	24	20
	26-30 years	35	29
	30-35 years	30	25
	35-40 years	19	16
	41-45 years	12	10
Marital Status	Married	79	66
	Single	25	20.5
	Divorced/Separated	7	5.5
	Widowed	10	8
Educational Qualifications	No formal education	13	10.7
	Primary education	21	17.2
	Secondary education	27	22.8
	Tertiary education	59	49.3
Religion	Christian	114	95
	Muslim	6	5
	Others	-	-
Occupation	Civil Servant	43	35.5
	Trader	35	29.5
	Medical Personnel	24	20
	Health workers	18	15

Table 4: Knowledge towards the preventive measures of mother-to- child transmission of HIV (n=124).

Variables	Frequency	Percentage (%)
Have you ever heard of HIV/AIDS?	103	85.5
What do you understand by HIV/AIDS?		
a. A blood disease	16	13
b. A sexually transmitted disease	92	77
c. An air borne disease	-	-
d. Communicable disease	12	10
Have you ever tested for HIV?	96	80
Are you aware that a mother can transmit HIV to her child?	104	87
If yes, when does MTCT occur? (choose all that implies)		
a. Pregnancy	31	30
b. Labour	49	47
c. Breastfeeding	19	18
d. contact	5	5

Table 5: Attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS (n=124).

Variables	Frequency	Percentage (%)
What do you understand by prevention of mother to child transmission of HIV/AIDS?		
a. A way of preventing HIV/AIDS to one's husband	3	2.5
b. Prevention of HIV/AIDS to one's unborn child	84	70
c. Prevention of contracting HIV/AIDS from another person	18	15
d. Reduction of HIV/AIDS virus load	6	5
e. Treatment of HIV/AIDS	9	7.5
Do you think an unborn child of an HIV/AIDS mother can be prevented from contract HIV/AIDS?	87	72.5
Would you advice HIV/AIDS woman to get pregnant?	97	80.5
What are the most likely ways through which a child can contract HIV/AIDS from its mother?		
a. When the woman's water breaks before delivery	48	40
b. When pregnant woman has vaginal delivery	84	70
c. When the woman do not take Antiretroviral drug during pregnancy	70	58
d. When the woman has episiotomy during delivery	14	12
e. When the woman breastfeeds	22	18
f. When the woman has genital infection during pregnancy	14	12
g. When the mother and the baby sleeps together		-

the opinion that the unborn child of an HIV/AIDS mother can be prevented from contract HIV/AIDS, while 97 (80.5%) would advise HIV/AIDS woman to get pregnant. When asked the most likely ways through which a child can contract HIV/AIDS from its mother, 84 (70%) of the respondents thought it was when a pregnant woman has vaginal delivery, 70 (58%) thought it was when the woman does not take Antiretroviral drug during pregnancy while 48 (40%) thought it was when the woman's water breaks before delivery. (Figure 2)

Research question three: What are the factors influencing the attitude of pregnant women prevention of mother-to-child transmission of HIV/AIDS in Central Hospital, Auchi?

From the findings in (Table 6) above, majority of the respondents were aware of prevention of mother to child transmission of HIV/AIDS (72.5%), and among the preventive measures were HIV/AIDS Screening test (70%), Seeking medical aid as soon as one notices she's pregnant (80.5%), Avoidance of breastfeeding (85%), and taking antiretroviral drugs during pregnancy (80%).

The factors that influence the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS were shown to include stigma and discrimination (75%), male partner involvement

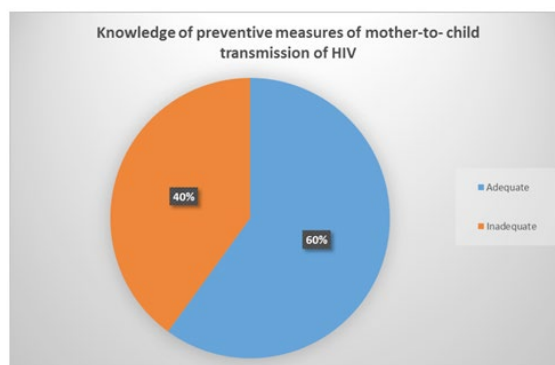


Figure 1: Pie chart showing the overall level of knowledge of the preventive measures of mother-to- child transmission of HIV.

(70%), quality of the service (83.5%), health workers approach (79%), and access to and availability of PMTCT services (89.5%).

Test of hypothesis

HO: There is no significant relationship between knowledge and attitude of prevention of mother to child transmission of HIV/AIDS in

Table 6: Factors influencing the attitude of pregnant women prevention of mother-to-child transmission of HIV/AIDS (n=124).

Variables	Frequency	Percentage (%)
Have you heard of prevention of mother to child transmission of HIV/AIDS?	87	72.5
What are the preventive measures of mother to child transmission of HIV/AIDS?		
a. HIV/AIDS Screening test	84	70
b. Seeking medical aid as soon as one notices she's pregnant	97	80.5
c. Avoidance of breastfeeding	102	85
d. Avoidance of vaginal delivery	72	60
e. Do not sleep close to the child	12	10
f. Taking antiretroviral drugs during pregnancy	96	80
What are factors influencing the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS?		
a. Stigma and discrimination	90	75
b. Male partner involvement	84	70
c. Quality of the service	100	83.5
d. Health workers approach	95	79
e. Access to and availability of PMTCT services	107	89.5

Table 7: Pearson product moment correlation analysis of the relationship between knowledge and attitude of prevention of mother to child transmission of HIV/AIDS in Central hospital, Auchi.

Variables	X	SD	$\sum X$	$\sum X^2$	$\sum XY$	R
Knowledge of PMTCT	18.8	1.19	794	1635		
Attitude of PMTCT	16.13	2.19	613	1461		

Central hospital, Auchi.

***Significant at 0.05 level, critical r = 0.133**

Pearson product moment correlation (r) statistical analysis was employed in testing the hypothesis. The result of the analysis in (Table 7) reveals that the calculated r-value of 0.09 is less than the critical r-value of 0.119 at 0.05 levels of significance. With the result of this analysis the null hypothesis is accepted. This result shows that there is no significant relationship between knowledge and attitude of prevention of mother to child transmission of HIV/AIDS in Central hospital, Auchi.

Discussion

This chapter, which concludes the study, briefly summarizes the findings relationship with other studies/ literature review. It also focuses on implications of findings to nursing, limitations of the study, summary, conclusion and makes recommendations and suggestions for practice and further research.

Discussion of findings

The discussion of major findings will be discussed under the following headings.

1. Knowledge towards the preventive measures of mother-to-child transmission of HIV.
2. Attitudes of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS.
3. Factors influencing the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS.
4. Relationship between knowledge and attitude of pregnant women towards PMTCT of HIV/AIDS.

Attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS

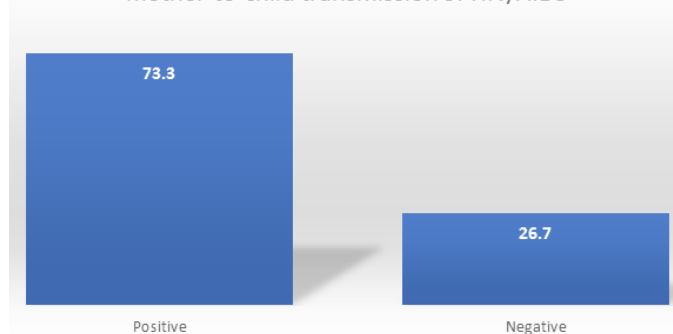


Figure 2: Bar chart showing the overall attitudes of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS.

Knowledge towards the preventive measures of mother-to-child transmission of HIV

From the findings, majority of the respondents had heard of HIV/AIDS (85.5%) and knew it to be a sexually transmitted disease (77%). Furthermore, 96 (80%) of the women had tested for HIV and 104 (87%) were aware that a mother can transmit HIV to her child, out of which 49 (47%) were of the opinion that MTCT occurs during labour while 31 (30%) said it occurs during pregnancy. This is in agreement with an earlier finding which revealed that there is significant relationship between the knowledge of mother to child transmission of HIV/AIDS, with about 64.07% of respondents knowing that a mother can transmit HIV to her child during pregnancy [11]. In light of this finding, it is important to develop strategies that will increase awareness on mother to child transmission of HIV and how to prevent it in order to improve health outcomes.

Attitudes of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS

From the above table 4.3, most of the women understand prevention of mother to child transmission of HIV/AIDS to mean Prevention of HIV/AIDS to one's unborn child (70%), while 6 (5%) thought it to be reduction of HIV/AIDS virus load. Furthermore, on the attitude of the women, 87 (72.5%) were of the opinion that the unborn child of an HIV/AIDS mother can be prevented from contract HIV/AIDS, while 97 (80.5%) would advise HIV/AIDS woman to get pregnant. When asked the most likely ways through which a child can contract HIV/AIDS from its mother, 84 (70%) of the respondents thought it was when a pregnant woman has vaginal delivery, 70 (58%) thought it was when the woman does not take Antiretroviral drug during pregnancy while 48 (40%) thought it was when the woman's water breaks before delivery.

This was consistent with previous findings that revealed a moderate level of knowledge on modes of transmission, risk behaviors and prevention of HIV and other sexually transmitted infections among pregnant women, and poor attitudes towards practices and preventive measures [12]. This emphasizes the role of health professionals to develop strategies for educational intervention for mothers and women of child bearing age in order to improve their perception and attitudes towards PMTCT.

Factors influencing the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS

From the above table 4.4, the factors that influence the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS were shown to include stigma and discrimination (75%), male partner involvement (70%), quality of the service (83.5%), health workers approach (79%), and access to and availability of PMTCT services (89.5%). This is consistent with findings that reported that 81.5% of the respondents had low level of involvement, and this was a major factor influencing the practice of PMTCT among women in the area [13]. Another finding revealed that mothers' knowledge, educational status, and access to health services affected mothers' participation in the prevention of mother-to-child transmission of HIV. It is therefore recommended that HIV-infected mothers receive adequate information from counsellors regarding MTCT and exclusive breastfeeding for the first six months of an infant's life.

Relationship between knowledge and attitude of pregnant women towards PMTCT of HIV/AIDS

The result of the analysis in table 4.5 reveals that the calculated r-value of 0.09 is less than the critical r-value of 0.119 at 0.05 levels of significance. With the result of this analysis the null hypothesis is accepted. This result shows that there is no significant relationship between knowledge and attitude of prevention of mother to child transmission of HIV/AIDS in Central hospital, Auchi. This implies that the level of knowledge of the pregnant women does not affect their attitude towards prevention of mother to child transmission of HIV/AIDS, rather demographic profile of the women such as educational background, socioeconomic status and family background could influence the prevention of mother to child transmission of HIV/AIDS among the women as shown in the study by.

Implications of findings to nursing

Nurses found out that that knowledge and attitude of prevention of mother to child transmission of HIV/AIDS is low therefore, it is important to develop health care and educational intervention that

is specific and targeted at the women of child bearing age regarding PMTCT of HIV. Health professionals can leverage the findings on the attitude and level of knowledge to guide research priorities for health policy activities using platforms such as antenatal clinics, community awareness campaigns, mass media health intervention etc. to improve health outcomes. With a deep understanding of the knowledge, attitude and factors, nurses can use this type of information to plan educational intervention as well as prevention programs.

Limitations of the study

The researcher faced some challenges during the course of the work. Some respondents were not willing to cooperate with the researcher. The researcher had to explain the aim of the study in detail and with the intervention of the chief Nursing officer the cooperated.

Summary of the study

The primary objective of the study was to determine the knowledge and attitude of pregnant women towards prevention of mother to child transmission of HIV/AIDS in Central Hospital, Auchi. A descriptive survey research design and 120 women of reproductive age between 20 and 45 years were used for this study. A self-designed questionnaire was developed according to the objectives of the study to guide in the generation of information. Socio-demographic characteristics of the respondents and the research question were analysed using simple frequency and percentage. From the findings, majority of the respondents had heard of HIV/AIDS (85.5%) and knew it to be a sexually transmitted disease (77%). Furthermore, 96 (80%) of the women had tested for HIV and 104 (87%) were aware that a mother can transmit HIV to her child, out of which 49 (47%) were of the opinion that MTCT occurs during labour while 31 (30%) said it occurs during pregnancy.

Also, most of the women understand prevention of mother to child transmission of HIV/AIDS to mean Prevention of HIV/AIDS to one's unborn child (70%), while 6 (5%) thought it to be reduction of HIV/AIDS virus load. Furthermore, on the attitude of the women, 87 (72.5%) were of the opinion that the unborn child of an HIV/AIDS mother can be prevented from contract HIV/AIDS, while 97 (80.5%) would advise HIV/AIDS woman to get pregnant. When asked the most likely ways through which a child can contract HIV/AIDS from its mother, 84 (70%) of the respondents thought it was when a pregnant woman has vaginal delivery, 70 (58%) thought it was when the woman does not take Antiretroviral drug during pregnancy while 48 (40%) thought it was when the woman's water breaks before delivery. Lasty, the factors that influence the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS were shown to include stigma and discrimination (75%), male partner involvement (70%), quality of the service (83.5%), health workers approach (79%), and access to and availability of PMTCT services (89.5%).

Conclusion

Overall, the study reviewed a good level of knowledge of the prevention of mother to child transmission of HIV/AIDS in Central Hospital among pregnant women but with moderate level of attitude. The study highlights the gaps in specific aspects of factors influencing the attitude of pregnant women towards prevention of mother-to-child transmission of HIV/AIDS that should be focused in future awareness and educational intervention campaigns. The study has recommendations for health education and public health practice not only for the pregnant women but for the public as well to promote positive attitudes and perception while improving knowledge levels

health through educational interventions and promotional campaigns for addressing PMTCT.

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