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Assessment of Knowledge Attitude and Practice about Mother to Child Transmission of HIV among Women of Ndola, District Zambia

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Abstract

Introduction: Zambia currently has an estimated number of 1.2 million people living with the HIV virus and approximately 800, 000 of these are on life saving Antiretroviral therapy. According to UNAIDS, the prevalence of HIV/AIDS in Zambia is much higher in women as compared to men standing at 11.2% for women and 7.3% for men aged 20-24. This implies that as more women become infected, mother to child transmission continues to be a challenge. The general objectives where to access knowledge, attitude and practice about mother to child transmission of HIV among mothers of Ndola district, Zambia.

Method: This was an institutional-based cross sectional study conducted in Ndola from the 15th of December 2020 to 10th of February 2021.The study enrolled women attending antenatal clinic at new masala clinic. Data was collected through structured questionnaire, data was entered into SPSS version 26 and was then analyzed. Frequencies, percentages, chi square -association as well as linear regression were manipulated

Results: A total of 384 women were enrolled in the study, 44.3% were in the age group of 16-24. 24% had attained tertiary level of education. All of the participants (100%) had received information about HIV/AIDS but there was a substantial amount of knowledge about MTCT of HIV/AIDS. Only 60.2% knew that once positive a pregnant woman could transmit the HIV infection to unborn baby, very few (24.2%) knew that it can be transmitted via labor as well as delivery. In this study 58.6% showed good knowledge, 78.1% showed good attitude and only 58.6% had good practice towards mother to child transmission of HIV. The pearson value was, P= 0.000 meaning that there was an association between the amount of knowledge a mother had and level of practice towards mother to child transmission of HIV/AIDS.

Conclusion: Overall, all the respondents knew what mother to child transmission of HIV was but there was a considerable lack of knowledge, attitude and practice towards mother to child transmission as evidenced by the results. Hence, this warrants scaling up ANC services, PMTCT measures as well as health education towards mother to child transmission of HIV and most importantly improving all sectors of life in women lives.

Keywords: Antiretroviral therapy • Structured questionnaire • Child transmission

Introduction

Background information

HIV (Human immunodeficiency virus) is a virus that attacks the immune system, the body's natural defense system. The human immunodeficiency virus is a lentivirus that causes HIV infections and over time Acquired immunodeficiency syndrome. AIDS is a condition in humans in which progressive failure of the immune system allows life threatening opportunistic infections and cancers to thrive. Children have been severely affected by the HIV epidemic in Zambia, where 85, 000 children are estimated to be living with HIV, alongside 380, 000 children orphaned AIDS.In 2016, 8900 children (0-14 years) in Zambia became newly infected with HIV. Although this is a significant decline from 13, 000 new infections among children in 2010, these latest statistics also show a turning trend from recent improvements where, in 2015, just 4700 new infects occurred among children in comparison [1].

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Most children who have HIV, got it from their mother when she was either pregnant, during the birth process, or during the breastfeeding period. They can also get infected through sexual abuse or rape. In some countries, including Zambia, child marriages are culturally accepted and a young girl could get HIV from her older husband, and then pass it to her babies, too. The younger a child is when they first have sex, the higher their chances of getting HIV. Transfusion of HIV positive blood or injections with unsterilized needles could infect children in especially in poorer countries [2].

HIV/AIDS has an effect on the growth and development of a child. "Development means maturation of functions; it is a continuous process starting in utero and progresses in an orderly manner until maturity. Both growth and development are closely related hence, hence factors affecting one, and also affects the other. The central statistical offices living conditions survey of 2010 in Zambia indicated that at amongst children aged 3 to 59 months which is just under 6 years 48.3% of the children in the rural areas of Zambia were stunted and 42.3% were stunted in the urban areas with an average stunted rate of 46.7% overall in the entire country. The first 12 months of life technically denotes the infancy period. It is a time when a child's brain undergoes rapid development. HIV has been linked to a wide range of developmental challenges such as cognitive development stagnation, neurologial problems, learning difficulties and speech and language problems [3].

Effective PMTCT programmes require women and their infant to have access to and take up a cascade of intervention including antenatal services and HIV testing during pregnancy, us of ART by pregnant women living with HIV, safe childbirth practices and appropriate infant feeding, uptake of infant HIV testing and other postnatal healthcare services. WHO promotes a comprehensive approach to PMTCT programmes which includes;

- Preventing new HIV infections among women of child bearing age.
- Preventing unintended pregnancies among women living with HIV.
- Preventing HIV transmission from a woman living with HIV to her baby.
- Providing appropriate treatment, care and support to mothers living with HIV their children and families.

Similar studies have been done in Africa. A study was carried out by frasia haffejee and maghboeba in south africa were they carried it out on mothers to access the knowledge that they had about mother to child transmission. A similar study was also carried out in Ethiopia on mothers as well [4].

The world health organization (WHO) works together with partners to set global standards for HIV prevention, care and treatment for pregnant women, mothers and their children and defining global targets. There has been a rigorous prevention of mother to child transmission (PMTCT) programme implemented in Zambia, which has seen the percentage of children born HIV Positive drop by 51%between 2011 and 2012. In 2015, 87% of pregnant women living with HIV were receiving effective antiretroviral treatment, just under universal health targets of 90%.

Statement of problem

MTCT of HIV is an overwhelming source of HIV infections in young children and is also the cause of high infant mortality rates.

Despite the promising changes, new challenges have arisen from those infants exposed to HIV at birth, with many struggling to adhere to treatment. All pregnant women attending antenatal clinics received an HIV test in 2014, the most recent data available. Despite this, less than 60% of women attended four antenatal appointments and 53% of women delivered their babies at home, where medical staffs are not present to help with the birth and make important decisions regarding HIV risk for the child [3].

The Zambia national AIDS strategic framework for 2014-2016, which aimed at reducing the risk of mother to child transmission of HIV to less than 5% by the end of the breastfeeding period by 2016 wasn't achieved. Hence there is need to find out why we are failing to reach this target as a country. Is it due to the low level of knowledge that the mothers have about the transmission of HIV to their unborn babies or do they know the types of feeding that they are supposed to carry out if they are HIV positive to reduce the spread of the virus or is it where they deliver, or how they are delivered that has an impact on the failed reduction of mother to child transmission of HIV [2].

It is unknown to what extent women know about the modes of transmission of HIV to their children; therefore, this research will bring out the information that will be helpful to health policy planners.

Literature Review

Over the last decades, the human immunodeficiency virus (HIV) has been one of the largest public health challenges especially in low and middle income countries (LMICs). Despite decades of sensitization and significant advances in its prevention and management, the pandemic continues to spread as an estimated 2 million global new HIV infections (220, 000 occurred in children) were recorded in 2014 and there were about 36.9 million people living with HIV by the end of 2014.

"Every year, globally, an estimated 1.4 million women living with HIV become pregnant. Untreated, they have a 15%-45% chance of transmitting the virus to their children during pregnancy, labour, delivery or breastfeeding. However, that risk drops to just over 1% of antiretroviral medicines are given to both mothers and children born. Annually HIV has almost halved since 2009- down from 400, 000 in 2009 to 240, 000 in 2013. But intensified, efforts will be required to reach the global target of less than 40, 000 new child infections per year by 2015."

In contrast to earlier trends, HIV infection is now less prevalent in males with over half of infected adults being women. As more women become infected, mother to child transmission of HIV continues to be a major challenge, especially in sub Saharan Africa where over two thirds of the global burden of HIV/AIDS and its sequelae lie, in 2005, around 700, 000 children under five years of age became infected with HIV worldwide, mainly through MTCT. ABOUT 90% of these MTCT infections occurred in Africa where AIDS is beginning to reverse decades of steady progress in child survival. An estimated 420, 000 children were newly infected with HIV in the vast majority of

them through MTCT .Therefore women of child bearing age should have accurate and up to date knowledge about HIV transmission, risk of transmission to babies and possible interventions. In 2015 WHO announced the first country to eliminate mother to child transmission "CUBA", this victory marked an important step towards having an AIDS free generation.

A similar study carried out by Frosa Haffejee and Maghboeba in Southfrica where they found that, the majority of the mothers in Johannesburg knew that a mother who is HIV Positive could transmit the virus to her child but were unable to specify how and that many women had general information about HIV/AIDS but were unable to identify essential prevention behaviours and were not very receptive to more information on HIV/AIDS. They also had limited knowledge of PMTCT and indicated that there was need for more education on HIV, to educate them on mother to child transmission of HIV/AIDS. Another study carried out in Benshangul Gumuz region (ETHIOPIA) by Solomon Abtew, WorkU Awoke, and Anemaw Asrat where they found that more than half of the respondents (57.5%) had full knowledge on PMTCT of HIV/AIDS. Regarding transmission mode, 33.5% of mothers said that transmission of HIV occurred during pregnancy, during delivery and through breastfeeding respectively and 28.2% of respondents knew that effective utilization of ART drugs, only breastfeeding up to 6 months and that having safe delivery can prevent MTCT of HIV. They further concluded that knowledge of antenatal clinic attendants about MTCT and PMTCT in the study area was low and that this may contribute to increased transmission of MTCT of HIV and lead to unsuccessful PMTCT intervention and hinder the achievement of the goal of eliminating new HIV in children by 2016 laid out in the united nations programme on HIV/AIDS global plan. Another similar study was carried out in Togo by Tatagan Mouhari and Kombate to evaluate knowledge, attitudes and practices related to prevention of mother to childhood transmission of HIV where a consecutive series of 210 pregnant women was compiled. 27.1% knew that HIV can be transmitted from mother to child and that a large majority (77.1%) agreed that unprotected sexual relations raised the risk of HIV transmission to the child and only about 61% expressed willingness to use condoms during pregnancy or breastfeeding. The study finally concluded that women in Togo have fairly good knowledge about HIV/AIDS .Attitudes towards PMTCT were generally positive but some behaviours such as condom use still require improvements.

A similar study carried out in Zambia specifically in the Copperbelt in Ndola by Luyando simunyama found the prevalence of HIV in the children under five to be 81.1%. He concluded that the prevalence rate which was found was slightly below the target of the Zambia National strategic framework of 2014-2016 which aimed at reducing MTCT of HIV to less than 5%, Similar to global trends. Zambia's total population in 2015 stood at 16.2 million Country's statistics. Zambia currently has an estimated number of 1.2 million people living with HIV and approximately 800, 000 of those are on life saving antiretroviral therapy (ART). In 2015, around 50, 000 adults and 8, 900 children became newly infected with HIV in Zambia. In children, in 2010, 60, 000 adults and 13, 000 children acquired HIV. Contrastingly HIV prevalence in Zambia has made little progress in the last decade with records marking a 12.8% adult prevalence in 2007 compared to a 12.4% prevalence rate in 2016 according to UNAIDS.

640, 000 of the 1.1 million adults (aged 15 and over) living with HIV in Zambia were women (UNAID Zambia: HIV/AIDS estimates, 2015). Prevalence is much higher among younger women than younger men, standing at 11.2% for women and 7.3% for men aged 20-24. Thus this implies that this increase of more women infected with the virus places the country as well in an increase of mother to child transmission of the virus.

About 46, 000 new infections are recorded every year, hence the government is calling for continued domestic investment and leadership to reduce the new HIV infection and eventually achieve, zero new infections. The government strategy in the plan period will be to reduce the national HIV prevalence rate. During the plan period, the government will build on efforts to reduce the disease burden, the national HIV prevalence rate and the relatively high prevalence for pregnant women. Zambia is committed to the 2016 high level meeting political declaration that reaffirms member states commitment to ending AIDS by 2030 in solidarity with the global community and ensuring country ownership, leadership and accountability, it further adds that the political declaration aims at achieving the 90-90-90 treatment targets by 2020 which refer to 90 percent of people living with HIV knowing their HIV status, 90% of people tested for HIV getting access to treatment services and 90%of people on antiretroviral treatment achieving HIV viral load suppression.

HIV (Human Immunodeficiency virus) is the virus that causes AIDS (Acquired Immunodeficiency Syndrome). A person may be HIV positive but not have AIDS. An HIV infected person may not develop AIDS for ten years or longer. A person who is HIV Positive can transmit the virus to others when infected blood, semen, or vaginal fluids come in contact with broken skin or mucus membranes. An AIDS infected person cannot fight off diseases as they would normally and are more susceptible to infections, certain cancers, and other health problems that can be life threatening or fatal.

If a woman is infected with HIV/AIDS her risk of transmitting the virus to her baby can be reduced if she stays as healthy as possible. According to the march of dimes, new treatments can reduce the risk of a treated mother passing HIV to her baby to a 5% or less chance. Factors which increase the risk of transmission include smoking "when you smoke, so does your baby", when you smoke you inhale poisons such as nicotine, lead, arsenic and carbon monoxides. These poisons get into the placenta, which is the tissue that connects you to your baby and sends oxygen and nutrients and eliminates wastes. These poisons keep the baby away from getting the proper supply of nutrients and oxygen. Smoking during pregnancy can cause low birth weight, preterm delivery and infant death. Other factors include vitamin A deficiency, malnutrition, infections such as STDS, clinical stage of HIV, including viral load, factors related to labour and child birth as well as during breastfeeding place the mother to transmitting the virus to her baby.

The transmission of HIV from a HIV positive mother to her child during pregnancy, labour, delivery or breastfeeding is called mother to child transmission. In the absence of any intervention, transmission rates range from 15% to 45%. This rate can be reduced to below 5%with effective interventions during the periods of pregnancy, labour, delivery and breastfeeding.

These interventions primarily involve antiretroviral treatment for the mother and a short course of antiretroviral for the baby. They also include measures to prevent HIV acquisition in the pregnant woman and appropriate breastfeeding practices. The new sustainable development goals place heightened emphasis on prevention of mother to child transmission (PMTCT) in the context of better health for mothers and their children.

In 2017 UNAIDS launched a Start Free Stay Free AIDS Free which was also known as Super Fast Track Framework and Action Plan which builds on the succeses achieved under the Global Plan towards the Eliminationof new hiv infections among childreen by 2015 and keeping their mothers alive (GLOBAL PLAN) which was released in 2011.It also commits to the elimination of congenital syphilis.

PMTCT is not 100% effective, elimination of HIV is defined as reducing the final HIV transmission rate to 5% or less among breastfeeding women and 2% or less among non breastfeeding women by 2020.

Generally, research has highlighted the beneficial impact of male involvement in programmes to prevent the mother-to-child transmission of HIV to tackle new infections among infants.

Zambia is among 23 priority countries, these are the countries under the 2017 framework which is designed to accelerate action concerning prevention of mother to child transmission, other countries to a mention a few include, Zimbabwe, Namibia, Botswana, Angola, Nigeria, Kenya and so on. It was found that these countries were a home to 87% of children and adolescents living with HIV in the world.

Targets which have been set up include, reducing infections among children to fewer than 40, 000 by 2018 and fewer than 20, 000 by 2020. Reducing the number of new HIV infections among adolescents and young women aged 10-24, to fewer than 100, 000 by 2020, and providing 1.4 million children and 1 million 15-19years old with HIV treatments by 2020and that 95% of pregnant women living with HIV are receiving life long HIV treatments by 2018, a target that has not been met.

Family planning plays a big role in PMTCT, preventing unintended pregnancies and that HIV positive women are at a great risk of dying from pregnancy related conditions than non- HIV.

It is said that sub-saharan Africa has the highest HIV prevalence in the world and yet the highest unmet need for contraception with one in five women unable to plan to plan or limit pregnancies.

HIV positive infants and children who start treatment late are more likely to experience treatment failure which underlies the need to diagnose HIV as early as possible.

Knowledge of HIV status is vital in order for pregnant women access the appropriate treatment and care for themselves and their infants. The world health organization (WHO) works together with partners to set global standards for HIV prevention, care and treatment for pregnant women, mothers and their children and to develop evidence based strategies and define global targets, baselines and indicators that promote the integration of PMTCT into maternal, newborn and child health services, thus strengthening health systems. All in all, accelerating knowledge in mothers about how the virus is transmitted to their babies will help in achieving the target goal.

Objectives

General objectives: To assess knowledge, attitude and practice about mother to child transmission of HIV among women of Ndola district, Zambia.

Specific objectives:

- To determine the knowledge levels about mother to child transmission of HIV among women.
- To assess the attitude of women toward mother to child transmission of HIV.
- To establish the practice of women about mother to child transmission of HIV and make recommendations on how to improve the knowledge, attitude and practice about MTCT of HIV.

Statement of hypothesis

It is hypothesized that the failure to the reduction of mother to child transmission of HIV is due to:

- Lack of knowledge by the mothers about how the virus is transmitted from them to their unborn children and the feeding practices that they are supposed to take knowing that they are HIV positive.
- It can also be due to poor practicing and inappropriate attitude to mother to child transmission of HIV.
- Lack of follow up or due to retention or lack of care when the baby is born, that this prevalence of MTCT of HIV is still high.

Justification

The results that will be obtained from this study will be used by the ministry of health to work in collaboration with the world health organization (WHO), to increase on the knowledge that mothers know about HIV/AIDS mother to child transmission and help in reducing the burden that this epidemic has on the country. Thus, this will benefit the entire country Zambia [1].

Putting into consideration of these factors such as the level of knowledge that mothers have on this epidemic or what mode of delivery was used or did they attend antenatal clinic follow ups, we will move more rapidly towards our ultimate goal of eliminating pediatric HIV and improving the lives of mothers and infants through the implementation of effective well designed public health programs.

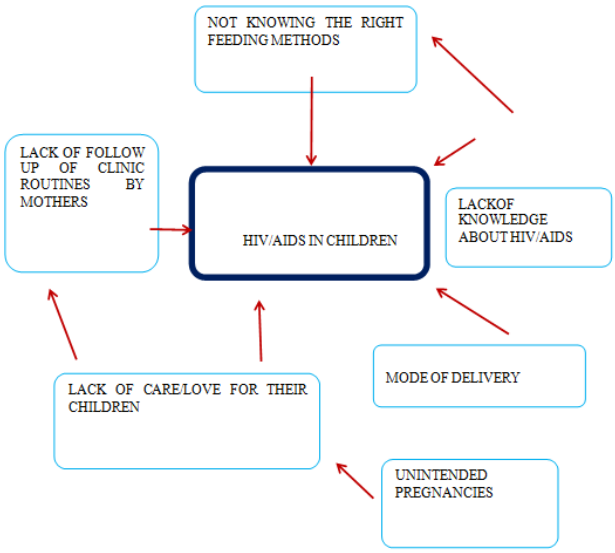

Figure 1. Theoretical framework.

Methodology

Study site

The study was carried out in Ndola at masala clinic. Ndola is a city in Zambia's copper belt province, it is the second largest city in Zambia in terms of infrastructural development and the third in terms of size and population, with a population of 475, 194(2010 census provisional) and also a home to Zambia's first modern stadium" the levy mwanawasa stadium". The study was conducted from 2018-2021.

Study population

The study population was pregnant women attending antenatal clinic at masala clinic who were above the age of 16 years and residents of Ndola [2].

Study design

This study design was a cross sectional study utilized a structured questionnaire that aimed at assessing and establishing the knowledge, attitude and practice about mother to child transmission of HIV among women.

Sample size and sampling

The sample size was calculated using the expression n=z2 QP/D2, where z is the level of confidence which is usually set at 1.96, D the width of confidence set at 5% or the tolerable error margin.

PREVALENCE RATE (P)	50%
Q (100-P)	50%
WIDTH OF CONFIDENCE (d)	5%
LEVEL OF CONFIDENCE	1.96 (at 95% confidence)

With all the variables, the sample size, which was required was 384. A simple random sampling was used with its advantage being a representative of the population.

Inclusions criteria

Participants were mothers and soon to be mothers aged 16 years and above attending antenatal clinic and were residents of Ndola and those who willing gave informed consent.

Exclusion criteria

The exclusion criteria included mothers below the age of 16 years and those who were not residents of Ndola. Furthermore, those who were not willing to give informed consent were excluded from the study.

Data collection

The data was collected using structured interviewer administered questionnaire prepared to address knowledge, attitude and practice about mother to child transmission of HIV among women that was used to determine the knowledge levels about mother to child transmission of HIV among women, to assess the attitude of women toward mother to child transmission of HIV, to establish the practice of women about mother to child transmission of HIV and to make recommendations on how to improve the knowledge, attitude and practice about mother to child of HIV among women [3]. The questionnaire was administered to all pregnant women who willingly accepted to take part in the study. Caution was taken during data entry by checking data for consistency and if there are any errors. A part in the questionnaire coverered socio-demographic data of the mother and the other section covered the knowledge, attitude and practice of mothers towards HIV/AIDS. Informed consent was obtained from the participants and approval was gotten from DMO with permission gotten from the sister in charge.

Data management

After the data was entered into the computer using SPSS version 26, it was then analyzed using SPSS to explain the study population in relation to relevant variables, frequencies, percent's and summary statistics were used.

Ethical consideration

Consent was gotten from the participants before enrolling them in the study. The participants were told how long the study took from 2018-2021 and the community at large as well as the participants was given adequate information about the study, in order to breech their right either to take part in the study or refuse. They were told that they can withdraw from the study at any time. They were treated with respect and the information collected from them was considered highly confidential and was kept in my personal computer saved under Microsoft word locked with a password.

Ethical approval was gotten from Tropical Disease and Research Centre (TDRC) Ethics committee [4].

Results

Descriptive

Sociobiodemography: A total number of 384 participants were enrolled in the study (Table 1).

VARIABLE	SUBVARIABLE	FREQUENCY	PERCENTAGE (%)
AGE	16-24	170	44.3
	25-33	151	39.3
	34-42	63	16.4
GESTATIONAL AGE	0-4.25 MONTHS	10	2.6
	4.50-8.25 MONTHS	277	72.1
	8.50-10 MONTHS	97	25.3
EDUCATIONAL LEVEL	PRIMARY	129	33.6
	SECONDARY	163	42.4
	TERTIARY	92	24
MARITAL STATUS	NOT MARRIED	40	10.4
	MARRIED	273	71.1
	DIVORCED	71	18.5

Table 1: Sociobiodemographic characteristic of pregnant women attending antenatal clinic at new masala clinic.

From table 1, the highest age group was within 16-24 representing 44.3%. 72.1% were under the gestational age of 4.50-8.25 months. Only 24% went as far as tertiary level with education and more than three quarters were married (Table 2).

KNOWLEDGE		FREQUENCY	PERCENT (%)
1.Received information from health care providers about	HIV/AIDS	384	100
	Antenatal care	384	100
	Infant feeding	240	62.5
1. What is HIV/AIDS?	Immune deficiency disease	282	73.4
	Treatment can help though Condition cant be treated	382	99.5
	Sexually transmitted disease	383	99.7
	Can be transmitted to the unborn baby, also spread via infected blood transfusion	231	60.2
2. How is HIV transmitted?	Unprotected sex	382	99.5
	Unsafe blood transfusion	230	59.9
	Sharing of sharp objects, needles, razor blades	384	100
3. How can you protect yourself from acquiring HIV/AIDS?	Use of condoms	384	100
	Limit the number of sexual partners	355	92.4
	Get tested and treated for stds	198	51.6
	Pre-exposure prophylaxis (PrEP)	37	9.6
4. Do you know that once positive, you can transmit the virus to your baby?	YES	231	60.2
5. What are the ways of transmitting HIV from mother to child?	During pregnancy	363	94.5
	Labour	93	24.2
	Delivery	93	24.2
	Breastfeeding	315	82
TOTAL		384	100

Table 2: Knowledge of women about mother to child transmissio of HIV/AIDS.

Knowledge of women concerning mother to child transmission of HIV/AIDS

From table 2 above, 384 had at once received information from health care providers about HIV/AIDS. A good number of the participant knew what HIV was and how it is transmitted but there was insufficient knowledge about HIV been transmitted via blood transfusion as only 59.9% showed some knowledge and only 24.2%knew that HIV can be transmitted via labour and delivery. This study also showed that 82% of the mothers knew that HIV can be transmitted through breastfeeding [5].

A good number of the participants knew how one can protect them from acquiring HIV but only 9.6% knew what pre- exposure prophylaxis was and what it is used for.

Attitude of respondents toward mother to child transmission of HIV/AIDS

As depicted by the table below, 52% of the participant fell within the category of 2-3 antenatal visits.

94.5% agreed that every pregnant woman should be tested for HIV during pregnancy and 68.2% agreed that even if found positive they would still breastfeed their child following health regulations. 97.7% agreed that an HIV positive woman has the right to become pregnant (Table 3).

ATTITUDE		FREQUENCY	PERCENT (%)
1. Number of Antenatal visits:	02-Mar	200	52
	≥4	184	47.9

2. Do you agree that every pregnant woman should be tested for HIV/Aids?	YES	363	94.5
3. Would you breastfeed your child despite knowing you're HIV positive?	YES	262	68.2
4. Do you know that an HIV positive woman has the right to become pregnant?:	YES	375	97.7

Table 3: Attitudes of mothers towards mother to child transmission of HIV.

Practice about mother to child transmission of HIV among women attending antenatal clinic at new masala clinic.

From table 4 below, of all the respondents, only 24.7% and 23.2% knew that use of ART during labour and in newborn respectively is a prevention method towards mother to child transmission of HIV. 99% have been tested for HIV during their current pregnancy and 99.5% agreed that they can advise other women to be tested for HIV.

Concerning the best infant method feeding when HIV positive, 97.9% agreed to exclusive breastfeeding for the first 6 months, 0.5% agreed to no breastfeeding at all and 1.6% agreed to infant formula [6].

More than half 95.6% agreed that presence of breast pathologies such as mastitis, abscess was a risk to transmitting of HIV during Breastfeeding, 252.7% agreed to that an increase in maternal viral load was a risk to transmitting Hiv during breastfeeding, 46.6%agreed to maternal low cd4 count was also a risk and 96.6%responded that infant pathologies such as mouth ulcers, oral candidiasis during the time of breastfeeding is also a risk factor to transmitting HIV/AIDS.

Majority of the respondents 95.8% agreed that prevention of mother to child transmission should be strengthened (Table 4, Table 5).

PRACTICE		FREQUENCY	PERCENTAGE (%)
1. Do you know how mother to child transmission can be prevented?	ART in pregnancy	228	59.4
	ART in labour	95	24.7
	ART in newborn	89	23.2
	Delivery by cesarean	158	41.1
	No breastfeeding	374	97.4
2. Have you ever been tested for HIV during Pregnancy?	YES	380	99
3. Would you advise other women to get tested for HIV during pregnancy?	YES	382	99.5
4. Did you receive any information concerning mother to child transmission of HIV during antenatal period, labour or breastfeeding period ?	YES	384	100
1. What do you think is the best infant feeding method when you're HIV/AIDs?	Exclusive Breastfeeding for the first 6 months	376	97.9
	Not breastfeeding at all	2	0.5
	Infant formula	6	1.6
2. What are the risks of transmitting HIV during breastfeeding?	Increased maternal viral load	214	55.7
	Breast pathologies=Mastitis, abscess	367	95.6
	Maternal- low CD4+ count	179	46.6
	Infant pathologies - mouth ulcers, oral candidiasis	371	96.6
3. Do you support that PMTCT strategies should be strengthened?	yes	365	95.8

Table 4: Practice about mother to child transmission of HIV/AIDS among women attending antenatal clinic.

VARIABLE	GRADING	FREQUENCY	PERCENT (%)
KNOWLEDGE	POOR KNOWLEDGE	O	0
	AVERAGE KNOWLEDGE	159	41.4
	GOOD KNOWLEDGE	225	58.6
ATTITUDE	POOR ATTITUDE	84	21.9
	GOOD ATTITUDE	300	78.1
PRACTICE	POOR PRACTICE	0	0
	FAIR PRACTICE	159	41.4
	GOOD PRACTICE	225	58.6

Table 5: Description of the knowledge, attitude and practice variable.

Description of knowlegde attitude and practice grading about mother to child transmission of HIV/AIDS

Table 5 shows that, 19 Knowledge questions were asked, those who scored 0-6 were graded as poor knowledge, those who scored within the range of 7-13 were graded as having average knowledge,

14-19 as having good knowledge.

From the table above, none of the participants fell in the range of poor knowledge, 58.6% had good knowledge. 4 attitude questions were asked, those who scored within the range of 0-2 were graded as having poor attitude and 3-4 as good attitude towards mother to child transmission of HIV [3].

As depicted by the table above, 78.1% had good attitude. 14 practice questions were asked, those who scored within the range of 0-4 were graded as poor practice, 5-9 as fair practice, 10-14 as good attitude.

From the table above, those who scored within the range of 0-4 were 0 as poor practice, and 58.6% showed good practice toward mother to child transmission of HIV.

Analysis

To find out if there was an association between knowledge and practice: An assumption was made that there was no association between the amount of knowledge some has towards mother to child transmission of HIV and the level of practice that the participant had towards mother to child transmission (Table 6).

KNOWLEDGE	PRACTICE		TOTAL
	FAIR PRACTICE	GOOD PRACTICE	
AVERAGE KNOWLEDGE	93.7%	6.3%	100%
GOOD KNOWLEDGE	4.4%	95.6%	100%

Table 6: Practice and knowledge cross tabulation.

The chisquare was run and these were the results: From the table above, 93.7% who had average knowledge showed fair practice and 95.6% of those who had good knowledge showed a good practice towards mother to child transmission of HIV/AIDS.

From the chisquare table, X2(1)=305.989, p=0.000, this implies that there was an association and the null hypothesis is rejected, showing that there is an association between the amount of knowledge mothers have towards mother to child transmission and the level of practice towards it [6].

A scatter plot was manipulated to show the same relationship as depicted by the (Figure 2).

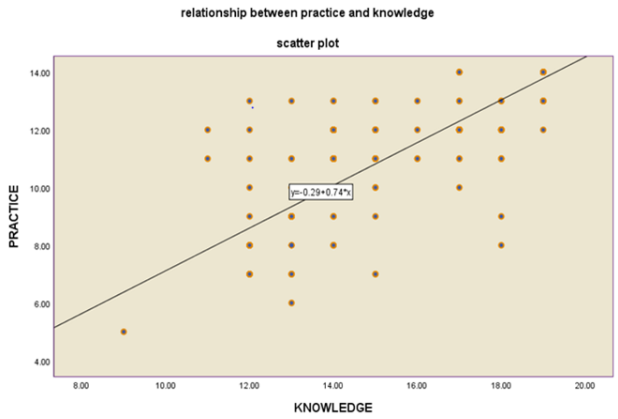

Figure 2: Scatter plot for knowledge and practice relationship.

The scatter plot above depicts that the more knowledge a mother has towards mother to child transmission of HIV the better the practice level.

To find out if practice was affected by age, gestational age, marital status, educational level, knowledge and attitude

A linear regression was run to find out if age, gestational age, marital status, educational level, knowledge and attitude affected the level of practice towards mother to child transmission of HIV among women attending antenatal clinic at new masala clinic

From the model summary R2=0.727, Taken as a percentage, R2=72.7, Taken as a set, the predictors Age, gestational age, marital status, educational level, knowledge and attitude accounted for 72.7% of the variance in the level of practice variable.

- From the ANOVA table test using alpha=0.05
- The overall regression model was significant F(6, 377)=167.507, P<0.001, R2=0.727
- From the coefficient table, test each predictor at alpha=0.05

Gestational age (p=0.000), marital status (p=0.10), educational level (p=0.024), knowledge (p=0.000) and attitude (p=0.000) were significant, meaning that the five variables offered a significant amount of unique variance in explaining the dependent variable (practice variable). This implies that the overall regression model was statistically significant

Discussion

Enhancing knowledge, attitude and practice about mother to child transmission of HIV is among the crucial steps that are important in impeding the growing burden of paediatric HIV as a whole and particularly in Zambia. PMTCT services should be offered before conception and throughout pregnancy, labour, and breastfeeding.

A total number of 384 were enrolled into the study, 44.3% of the women where in the age group16-24, 39.3% within the age group of 25-33 and 16.4% in the age group of 34-42. only 71.1% of the participants were married and only 24% went up to tertiary level of education. 72.1% were in the gestational age of 4.50-8.25 months [4].

As evidenced by the result of the study, all of the respondents 100% had received information about HIV/AIDS but there was a

considerable amount of knowledge about MTCT of hiv/aids as only 60.2% knew that once positive you can transmit the HIV infection to unborn baby, very few 24.2% knew that it can be transmitted via labour as well as delivery. This is in line with a study carried out in south central china about pregnant womens awareness and knowledge of mother to child transmission by Yang luo and Guo -Ping He found, that all the respondents were aware of HIV/AIDS but only 64% had heard about mother to child transmission and that trans placental route, vaginal delivery and breastfeeding were identified as routes of transmission from mother to child by 85%, 60% and 20%respectively.

A similar study carried out by A O Igwegbe at Nnamdi Azikiwe University Teaching hospital in Nnewi found out that 99% of the antenatal mothers were aware of HIV/AIDS but only 76.9% were aware of mother to child transmission. The results of this study is also similar to what Carlson Babila Sama found out from his study carried out in Northwest Cameroon that all of the interviewed women were aware of HIV infection and that 76.7% had adequate knowledge on its route and only 79.3% of them were aware of mother to child transmission..

Regarding knowledge concerning PREP only 9.6% knew what it was and its uses showing that many of the mothers did not know what prep was, who qualifies/eligible for PrEP use.

The study also shows that about 52% of women who were pregnant had less than 3 antenatal visits (contact) to the clinic. According to ANC guidelines for a positive pregnancy report recommends a minimum of eight (8) ANC contacts throughout the pregnancy period allowing for active engagement between the pregnant woman and health care provider and facilitate increased maternal and fetal monitoring and assessment to support a healthy pregnancy and early detection of problems. More than two-third of the respondents 97.7% agreed that even if HIV positive, they would still breastfeed their children following health regulations.

Regarding prevention of mother to child transmission of HIV more than half 59.4% knew that use of ART during pregnancy is a prevention method but only 24.7% and 23.2% knew that use of ART in labour and newborn respectively are prevention methods. According to UNAIDS reports that if an HIV exposed infant is given ART within the first 12 weeks of life, they are 75% less likely to die from aids related illness [7].

A good number of the participants 99% had been tested for HIV during their current pregnancy and 99.5% agreed that they would encourage other women to get tested for HIV. These results are similar to the findings of a study carried out in north India by Mohsina Mukhtar and Ruqia Quansar et al, who found out that all of the respondents had tested for HIV and had taken pre and post counseling. A similar study carried out in uganda found out that 99.5% of the mothers had been tested for HIV. These similarities may be due to the global impact of the disease.

97.9% agreed that exclusive breastfeeding for the first 6 months is the best infant method not only when HIV positive but also when you are HIV negative.

Regarding risks to transmission of HIV during breastfeeding 55.7% knew that an increase in maternal viral load, 95.6% knew that the presence of breast pathologies such as mastitis and abscess, 46.6%knew that a maternal low CD4 count, and 96.6% knew that the presence of infant pathologies such as mouth ulcers and oral candiddiasis are risks to transmission of HIV during breastfeeding [5].

95.8% of the respondents agreed that PMTCT strategies should be strengthened to accelerate the knowledge and attitude that mothers have towards mother to child transmission of HIV/AIDS.

In this study, 41.4% showed average knowledge and 58.6% showed good knowledge towards mother to child transmission of HIV. Out of 384 participants 21.9% showed poor attitude and 78.1% had good attitude towards mother to child transmission of HIV. Regarding practice 41.4% showed fair practice and 58.6% had good practice towards mother to child transmission of HIV/AIDs. A similar study carried out by Amanuel A Abajobir in south Ethopia found out that 97.4% of the participants had good attitude towards mother to child transmission of HIV.

A similar study carried out by Dejene Hailu, W, Niguse and T, Abera found out that 69.9% of the participants had good knowledge towards mother to child transmission and that more than half of the respondents said that breastfeeding is the best feeding choice. 75.9% had a positive attitude towards mother to child transmission [7].

An assumption was made that there was an association between the level of education and the knowledge, attitude and practice toward mother to child transmission of HIV among pregnant women. The chi square was run and the results were that with regards to knowledge and practice ($X2(1)=305.989$, $P=0.000$ this means that there was an association between knowledge and practice towards mother to child transmission of HIV/AIDS.

A second linear regression was run to find out if the practice(outcome variable) was affected by age, gestational age, educational level, knowledge level, attitude and marital status and the result was $F(6, 377)$, $=167.507$, $P= 0.001$, $R2= 0.727$ taking alpha to be 0.05 the overall regression model was statistically significant signifying that the practice level that the participants had toward mother to child transmission was affected by age, gestational age, educational, knowledge, attitude and marital status.

Conclusion

Although the study participant showed an appreciable amount of knowledge about HIV/AIDS, as all of the participants 100% had received information about HIV/AIDS. There was a considerable lack of knowledge regarding mother to child transmission of HIV as only 58.6% showed good knowledge towards mother to child transmission. Regarding attitude at least 78.1% had good attitude towards mother to child transmission of HIV and only 58.6% had good practice towards mother to child transmission of HIV.

As evidenced by the study there was an association between the level of education as well as knowledge, attitude and practice as shown by the results, $p=0.000$ signifying that the association was statistically significant. Hence we should encourage more women to be educated.

The study also showed that the amount of knowledge that the participant had towards mother to child transmission was affected by age, gestational age, educational level and marital status by the

result p<0.001 showing that the overall regression model was statistically significant .

This study also proved that the practice level about mother to child transmission of HIV/AIDS was affected by the amount of knowledge, educational level, marital status, age, gestational age and attitude that the participant had towards mother to child transmission of P= 0.001 showing that the overall regression model was statistically significant.

Therefore, this puts a call on health education, awareness, campaigns and promotion of mother to child transmission of HIV and PMTCT by engaging in health practitioners to teach antenatal mothers about MTCT of HIV/AIDS

The results of the study are similar to international, regional and local findings.hence, there is need to accelerate knowledge regarding mother to child transmission of HIV in order to reach the zero transmission rate.

Study limitations

The limitations of the study where that the study only got respondents from mothers attending antenatal clinic at new masala clinic, if other health facilities in Ndola were included, a better presentation of the study could have been obtained.

Another limitation to the study was that the questionnaire had no provision for finding out the participants HIV status as this would have been helpful in determining the attitude towards mother to child transmission of HIV/AIDS of those who are HIV positive, negative and those of unknown status.

Recommendations

- Strengthen women education as well as promote and empower girl child education.
- Continue educating the mothers on the importance of exclusive breastfeeding for the first 6 months.
- Accelerate and enhance ANC services.
- Educate the mothers on what PrEP is, who is eligible and the indications of it as so many mothers despite being pregnant still remain at substantial risk of acquiring HIV.
- Educate the mothers that elective c section, ART use during labour/delivery and in new born can be effective in reducing mother to child transmission of HIV and reduce the burden of HIV in Zambia.

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