THE KNOWLEDGE AND ATTITUDE TOWARDS THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIVAMONG PREGNANT WOMEN AT OLUKU, OVIA NORTHEAST LGA, BENIN CITY.

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A RESEARCH SUBMITTED TO THE DEPARTMENT OF HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION, FACULTY OF EDUCATION, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (ED.) DEGREE IN HEALTH EDUCATION, UNIVERSITY OF BENIN

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CERTIFICATION

We, the undersigned certify that this research project was carried out by **SAMUEL GLORIA OSAMAGIMEDE** with matriculation number **EDU1603530** of the department of Health, Safety and Environmental Education, Faculty of Education, University of Benin, Benin City.

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DEDICATION

This project is dedicated to God almighty, for His love, mercies and grace throughout the period this research.

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TABLE OF CONTENT

ABSTRACT

Human immunodeficiency virus is the greatest challenge to human kind in the 21ST century. Mother-to-child transmission of this virus infection is the transmission of the HIV virus from an HIV infected mother to her child during pregnancy, delivery or breastfeeding.

This study was to investigate the knowledge and attitude of pregnant women toward the prevention of mother-to-child transmission of HIV/AIDS among women attending antenatal care at Oluku primary health care center, Oluku Ovia-Northeast local government area, Benin-city, Edo state.

The population of the study constituted 115 pregnant women who attend antenatal care at Oluku primary health care center, Oluku. A sample of 58 pregnant women was selected using random sampling technique of balloting by replacement. A structured questionnaire was used to collect data. The reliability of the instrument was ascertained and the resulted reliability coefficient is 0.711. The data collected was analysed with frequency, percentage and Pearson's Product Moment Correlation (r). Findings shows that most the respondents have moderate knowledge about mother-to-child transmission of HIV and the prevention of mother-to-child transmission of HIV. It also shows that there no significant relationship between the knowledge and attitude of pregnant women towards the prevention of mother-to-child transmission of HIV amongst pregnant women attending antenatal care at Oluku primary health care center.

It was therefore recommended that awareness about HIV should be done during the antenatal care meetings, capacity building and

training on the prevention of HIV should be done for the health care providers and HIV counselling and testing should be carried out in the primary health care center.

CHAPTER ONE

INTRODUCTION

Background of the study

The human immunodeficiency virus (HIV) continues to be a major cause of maternal and infant mortality and morbidity in sub-Saharan Africa (USAID (United State Agency for international Development),2016).HIV continues to be a major global public health issue, having claimed more than 32 million lives so far. However, with increasing access to effective HIV prevention, diagnosis, treatment and care, including for opportunistic infections, HIV infection has become a manageable chronic health condition, enabling people living with the disease to live long and healthy lives. There were approximately 37.9 million people living with HIV at the end of 2018(World Health Organisation (WHO), 2019). As a result of concerted international efforts to respond to HIV, coverage of services has been steadily increasing. Women are disproportionally affected by HIV in Nigeria, of the 1 800 000 adults living with HIV, 1,000,000 (55.56%) were women (UNAIDS, Joint United Nations Programme on HIV/AIDS (Nigeria),

2018). New HIV infections among young women aged 15—24 years were less than double those among young men, 26 000 new infections among young women, compared to 15 000 among young men (UNAIDS (Joint United Nations Programme on HIV/AIDS (Nigeria), 2018). HIV treatment was higher among women than men; however, with 68% of adult women living with HIV on treatment, compared to 37% of adult men (UNAIDS (Joint United Nations Programme on HIV/AIDS (Nigeria), 2018).

In 2018, 62% of adults and 54% of children living with HIV in low- and middle-income countries like Nigeria were receiving lifelong antiretroviral therapy (ART). A great majority (82%) of pregnant and breastfeeding women living with HIV also received ART, which not only protects their health, but also ensures prevention of HIV transmission to their newborns(World Health Organisation (WHO), 2019). Prevention of mother-to-child transmission of HIV (PMTCT) strategies have proven effective in decreasing the number of children infected in utero, intrapartum and during the breastfeeding period. Prevention of mother-to-child transmission (PMTCT) is one of the

fundamental approaches to control HIV epidemic (World Health Organisation (WHO), 2017). To control the risk of MTCT of HIV, World Health Organization has launched a program as virtual elimination of pediatric HIV. Four-pronged approaches are incorporated as components of virtual elimination of pediatrics' HIV. The approaches include primary prevention of HIV infection among women of childbearing age; preventing unintended pregnancies among women living with HIV; preventing HIV transmission from a woman living with HIV to her infant and providing appropriate treatment, care and support to mothers living with HIV, their children and families (Carlson-Babila, Fetch, Tindong, Tanyi, Mbinkar, Bihle, Fru & Angwafo, 2017) For implementing prevention of mother-to-child transmission of HIV, one of the major problems is poor awareness and knowledge of the people about MTCT and PMTCT. Particularly, as mothers knowledge on PMTCT plays a significant role to realize preventive measures and to utilize the service. Mother's knowledge on prevention of mother-to-child transmission of HIV is essential in order to use available prevention options. Women, who have adequate knowledge on HIV prevention, protect themselves, their husband and

their children from HIV infection and are more likely to undergo HIV testing than women who do not have adequate knowledge on HIV. On the other hand, women, who do not realize mother-to-child transmission of HIV and its prevention, have limited uptake of PMTCT services (USAID (Untied states agency for international Development), 2013) Regardless of widespread extension of PMTCT services, women's knowledge on PMTCT is not satisfactory.

Statement of the problems

Mother-to-child transmission is only one part of Nigeria's HIV epidemic. But that route of transmission epitomizes the country's faltering response to the crisis; highlighting major gaps in HIV testing that allow infections to go untreated and the virus to spread. "Nigeria contributes the largest burden of babies born with HIV in the world—it's close to one in every four babies [globally] being born with HIV—and that's really not acceptable," says Sani Aliyu, (National Agency for the Control of AIDS (NACA), 2018).The key is to find and treat the relatively small population of pregnant, HIV-infected women, because those who receive ARVs rarely transmit the virus to their babies. Like

most countries, Nigeria has made mother-to-child transmission a priority for more than a decade, and it has seen a reduction in children born with HIV. Still, the country stands out for its slow progress. Today, the standard of care is to treat all HIV-infected people, including pregnant women, with daily combinations of powerful ARVs. When treatment suppresses the virus in pregnant women and, as an additional safety measure, their newborn babies also receive ARVs for 6 weeks, transmission rates typically plummet to less than 1%. In the developed world and many developing countries, mother-to-child transmission is now rare. But the regimen cannot be given if pregnant women do not know whether they are infected.

There is therefore the need for a thorough insight on the knowledge and attitude of pregnant women towards the prevention of mother-to-child of HIV (PMTCT) as the major preventive practice of HIV/AIDS in pregnant women. It is against this background that this research is to be taken.

Research Questions

The relevant research questions to be answered are:

1. What is the level of knowledge of pregnant women towards prevention of mother-to-child transmission of HIV (PMTCT).
2. What is the attitude towards prevention of mother-to-child transmission of HIV (PMTCT).
3. What is the relationship between knowledge and attitude towards prevention of mother-to-child transmission of HIV (PMTCT).

Research Hypothesis

H_0: There is no significant relationship between knowledge and attitude of pregnant women towards prevention of mother-to-child transmission of HIV (PMTCT).

Purpose of study

Investigate the knowledge, attitude of pregnant women towards the prevention of mother-to-child transmission of HIV

Significance of the study

Investigating the mother's knowledge attitude on prevention of mother-to-child transmission of HIV has many benefits and they include:

1. To educate Pregnant women who are HIV positive on how to protect their unborn babies from HIV infection

2. To reduce the rate of infant and children affected with HIV from birth or through breastfeeding

3. To educate pregnant women on the importance of knowing their HIV status and how they can save themselves and their unborn child

4. To enhance mother's knowledge on PMTCT so as to ensure a safe pregnancy period

Scope (Delimitation) of study

This study is limited to a selected health institute in Oluku Ovia northeast local government area of Edo state

Limitation(s)

In carrying out this study, it is conceived that the respondent where not able to read/or understand some contents of the survey instrument, given the poor literacy level of some pregnant women.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter reviews the various literature related to the research topic, the chapter is referred to discussed in the following heading:

- The concept of HIV/AIDS
- Symptoms of HIV/AIDS
- Causes and transmission of HIV/AIDS
- Pregnancy
- HIV and pregnancy
- HIV and child birth
- The concept of PMTCT
- Summary of related literature

The concept of HIV/AIDS

HIV (human immunodeficiency virus) is a virus that attacks cells that help the body fight infection, making a person more vulnerable to other infections and diseases. It is spread by contact with certain bodily fluids

of a person with HIV, most commonly during unprotected sex (sex without a condom or HIV medicine to prevent or treat HIV), or through sharing injection drug equipment. HIV left untreated, can lead to the disease AIDS (acquired immunodeficiency syndrome). The human body can't get rid of HIV and no effective HIV cure exists. So, once you have HIV, you have it for life. First identified in 1981, HIV is the cause of one of humanity's deadliest and most persistent epidemics.

AIDS is the late stage of HIV infection that occurs when the body's immune system is badly damaged because of the virus. Most people with HIV do not develop AIDS because taking HIV medicine every day as prescribed stops the progression of the disease. A person with HIV is considered to have progressed to AIDS when the number of their CD4 cells falls below 200 cells per cubic millimeter of blood (200 cells/mm3). (In someone with a healthy immune system, CD4 counts are between 500 and 1,600 cells/mm3.) OR they develop one or more opportunistic infections regardless of their CD4 count. Without HIV medicine, people with AIDS typically survive about 3 years (Once someone has a dangerous opportunistic illness, life expectancy without treatment falls

to about 1 year). HIV medicine can still help people at this stage of HIV infection, and it can even be lifesaving. But people who start ART soon after they get HIV experience more benefits—that's why HIV testing is so important (U.S. department of health and human services and supported by the minority HIV/AIDS Fund, 2020).

Symptoms of HIV/AIDS

The symptoms of HIV and AIDS vary, depending on the phase of infection. (Sax, et al, 2017). This phases are:

- Primary infection (Acute HIV)

Some people infected by HIV develop a flu-like illness within two to four weeks after the virus enters the body. This illness, known as primary (acute) HIV infection, may last for a few weeks. Possible signs and symptoms include: Fever, Headache, Muscle aches and joint pain, Rash, Sore throat and painful mouth sores, Swollen lymph glands (mainly on the neck), Diarrhea, Weight loss, Cough, Night sweats.

These symptoms can be so mild that you might not even notice them. However, the amount of virus in your bloodstream (viral load) is quite high at this time. As a result, the infection spreads more easily during primary infection than during the next stage.

- Clinical latent infection (Chronic HIV)

In this stage of infection, HIV is still present in the body and in white blood cells. However, many people may not have any symptoms or infections during this time.

This stage can last for many years if you're not receiving antiretroviral therapy (ART). Some people develop more severe disease much sooner.

- Symptomatic HIV infection

As the virus continues to multiply and destroy your immune cells (the cells in your body that help fight off germs) you may develop mild infections or chronic signs and symptoms such as Fever, Fatigue, Swollen lymph nodes (often one of the first signs of HIV infection),

Diarrhea, Weight loss, Oral yeast infection (thrush), Shingles (herpes zoster), Pneumonia.

- Progression to AIDS

Thanks to better antiviral treatments, most people with HIV in the U.S. today don't develop AIDS. Untreated, HIV typically turns into AIDS in about 8 to 10 years.

When AIDS occurs, the immune system has been severely damaged. The infected person will be more likely to develop opportunistic infections or opportunistic cancers (diseases that wouldn't usually cause illness in a person with a healthy immune system).

The signs and symptoms of some of these infections may include Sweats, Chills, Recurring fever, Chronic diarrhea, Swollen lymph glands, Persistent white spots or unusual lesions on your tongue or in your mouth, Persistent and unexplained fatigue, Weakness, Weight loss, Skin rashes or bumps.

Causes and transmission of HIV/AIDS

HIV is the cause of the spectrum of disease known as HIV/AIDS. HIV is a retrovirus that primarily infects components of the human immune system such as $CD4^+$ T cells, macrophages and dendritic cells. It directly and indirectly destroys $CD4^+$ T cells (Alimonti, Ball & Fowke, 2003).

HIV is a member of the genus *Lentivirus*, part of the family *Retroviridae* (International committee of taxonomy of viruses, 2002). Lentiviruses share many morphological and biological characteristics. Many species of mammals are infected by lentiviruses, which are characteristically responsible for long-duration illnesses with a long incubation period (Levy, 1993). Lentiviruses are transmitted as single-stranded, positive-sense, enveloped RNA viruses. Upon entry into the target cell, the viral RNA genome is converted (reverse transcribed) into double-stranded DNA by a virally encoded reverse transcriptase that is transported along with the viral genome in the virus particle. The resulting viral DNA is then imported into the cell nucleus and integrated into the cellular DNA by a virally encoded integrase and host co-factors (Smith &

Daniel, 2006). Once integrated, the virus may become latent, allowing the virus and its host cell to avoid detection by the immune system (Martínez, ed., 2010). Alternatively, the virus may be transcribed, producing new RNA genomes and viral proteins that are packaged and released from the cell as new virus particles that begin the replication cycle anew (Gerald, ed., 2004).

HIV is now known to spread between $CD4^+$ T cells by two parallel routes: cell-free spread and cell-to-cell spread, i.e. it employs hybrid spreading mechanisms. In the cell-free spread, virus particles bud from an infected T cell, enter the blood/extracellular fluid and then infect another T cell following a chance encounter (Zhang. et al, 2015). HIV can also disseminate by direct transmission from one cell to another by a process of cell-to-cell spread (Sattentau, 2008). The hybrid spreading mechanisms of HIV contribute to the virus's ongoing replication against antiretroviral therapies (Zhang, et al, 2015).

Two types of HIV have been characterized: HIV-1 and HIV-2. HIV-1 is the virus that was originally discovered (and initially referred to also as LAV or HTLV-III). It is more virulent, more infective, and is the cause

of the majority of HIV infections globally. The lower infectivity of HIV-2 as compared with HIV-1 implies that fewer people exposed to HIV-2 will be infected per exposure. Because of its relatively poor capacity for transmission, HIV-2 is largely confined to West Africa (Reeves & Doms, 2002).

Mode of transmission

HIV is spread by three main routes: sexual contact, significant exposure to infected body fluids or tissues and from mother to child during pregnancy, delivery, or breastfeeding (known as vertical transmission) (Rom & Markowitz eds., 2007). There is no risk of acquiring HIV if exposed to feces, nasal secretions, saliva, sputum, sweat, tears, urine, or vomit unless these are contaminated with blood (Kripke, 2007). It is also possible to be co-infected by more than one strain of HIV (a condition known as HIV super infection) (van der Kuyl & Cornelissen, 2007).

- Sexual

The most frequent mode of transmission of HIV is through sexual contact with an infected person. (Williams & Wilkins 2015) However,

an HIV-positive person who has an undetectable viral load as a result of long-term treatment has effectively no risk of transmitting HIV sexually.

Globally, the most common mode of HIV transmission is via sexual contacts between people of the opposite sex (be it anal, oral or vaginal sex).

Risk of transmission of HIV through sex increase in the presence of many sexually transmitted infections and genital ulcers (Ng, Butler, Horvath & Rutherford, 2011). Genital ulcers appear to increase the risk approximately fivefold (Boily, et al, 2009). Other sexually transmitted infections, such as gonorrhea, chlamydia, trichomoniasis, and bacterial vaginosis, are associated with somewhat smaller increases in risk of transmission (Dosekun & Fox, 2010).

The viral load of an infected person is an important risk factor in both sexual and mother-to-child transmission (Anderson, February 2012). During the first 2.5 months of an HIV infection a person's infectiousness is twelve times higher due to the high viral load associated with acute HIV (Dosekun & Fox, 2010). If the person is in the late stages of infection, rates of transmission are approximately

eightfold greater (Boily, Baggaley, White, Wang, Masse, Hayes & Alary, 2009).

Commercial sex workers (including those in pornography) have an increased likelihood of contracting HIV (Kerrigan & Deanna, 2012). Rough sex can be a factor associated with an increased risk of transmission. Sexual assault is also believed to carry an increased risk of HIV transmission as condoms are rarely worn, physical trauma to the vagina or rectum is likely, and there may be a greater risk of concurrent sexually transmitted infections (Draughon & Sheridan, 2012).

- Body fluids

The second-most frequent mode of HIV transmission is via blood and blood products (Rom, Markowitz, eds., 2007). Blood-borne transmission can be through needle-sharing during intravenous drug use, needle-stick injury, transfusion of contaminated blood or blood product, or medical injections with unsterilized equipment. HIV is transmitted in about 90% of blood transfusions using infected blood (Donegan et al, 1990).

Unsafe medical injections play a role in HIV spread in sub-Saharan Africa. The World Health Organization estimates the risk of transmission as a result of a medical injection in Africa at 1.2%.Risks are also associated with invasive procedures, assisted delivery, and dental care in this area of the world (Reid, 2009).

People giving or receiving tattoos, piercings, and scarification are theoretically at risk of infection but no confirmed cases have been documented (Center for Disease Control and Prevention, 2012). It is not possible for mosquitoes or other insects to transmit HIV (Crans & Wayne, 2010).

- Mother-to-child

HIV can be transmitted from mother to child during pregnancy, during delivery, or through breast milk, resulting in the baby also contracting HIV (preventing mother-to-child transmission of HIV, 2017). In the absence of treatment, the risk of transmission before or during birth is around 20%, and in those who also breastfeed 35% (Coutsoudis, Kwaan & Thomson, 2010). Treatment decreases this risk to less than 5% (WHO mother-to-child transmission of HIV, 2019).

Antiretroviral drugs when taken by either the mother or the baby decrease the risk of transmission in those who do breastfeed (White, Mirjahangir, Horvath, Anglemyer & Read, 2014). If blood contaminates food during pre-chewing it may pose a risk of transmission. If a woman is untreated, two years of breastfeeding results in an HIV/AIDS risk in her baby of about 17%. Due to the increased risk of death without breastfeeding in many areas in the developing world, the World Health Organization recommends either exclusive breastfeeding or the provision of safe formula. All women known to be HIV-positive should be taking lifelong antiretroviral therapy (infant feeding in the context of HIV, 2017)

Pregnancy

Pregnancy occurs when a sperm fertilizes an egg after it's released from the ovary during ovulation. The fertilized egg then travels down into the uterus, where implantation occurs. A successful implantation results in pregnancy.

On average, a full-term pregnancy lasts 40 weeks. There are many factors that can affect a pregnancy. Women who receive an early pregnancy diagnosis and prenatal care are more likely to experience a healthy pregnancy and give birth to a healthy baby.

Knowing what to expect during the full pregnancy term is important for monitoring both your health and the health of the baby. If you'd like to prevent pregnancy, there are also effective forms of birth control you should keep in mind.

HIV and pregnancy

HIV in pregnancy is the presence of an HIV/AIDS infection in a woman while she is pregnant. There is a risk of HIV transmission from mother to child in three primary situations: pregnancy, childbirth, and while breastfeeding. This topic is important because the risk of viral transmission can be significantly reduced with appropriate medical intervention, and without treatment HIV/AIDS can cause significant illness and death in both the mother and child. This is exemplified by data from The Centers for Disease Control (CDC): In the United States

and Puerto Rico between the years of 2014-2017, where prenatal care is generally accessible, there were 10,257 infants in the United States and Puerto Rico who were exposed to a maternal HIV infection in utero who did not become infected and 244 exposed infants who did become infected (Centers for Disease Control and Prevention. HIV Surveillance Report, 2018).

The burden of the HIV/AIDS pandemic, including mother-to-child transmission of HIV, disproportionately affects developing nations, in particular the countries of Southern Africa (UNAIDS (Joint United Nations Programme on HIV/AIDS), 2014). The World Health Organization's (WHO) most recent reports estimate that there were 19.2 million women living with HIV worldwide in 2019, and there were 790,000 new infections contracted in this population in that year. They further report that there were 1.8 million children younger than 15 years old living with HIV worldwide in 2019, and 150,000 new cases were contracted in this population in that year (World Health Organization. Latest HIV estimates and updates on HIV policies uptake, 2020).

Risk factors for transmitting HIV during pregnancy

If a woman is infected with HIV, her risk of transmitting the virus to her baby is 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 2 percent or less chance.

Factors which increase the risk of transmission include Smoking, Substance abuse, Vitamin A deficiency, Malnutrition, Infections such as STD's, Clinical stage of HIV, including viral load (quantity of HIV virus in the blood), Factors related to labor and childbirth, Breastfeeding (American pregnancy association, 2012).

HIV and child birth

If no preventative steps are taken, the risk of HIV transmission during childbirth is estimated to be 10-20%. The chance of transmission is even greater if the baby is exposed to HIV-infected blood or fluids. Health care providers should avoid performing amniotomies (intentionally rupturing the amniotic sac to induce labor), episiotomies and other procedures that expose the baby to the mother's blood. The risk of

transmission increases by 2% for every hour after membranes have been ruptured.

Cesarean sections performed before labor and/or the rupture of membranes may significantly reduce the risk of perinatal transmission of HIV.

Women who have not received any drug treatment before labor should be treated during labor with one of several possible drug regimens. These may include a combination of ZDV and another drug called 3TC or Nevirapine. Studies suggest that these treatments, even for short durations, may help reduce the risk to the baby. (American Pregnancy Association, 2012).

PMTCT (Prevention of Mother-To-Child Transmission of HIV)

Prevention of mother to child transmission (PMTCT) of HIV is a global interventional program initiated by the United Nations Organization to protect the children of the world from the scourge of the HIV pandemic (United Nations Special session on HIV/AIDS, 2002). A historical review of the PMTCT program was done. This was followed by a

detailed update of the PMTCT interventions in Nigeria, including information on the management of pregnancy, labor and delivery, as well as the care of the mother–infant pair in the postpartum period, and appropriate infant feeding practices in the context of HIV infection. In this review, the magnitude of MTCT, and strategies, outcome, and challenges for prevention are discussed. Prevention of Mother to Child Transmission (PMTCT) is a commonly used terminology for preventing the transmission of HIV virus from pregnant mothers to their infants

It refers to the set of programs/interventions designed to identify the pregnant mothers with HIV and provide them with effective interventions to prevent mother to child transmission (MTCT)

PMTCT is an intervention to ensure that no child is born with HIV. Thus, this approach is envisioning and approaching towards an AIDS free generation

MTCT is a burning issue in HIV and AIDS as 90% of new cases of HIV in infants and children's are due to MTCT

PMTCT approach mainly uses Anti-Retroviral Therapy (ART) along with other preventive methods and interventions in cases of breast feeding, child delivery etc. to prevent the transmission of virus to the infants

Mother to child transmission of HIV virus may occur at three different points. They are:

- During Pregnancy
- During Labour an0d delivery
- During breastfeeding

Although mother to child transmission of HIV virus is always dangerous and risky, it is necessary to know that HIV virus does not transmit from infected mother to child in all 100% cases. Even if no ART or other PMTCT approaches are taken, chances of MTCT is around (25-40)%.

Apart from different mode/points of transmission of virus, there are certain risk factors which increase the risk of transmission and may put women at a higher risk of transmitting the virus to her children.

The risk factors are:

- The viral load in the mother's blood i.e. amount of HIV virus in the blood. The more the viral load, higher are the chances of transmitting virus to the infant
- Maternal, obstetrical, viral, fetal and infant related factors

Strategies for PMTCT

In addition to setting the goal of PMTCT, the UNGASS in 2001 also formulated four strategies for PMTCT, as follows:

- Prevention of primary infection in men and women of reproductive age.
- Prevention of unintended pregnancy in HIV-infected women.
- Prevention of MTCT of HIV from HIV-infected pregnant women to their infants during pregnancy, delivery, and breastfeeding.
- Care and support services to the HIV-infected women and members of the families. (J Am Med Assoc., 2000)
- Prevention of primary infection in men and women of reproductive age: If all men and women of reproductive age were HIV

negative, the rate of MTCT would be zero. Therefore, prevention of primary HIV infection among men and women of reproductive age is the most effective strategy to prevent MTCT of HIV. Primary prevention is achieved by creating public awareness and knowledge on HIV, including the personal, family, and community consequences of its acquisition, and its routes of transmission and methods of prevention. Safer sex practices, avoidance of needle sharing, safer blood transfusion practices, and avoidance of unsterile instruments are some of the expected behavioral changes needed to achieve primary prevention of HIV infection. (Federal Ministry of Health, 2002) The ABC model of safer sex practices can be replicated for other risk behaviors for HIV infection:

A = abstinence, i.e. total avoidance of the risk behaviors (risk elimination);

B = be faithful, i.e. mutual, non-serial monogamous faithfulnessto uninfected partner (risk reduction); and

C = correct and consistent use of condom with HIV-infected partners and persons of unknown HIV serostatus (risk reduction and harm reduction).

- Prevention of unintended pregnancy in HIV-infected women: To reduce the risk of MTCT of HIV, every pregnancy in an HIV-infected woman should be a planned pregnancy. Vertical transmission of HIV is minimal at a viral load of less than 1000 copies/ml. There is currently no viral load level at which HIV transmission is known to be completely absent. It would be reasonable and desirable for HIV-infected women who desire to get pregnant to first reduce their HIV viral load to a level below 1000 copies/ml before embarking on pregnancy (Bartlett & Gallant 2004). Where only the male partner is infected with HIV, various semen preparations and other assisted reproduction techniques are now available to achieve pregnancy without infecting the woman, and hence vertical transmission to the infant can be avoided. This is the usual practice in the advanced countries (Weigel, Gentili, Beichert, Friese & Sonnenberg- Schwan, 2001). Unfortunately, most HIV-infected people in our environment do

not know that they are infected, and so do not appreciate the risk of HIV infection to their infants if they become pregnant. Therefore, the first step in preventing unintended pregnancy in HIV-infected women is universal access to testing and counseling, leading to individual HIV status identification. The second step is effective contraception. Condom offers double protection (against pregnancy and HIV) and is recommended for concordant and discordant HIV-positive couples. Condom can be used concurrently with a more effective contraceptive method. This is referred to as "dual method."

- Prevention of MTCT in HIV-infected pregnant women: Without any intervention, the infant of an HIV-infected pregnant woman has 25–45% risk of HIV infection during pregnancy, delivery, and breastfeeding (Watts, 2002). In the absence of breastfeeding, intrauterine (transplacental) infection and Operipartum infection account for 25–40% and 60–75%, respectively, of vertical infection. The use of HIV medicines prevent HIV from multiplying, which reduces the amount of HIV in the body (called the undetectable viral load is when

the level of HIV in the blood is too low to be detected by a viral load test. The risk of mother-to-child transmission of HIV during pregnancy and childbirth is lowest when a woman with HIV has an undetectable viral load. Maintaining an undetectable viral load also helps keep the mother-to-be healthy.

Some HIV medicines used during pregnancy pass from the pregnant woman to her unborn baby across the cesarean delivery (sometimes called a C-section) can reduce the risk of mother-to-child transmission of HIV in women who have a high viral load (more than 1,000 copies/mL) or an unknown viral load near the time of delivery.

After birth, babies born to women with HIV receive HIV medicine to reduce the risk of mother-to-child transmission of HIV. Several factors determine what HIV medicine they receive and how long they receive the medicine. Most HIV medicines are safe to use during pregnancy. In general, HIV medicines don't increase the risk of birth defects. Health care providers discuss the benefits and risks of specific HIV medicines when helping women with HIV decide which HIV medicines to use during pregnancy or while they are trying to conceive. Despite ongoing

use of HIV medicines after childbirth, a woman with HIV can still pass HIV to her baby while breastfeeding. Infant formula is a safe and readily available alternative to breast milk. For these reasons, women with HIV who live in the United States should not breastfeed their babies. Additionally, babies should not eat food that was pre-chewed by a person with HIV. (Mor, Chemtob, Pessach & Nitzan-Kaluski, 2006).

Summary of related literature

A pregnant woman living with HIV has a number of ways that HIV might be passed on to her baby. HIV in the blood could pass into your baby's body. This is most likely to happen in the last few weeks of pregnancy, during labour, or delivery. Breastfeeding your baby can also transmit HIV, because HIV is in the breastmilk. If a woman is living with HIV, taking antiretroviral treatment correctly during pregnancy and breastfeeding can virtually eliminate the risk of passing on the virus to the baby. Attending antenatal appointments means she can get tested for HIV and if needed receive treatment and medical advice to help keep she and her baby healthy.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter discusses the method and procedure adopted in carrying out the research study it will be discussed under the following headings:

- Research design
- Population of the study
- Sample and sampling techniques
- Research instrument
- Validity of the instrument
- Reliability of the instrument
- Administration of the instrument
- Method of data analysis

Research Design

The study would be a cross-sectional and a correlational analysis of hypothesis

Population of the study

Population of the study consist of 115 pregnant women that do come for antenatal care at the Oluku primary health care center Ovia northeast local government area, Benin City.

Sample and Sampling Techniques

A sample for the study includes 58 pregnant attending antenatal at Oluku primary health care center from a total population of 115 pregnant women who attend antenatal care. The sample size for the study was selected using simple random sampling technique of balloting by replacement to select 50% of the total population of study.

Research Instrument

The instrument used for data collection in this research are questionnaire items, the questionnaire consist of ten (10) items with the study area. The questionnaire made of two sections. Section A includes the personal information of the respondent and section B consists the items asking the knowledge and attitude of pregnant women towards the prevention of mother-to-child transmission of HIV/AIDS. The

items 1-10 will be divided in to three (3) each to ask a separate topic (i.e. knowledge of when mother-to-child transmission occur, knowledge of when prevention of mother-to-child transmission starts and attitude towards the prevention of mother-to-child transmission). The pregnant women will respond to the items using multiple choice for the first two topics heading (knowledge of when mother-to-child transmission occur and knowledge of when prevention of mother-to-child transmission starts) and five (4) points scale (linkert rating scale) ranging from strongly agreed to strongly disagreed for the last topic (attitude towards the prevention of mother-to-child transmission).

Validity of the Instrument

Three (3) judges rated the questionnaire for validity including the research or project supervisor to ascertain the content appropriateness of the research instrument.

Reliability of the Instrument

Split-half reliability was adopted. The coefficient of reliability (r) was 0.711 for the instrument. The Spearman Brown's Correction formulae was used to solve for the coefficient of reliability (r).

Administration of the Instrument

The research instrument (questionnaire) was administered to pregnant women on their antenatal meeting days.

Method of Data Analysis

Descriptive statistics and inferential statistics was used in analyzing the data. The descriptive statistics that was used to present and describe information sought by the study are tables, frequencies and percentage

The inferential statistics used was Pearson's Product Moment Correlation Coefficient to analyze the hypothesis.

CHAPTER FOUR

PRESENTATION OF RESULT AND DISCUSSION OF FINDINGS

Introduction

This chapter deals with the data presentation and analysis the analysis will be according to the research question formulated to guide the study and followed by discussion on findings.

TABLE 1: Demographic data of the sample of mothers attending antenatal care service at Oluku primary health care center Oluku.

Age of the respondent

VARIABLES	FREQUENCY	PERCENTAGE (%)
less than 20	3	5.2
20 – 34	50	86.2
35 and above	5	8.6

The demographic variables of respondents shows that majority 50 (86.2%) of the respondent were between ages 20 and 34 years, 5 (8.6%) were between 35 and above while 3 (5.2%) of the respondents were less than 20.

Highest educational level of the respondent

VARIABLES	**FREQUENCY**	**PERCENTAGE (%)**
no formal education	3	5.2
primary education	5	8.6
secondary education	43	74.1
tertiary education	7	12.1

Highest educational level demography shows that 3 (5.2%) has no formal education, 5 (8.6%) has primary school education, 43 (74.1%) has secondary education, 7 (12.1%) has tertiary education.

Occupational status of the respondents

VARIABLES	FREQUENCY	PERCENTAGE (%)
Unemployed	22	37.9
Employed	12	20.7
self-employed	24	41.4

The table shows that occupational status of the respondents. 22 (37.9%) of the respondents and unemployed, 12 (20.7%) of the respondents are employed while 24 (41.4%).

Marital status of the respondents

VARIABLES	FREQUENCY	PERCENTAGE (%)
Single	4	6.9
Married	54	93.1
Divorce	0	0

This table shows the demographic that 54(93.1%) of the respondent are married while 4 (6.9%) are single.

Research question 1

What is the level of knowledge of pregnant women towards prevention of mother-to-child transmission of HIV (PMTCT)?

TABLE 2: knowledge of mother-to-child transmission of HIV

ITEMS	**Correct response**	**%**	**Incorrect response**	**%**
what does HIV stands for	18	31.0	40	69.0
how can HIV/AIDS be transmitted	29	50.0	29	50.0
what major way can HIV/AIDS be transmitted to	30	51.7	28	48.3

a child				
when a person has HIV it is called	27	46.6	31	53.4
when a mother-to-child transmission of HIV does occurs	32	55.2	26	44.8

The responses on the knowledge about mother-to-child transmission of HIV of the respondents show that 18 (31.0%) have correct knowledge about what HIV stands for, while 40 (69.0%) have incorrect knowledge of it. On how HIV can be transmitted 29 (50%) have the right knowledge while 29 (50%) has the wrong knowledge. 30 (51.7%) have the right knowledge on how HIV can be transmitted to a child while 28 (48.3%) have wrong knowledge. 27 (46.6%) of women know what a person with HIV is called while 31(53.4%) do not know. 32 (55.2%) know when mother-to-child transmission of HIV occur while 26(44.8%) do not know.

TABLE 3: knowledge on the prevention of mother-to-child transmission of HIV

ITEMS	**Correct response**	**%**	**Incorrect response**	**%**
Is mother-to-child transmission of HIV preventable	40	69.0	18	31.0
have you ever heard of PMTCT of HIV	19	32.8	39	67.2
have you heard of the drugs that is use to prevent a baby from getting HIV from the mother	27	46.6	31	53.4

mother-to-child transmission of HIV can be reduce through	31	53.4	27	46.6
mother-to-child transmission of HIV can be prevented through	28	48.3	30	51.7

The responses on the knowledge about prevention of mother-to-child transmission of HIV of the respondents show that 18 (31.0%) have incorrect knowledge about the possibility of preventing mother-to-child transmission of HIV, while 40 (69.0%) have correct knowledge of it.19 (32.8%) have heard of the prevention of mother child transmission of HIV while 39 (67.2%) haven't heard of it. 27 (46.6%) have heard of the drugs that is use to prevent a baby from getting HIV from the mother while 31(53.4%) have not heard it. 31(53.4%) of the respondents know how mother-to-child transmission of HIV can be reduced while 27

(46.6%) do not know. 28 (48.3%) know mother-to-child transmission of HIV can be prevented while 30(51.7%) do not know.

TABLE 4: the level of knowledge percentage and scores for the knowledge of mother to child transmission of HIV and the prevention of mother to child transmission of HIV.

Level of knowledge scores	**Frequency**	**Percentage**	**Cumulative Percentage**
Low (0-3)	18	31.1%	41.4%
Moderate (4-7)	21	46.5%	87.9%
High (8-10)	13	22.4%	100.0%

This shows that high (46.5%) percentage of the respondent have moderate knowledge about HIV

Research question 2

What is the attitude towards prevention of mother-to-child transmission of HIV (PMTCT)?

TABLE 5: Attitude towards prevention of mother-to-child transmission of HIV

ITEM	SA	%	A	%	D	%	SD	%
It is important that every pregnant women get tested for HIV	15	25.9	20	34.5	13	22.4	10	17.2
Due to fear and stigmatization I don't go for HIV testing and counselling	10	17.2	22	37.9	19	32.8	7	12.1
I do HIV testing every six months interval	5	8.6	11	19.0	31	53.4	11	19.0

My spouse do not need to know about my HIV status	9	15.5	22	37.9	15	25.9	12	20.7
Once a women is HIV positive, she should not get pregnant	11	19.0	21	36.2	16	27.6	10	17.2
Once a woman is HIV positive, she should not breast feed her baby	12	20.7	21	36.2	14	24.1	11	19.0
Using protective gears in pregnancy or breastfeeding reduces mother-to-child transmission of HIV	14	24.1	20	34.5	18	31.0	6	10.3

Family and society will support a woman who is HIV positive and pregnant	11	19.0	28	48.3	15	25.9	4	6.9
I encourage pregnant women to go for HIV counselling and testing	13	22.4	24	41.4	17	29.3	4	6.9
I support the PMTCT intervention strategy will help in the reduction of MTCT of HIV	11	19.0	30	51.7	11	19.0	6	10.3

From the above responses so far collected, on the attitude towards the prevention of mother-to-child transmission of HIV/AIDS shows that 25.9% of the respondents strongly agreed that it is important that every

pregnant women get tested for HIV, 34.5% also agreed that it is important that every pregnant women get tested for HIV. On the same question, 22.4 % of the respondents disagreed that it is important that every pregnant women get tested for HIV and 17.2% of the respondents strongly disagreed. From the data above, those that agreed has the highest number of respondents which is 20 respondents (34.5%) that it is important that every pregnant women get tested for HIV.

Responding to another item which inquired if fear and stigmatization hinder them from going for HIV testing and counselling, 17.2% of the respondents strongly agreed, and 37.9% of the respondents agreed. Also among the respondents, 32.8% of the respondents disagreed with the statement that fear and stigmatization hinder them from going for HIV testing and counselling and the remaining 12.1% of the respondents strongly disagreed. based on the information gathered ,22 respondents 37.9% have the highest number of respondents that fear and stigmatization hinder them from going for HIV testing and counselling, followed by 19 respondents (32.8%) agreed, and 7

respondents (12.1%)has the lowest number of respondents which strongly disagreed.

With regard to the third item on the above table that I do HIV testing every six months interval 5 respondents representing (8.6%) strongly agreed while 11 respondents (19.0%) agreed that they do HIV testing every six months. On the same question, 31 respondents representing 53.4% disagreed on doing HIV testing every six month, and those that strongly disagreed were 11 respondents which is 19.0%.

Responding to item four on the table, my spouse need to know about my HIV status, 9 respondents (15.5%) strongly agreed, while 22 respondents representing 37.9% opined that their spouse should know their HIV status. 15 respondents representing 25.9% disagreed with the statement but 12 respondents which is 20.7% strongly disagreed, the highest number of respondents is those that agreed which is 22 respondents representing 37.9%.

Responding to item five on the table, Once a women is HIV positive, she should not get pregnant, 11 respondents representing 19.0%strongly agreed, and 21 respondents (36.2%) agreed that Once a women is HIV

positive, she should not get pregnant.16 respondents (27.6%) disagreed, while 10 respondents which is 17.2% strongly disagreed with the question.

Responding to item six on the table, using protective gears in pregnancy or breast feeding reduces mother-to-child transmission of HIV, 14 respondents representing 24.1%strongly agreed, and 20 respondents (34.5%) agreed that using protective gears in pregnancy or breast feeding reduces mother-to-child transmission of HIV.18 respondents (31.0%) disagreed, while 6 respondents which is 10.3% strongly disagreed with the question.

With regard to the seventh item on the above table, family and society will support a woman who is HIV positive and pregnant. 11 respondents representing (19.0%) strongly agreed while 28 respondents (48.3%) agreed that family and society will support a woman who is HIV positive and pregnant. On the same question, 15 respondents representing 25.9% disagreed that family and society will support a woman who is HIV positive and pregnant, and those that strongly disagreed were 4 respondents which is 6.9%.

Responding to item six on the table, I encourage pregnant women to go for HIV counselling and testing, 13 respondents representing 22.4%strongly agreed, and 24 respondents (41.4%) agreed that they encourage pregnant women to go for HIV counselling and testing.17 respondents (29.3%) disagreed, while 4 respondents which is 6.9% strongly disagreed with the question.

On the last item on the table, I support the PMTCT intervention strategy will help in the reduction of MTCT of HIV, 11 respondents representing 19.0% strongly agreed, and 30 respondents (51.7%) agreed that they support the PMTCT intervention strategy will help in the reduction of MTCT of HIV. 11 respondents (19.0%) disagreed, while 6 respondents which is 10.3% strongly disagreed with the question.

Null hypothesis H_0: There is no significant relationship between knowledge and attitude of pregnant women towards prevention of mother-to-child transmission of HIV (PMTCT) in Oluku.

Alternate hypothesis H_1: There is a significant relationship between knowledge and attitude of pregnant women towards prevention of mother-to-child transmission of HIV (PMTCT) in Oluku.

TABLE 6: Pearson's Product Moment Correlation of the relationship between knowledge and attitude

Correlations

		KNOWLEDGE	ATTITUDE
KNOWLEDE	Pearson Correlation	1	.163
	Sig. (2-tailed)		.222
	N	58	58
ATTITUDE	Pearson Correlation	.163	1
	Sig. (2-tailed)	.222	
	N		

The table reveals a Pearson's correlation coefficient value r of 0.163 and the level of significance is 0.22 which is greater than the set alpha level of 0.05. Thus the null hypothesis which states that there is no significant relationship between knowledge and attitude of pregnant women

towards prevention of mother-to-child transmission of HIV (PMTCT) in Oluku is accepted. This reveals that knowledge does not influence the attitude of pregnant women towards the prevention of mother to child transmission of HIV.

Discussion of Findings

In this study knowledge and attitude of pregnant women toward prevention of mother-to-child transmission of HIV were identified. It was found out that a significant percentage of the women were found to have moderate basic knowledge about HIV/AIDS. This basic knowledge are what does HIV stand for, how can HIV/AIDS be transmitted and when a person has HIV it is called? This finding is in contrast with findings in a study done in rural Nigeria where all women had adequate knowledge (World Health Organisation PMTCT and breast feeding guideline, 2010). This contracts might be due no testing and counselling of HIV during their antenatal care.

This study shows that more than half of the participant are aware of the major HIV can be transmitted to a child which is from an infected

mother to child. This may be due to mass media used be this women. Regarding the time mother-to-child transmission occur 55.2% responded during pregnancy. This finding is consistent with the studies done in south west Ethiopia about assessment of knowledge and attitude towards prevention of mother-to-child transmission. This study show that 58.8% of the pregnant women responded that the time for mother-to- child transmission is during pregnancy. (Vajoni, Vondessen, Tusfaye, Mehid, Yordas, Getahun, Lalisa, Yayehyirad and Abel, 2017).

In the study moderate percent women have knowledge about the prevention of mother-to-child transmission of HIV.69.0% are aware that mother-to-child transmission of HIV is preventable. 53.4% of the women are aware that antiretroviral drugs is used to reduce the transmission of HIV from mother to child. This is compared to the less than a quarter in the Nigerian study on awareness and knowledge of MTCT of HIV. (Moses, Munir'deen, Peter, 2007). This is a positive finding because knowing that there are ways to prevent the unborn child may help mothers to seek antenatal services early.

The attitude of the women towards prevention of mother to child transmission shows that most women do not have positive attitude. The findings shows the most percentage of women do not go for HIV testing and counselling because of fear and stigmatization (56.1%). This also reflected in their attitude that HIV positive women should neither get pregnant nor breast feeding their babies (55.2% and 56.9%). They also agreed that using protective gear during pregnancy and breastfeeding will protect the child against HIV (58.6%). This is in contract with the research conducted in southern Ethiopia which 75.9% positive attitude from the respondents towards the Mother-to-child transmission of HIV/AIDS (Workie and Gizew, 2018)

It was also observed in the study that there is no significant relationship between knowledge and attitude of pregnant women towards prevention of mother-to-child transmission of HIV (PMTCT) in Oluku.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the knowledge and attitude of pregnant women towards the prevention of mother-to-child transmission of HIV. Three research questions were formulated to guide the study. Data were collected using questionnaire made up of (20) items on the knowledge of when mother-to-child transmission occur, knowledge of when prevention of mother-to-child transmission starts and attitude towards the prevention of mother-to-child transmission of HIV/AIDS.

The finding of the research work was analyzed by comparing the percentage of the responses on the items, any item that has 50% or above responses is considered as the one that the women agreed with as the knowledge and attitude on the practice of prevention of mother to child transmission of HIV/AIDS while the item that has less than 50% responses is considered as the one that the women disagreed with. The knowledge and attitude of the respondent where compare to see if there

is a significant relationship between them. The level of significance use was 0.05.

Conclusion

In conclusion, this study shown that among pregnant women, the knowledge of mother-to-child transmission of HIV/AIDS and knowledge of prevention of mother to child transmission of HIV/AIDS is moderate. This shows that there is still a gap in the knowledge about HIV. The attitude to the respondent show the most of the women has negative attitude towards prevention of mother to child transmission of HIV/AIDS.

Recommendations

Based on the finding of this research work, following recommendations were made;

1. The Primary health care center needs to create awareness about HIV during the antenatal care.
2. In the study the number of respondent who have done HIV testing is very poor. For this reason the health care providers should be

given capacity building and training on the prevention of HIV and HIV counselling and testing.

3. Pregnant women should be persuaded using health education to promote their husband involvement in knowing their HIV status and also counselling

4. Pregnant women should be encouraged to do HIV testing within the first three months of pregnancy to know their HIV status and take necessary medication if need be.

5. The health care providers should ensure that every pregnant woman has a HIV status report when registering for antenatal care.

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APPENDIX

UNIVERSITY OF BENIN, BENIN CITY, EDO STATE

FACULTY OF EDUCATION

DEPARTMENT OF HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION

This is a 'questionnaire' for a research on the knowledge, attitude of pregnant women towards the prevention of mother to child transmission of HIV/AIDS among women attending antenatal care at Oluku primary health care center. Your response will assist in meeting the aim of the research. While I ask for your response to the items on the questionnaire, I promise that information supplied will be kept confidential, and will be used for the purpose of the research only.

Thank you.

INSTRUCTION: Tick (√) any response that corresponds with your opinion.

SA: Strongly agree, **A:** agree, **D:** Disagree, **SD:** Strongly disagree

SECTION A

TABLE 1

Age: less than 20 ( ), 20-34 ( ), 35 and above ( ).

Highest Educational Level: No formal education ( ), Primary education ( ), Secondary education ( ), Tertiary education ( ).

Occupation: Unemployed ( ), Employed ( ), Self-employed ( ).

Marital status: Single ( ), Married ( ), Divorced ( ).

HIV status: HIV positive ( ), HIV negative ( )

SECTION B

TABLE 2: Questions on Knowledge of mother-to-child transmission of HIV

1. What does HIV stand for

○ Human immunodeficiency virus

○ Human illness vector

○ Human immune virus

2. How can HIV/AIDS be transmitted?

○ sharing of cloths with an infected person

○ through insect bite

○ through unprotected sex

3. what major way can HIV/AIDS be transmitted to a child

○ from an infected mother to child

○ through insect bite

○ from unclean water

4. when a person has HIV it is called

○ HIV negative

○ HIV positive

○ HIV neutral

5. When mother-to-child transmission of HIV does occurs?

○ during pregnancy

○ during sexual intercourse

○ during immunization

TABLE 3: Questions on Knowledge of prevention of mother-to-child transmission of HIV

6. Is mother to child transmission of HIV preventable?

○ Yes

○ No

7. Have you ever heard of PMTCT of HIV

○ Yes

○ No

8. Have you heard of the drugs that is use to prevent a baby from getting HIV from the mother?

○ Yes

○ No

9. Mother-to-child transmission of HIV can be reduced through?

○ Use of Antiretroviral (ARV) drugs

○ Use of condom

○ Use of mosquito nets

10. Mother-to-child transmission of HIV can be prevented through?

○ Use of mosquito nets

○ Taking Antiretroviral (ARV) drugs during pregnancy

○ Taking multivitamins

TABLE 4: Attitude towards prevention of mother-to-child transmission of HIV

QUESTION	**SA**	**A**	**D**	**SD**

It Is important that every pregnant woman gets tested for HIV?	**SA**	**A**	**D**	**SD**
Due to fear and stigmatization I don't go for HIV testing and counselling	**SA**	**A**	**D**	**SD**
I do HIV testing every six months interval	**SA**	**A**	**D**	**SD**
My spouse do not need to know about my HIV status	**SA**	**A**	**D**	**SD**
Once a woman is HIV positive, she should not get pregnant	**SA**	**A**	**D**	**SD**
Once a woman is HIV positive, she should not breast feed her baby	**SA**	**A**	**D**	**SD**
Using protective gears in pregnancy or breast feeding reduces mother-to-child transmission of HIV	**SA**	**A**	**D**	**SD**
Family and society will support a woman who is HIV positive and	**SA**	**A**	**D**	**SD**

pregnant				
I encourage pregnant woman to go for HIV counselling and testing	**SA**	**A**	**D**	**SD**
I support the PMTCT intervention strategy will help in the reduction of MTCT of HIV	**SA**	**A**	**D**	**SD**