

Knowledge and Attitude of Pregnant Women towards Mother to Child Transmission (MTCT) of HIV and AIDS in a Local Clinic in Mafikeng, South Africa

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ABSTRACT Lack of adequate knowledge might be a factor in MTCT of HIV/AIDS since breastfeeding has been implicated as the most common mode of transmission. The purpose of this study was to evaluate the knowledge and attitudes of pregnant women towards MTCT of HIV/AIDS. The study design was descriptive and cross sectional. Data was collected using self-constructed questionnaires. 175 pregnant women participated in the study. The age range was between 18 and 40 years. The results indicated that majority of pregnant women 79(45%) knew that HIV/AIDS is a sexually transmitted disease, 77 (44%) said it is a virus, 12(7%) had no knowledge about HIV/AIDS, 4(2.3%) were undecided. The majority of respondents 67 (38.3%) had positive attitude towards MTCT of HIV/AIDS. They also agreed that HIV can be transmitted from an infected mother to her unborn child. 82 (46.9%) strongly agreed that voluntary counselling during pregnancy does benefit pregnant women, 74(42.3%) agreed, 6 (3.4%) disagreed, 4 (2.3%) strongly disagreed and 9 (5.1%) were undecided. Though level of awareness of HIV/AIDS among pregnant women in this local clinic was high, knowledge about MTCT was found to be inadequate. Health education regarding MTCT of HIV/AIDS needs to be encouraged and promoted through public campaign.

INTRODUCTION

Mother-To-Child-Transmission (MTCT) is the transmission of HIV virus from an infected woman to her unborn child during pregnancy, delivery and breastfeeding. Vertical transmission of HIV occurs when an infected mother's blood mixes with that of the baby during vaginal delivery (Kourtis et al. 2006; Adogu et al. 2013). Exclusive breast feeding should be promoted and supported for six months for women who are known to be infected and whose HIV status is unknown. Since the discovery that HIV type 1 can be transmitted through breastfeeding, several policy recommendations have been developed which are expected to have a global impact on the maternal and infant health (Abiodun et al. 2007).

Maputle (2008) stated that pregnant women have high level of knowledge and awareness regarding HIV/AIDS. Some pregnant women are

aware of some mode of transmission but not aware that HIV/AIDS can be transmitted through breastfeeding. MTCT is high in newly infected women because of having unprotected sex while breastfeeding. Nomvuyiseko (2007) revealed that participants expressed a variety of feelings and emotions, as well as the lack of a support system for women with a confirmed HIV diagnosis. Abiodun et al. (2007) reiterated that there are cases of Mother-To-Child-Transmission of HIV/AIDS despite the effort in implementing PMTCT. Mothers are still lacking knowledge about MTCT especially transmission through breastfeeding. According to Mnyani et al. (2009), more than 90% of infections from mother to child occur in low resource settings, where HIV sero-prevalence rates are high, mothers are often not diagnosed until late in pregnancy, antiretroviral access is limited and replacement feeding of infants of HIV-infected mothers is uncommon.

Thorne and Newell (2003) revealed that by the end of 2002 an estimated 42 million people were living with HIV/AIDS globally of whom 19.2 million were women and 3.2 million children aged less than 15 years. During 2002 at least 2 million women became infected as a result of heterosexual transmission and 800 000 children

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acquired HIV infection, the majority vertically from their mothers.

According to Gottlieb et al. (2004), HIV infection in Sub-Saharan Africa is more than 1600 children each day. Without preventive antiretroviral therapy, 25-35% of breastfed infants born to infected women will be infected. Pool et al. (2001) states that vertical transmission of HIV in Africa is 21-43% and most infants acquire infection during the peri-partum period. In South Africa annual sentinel surveys of women attending both rural and urban public antenatal clinics have been introduced since the early 1990s. Early surveys showed a level of 1.2% infection, with rapid increase moving to 14.2% in 1996 and 22.4% in 1999 (Kinghorn and Steinberg 1999). Some areas such as KwaZulu/Natal reported a sero-prevalence of 32.5% among public antenatal clinic attendees. Despite this rapid escalation, HIV testing is not routinely available at present in Umtata, South Africa (Sherr et al. 2003: 337).

Only 10% of 100 pregnant women had knowledge regarding mother to child transmission of HIV/AIDS, 13% of pregnant women knew that breastfeeding while suffering from HIV/AIDS may put the baby at risk of contracting the virus (Maputle 2008). Hussy (2004) reiterated that mother to child transmission of HIV/AIDS counts nearly 90% of the infections in Nigerian children and level of knowledge regarding the transmission is low. According to the Joint United Nations Programme on HIV/AIDS, countries like Turkey may not have an adequate level of pre- and post-test counselling services, and there is limited opportunity for free antiretroviral treatment for mothers and babies. Regulations to deal with the psychological, social and economic burdens on infected mothers and babies are also not well established. The objective of routine HIV testing has also been criticized because of discrimination against HIV positive pregnant women who cannot afford the treatment. This stigmatization can result in breaches of their autonomy and privacy (Ersoy et al. 2008).

Educational campaigns regarding HIV/AIDS should not focus only on pregnant women but the whole community. Family members should also be encouraged to support the infected pregnant woman. Couple counselling should be done to break women's negativity and to promote support from the partners (Maputle 2008; Nomvuyiseko 2007). Pregnant women should have knowledge about their HIV status and access to antiretroviral drugs together with their

HIV exposed neonate (Nomvuyiseko 2007). Doherty et al. (2009) revealed that the package of care for the PMTCT programme at the time of this intervention included routine offer of antenatal voluntary counselling and testing (VCT), infant feeding counselling, single dose nevirapine to mothers and infants, infant PCR testing at six weeks. There is a need for adequate counselling and education about HIV/AIDS and mother-to-child transmission in antenatal clinics and also through public campaign media (Abiodun et al. 2007).

Etiebet (2004) revealed that women who are not breastfeeding are regarded as being HIV infected. It was found that HIV/AIDS infected women are still stigmatized and having fear of being rejected and discriminated. Cultural factors associated with HIV/AIDS contribute to limited knowledge about MTCT. Age, educational level and religion were factors associated with attitude towards HIV testing (Maputle 2008). According to Pool et al. (2001) women become anxious after knowing their HIV/AIDS status and fear that maternity staff might refuse to assist them during delivery if their status is known. Many social and cultural barriers confront pregnant women when they decide to opt for HIV testing (Rogers et al. 2004).

According to Bond (2002), stigmatization and fear can impede efforts to work effectively with pregnant women in reducing MTCT. Repeatedly, respondents talked about how visible HIV/AIDS had become in their community because of pregnant women falling sick and their babies dying. Researchers observed that there is limited empirical evidence of pregnant women knowledge about MTCT and their reaction towards MTCT in Southern Africa and South Africa in particular. This study therefore sought to evaluate pregnant mothers' knowledge and their attitude towards MTCT. The association between parity of pregnant women and knowledge of MTCT of HIV/AIDS and level of education and knowledge of and MTCT of HIV/AIDS was investigated.

METHODOLOGY

The study design was descriptive and cross-sectional. Cross-sectional study uses two different groups with similar characteristics. This was cross-sectional because the study used two groups of pregnant women either HIV positive or negative (Van der Walt and Van Rensburg

2010: 105). This study is descriptive because it sought to describe the knowledge of mothers to PMTCT.

Study Setting

The study was carried in a local clinic in Mafikeng. Mafikeng is situated in the North West Province and is 25 kilometres south of the Botswana Border. It is the Capital City of the North West Province, South Africa. The total area of the Mafikeng is approximately 3 703 km. It is divided into 28 wards consisting of 102 villages. The population of Mafikeng is estimated at 3 253 400 people (<http://www.info.gov.za/aboutsa/provinces.htm#northwest>). Approximately 75% of the area is rural. The rural areas are in the southern and western part of Mafikeng. The clinic is one of four local clinics that falls under Modiri Molema district. These are about three kilometres apart. This clinic has more ANC attendees and health professionals compared to other clinics in Ngaka Modiri Molema district. The clinic is a 24 hour health centre and offers comprehensive health services such as reproductive health, maternity, ante-natal care, child welfare, chronic condition treatment, Voluntary, Counselling and Testing. The clinic offers health care services to about eleven villages. Nearby clinics that do not offer maternity or delivery services refer their patients to this clinic. The clinic comprises of one primary health care manager, one assistant nursing manager, one operational manager, three specialized nurses (advanced midwifery, CTOP), 14 professional nurses, three senior enrolled nurses, nine registered nursing auxiliaries, five administration clerks, two data capturers, eleven general workers, two ground men.

Target Population

The study population was pregnant women aged 18-40 years at a local clinic in Mafikeng. The reason for selecting the participants of the age of 18 to 40 years was because they are on their child bearing age or reproductive stage and they were able to consent for themselves prior to the participation. The population of the study was 320 ANC attendees. This data was obtained from the statistics unit of the clinic

Sampling Method and Size

Participants were chosen through sampling of convenience. The local clinic which was purpo-

sively chosen for this study had the highest ANC attendees per month compared to other clinics around Mafikeng in Ngaka Modiri Molema district. The sampling size of 175 was obtained using Table from Krejcie and Morgan (1970: 607-610).

Instrumentation

A self-constructed questionnaire was used to collect data. This instrument had both close ended and open ended questions. The questionnaire consisted of demographic data, general knowledge about HIV/AIDS, MTCT and PMTCT, and attitude (using a Likert scale) towards MTCT. A backward and forward translation was done in a language that the participants understood.

Pilot Study

Pilot study was conducted at a different clinic with 5 persons from the population possessing the same characteristics as those of the main investigations. The purpose was to investigate the feasibility of the proposed study and to detect possible problems in the data collection instruments. There was need to use structured interview to collect data to ensure clarity and understanding because of language barrier.

Validity and Reliability

Validity of the instrument was ensured through the pilot study. The reliability of the instrument was tested by two researchers on the same person during pilot testing. Information gathered from the participants was compared by two different researchers to check if they yielded same results as recommended by Van Der Walt and Van Rensburg (2010).

Ethical Principles

Rights and dignity of participants were protected. Anonymity and privacy were maintained throughout the study. Names of participants were not written anywhere in the study and the consent was not attached to the questionnaire. Questionnaires were given code numbers for identification. Records and results of the study were kept safe by the supervisor. Participants were provided with consent sheet containing information about the purpose of the study and ethical consider-

ation principles. Consent form was written in English and clarity and translation was made to those who could not speak English language (Van Der Walt and Van Rensburg (2010).

Data Management and Analysis

Statistical Package for Social Sciences (SPSS) version 20 was used for data entry and analysis. Frequencies and percentages were calculated according to variables which were related to the objectives and hypothesis of the study. Simple descriptive statistics and Chi-square used in this study. The level of significance set at 0.05.

RESULTS

About 175 pregnant women participated in the study. Majority (82) of the respondents were aged 25-34 years, 71 were aged 18-24 years and 22 of them were 35-40 years. Their age ranged of participants was 18 - 40 years. Majority of the women were aged 25 years (17 respondents). The racial distribution of the participants were 172 (98.3 %) Black, and 3(1.7%) Coloured. The marital status revealed that 145(82.9%) were single, 28(16%) married, 1(0.6%) was divorced and widowed respectively. About 97 (55.4%) had secondary level of education while 14(8%) had

no formal education. About 120 (68.6%) pregnant women had previous pregnancies while only 55 (31.4) was their first pregnancy. Fifty-two (29.7%), of the participants were employed, 115(55.7%), unemployed and 8(4.6%) were self-employed.

Level of Education of Participants

Of all participants 55.4% have secondary level of education, 22.3% have tertiary level of education and 14.3% have primary level of education while 8.0% have no formal education. The association between level of education and attitude of pregnant women towards MTCT is presented in Table 1.

Parity and knowledge towards MTCT of HIV and AIDS

The Association between parity and knowledge towards MTCT of HIV and AIDS is presented in Table 2

There was no significant association between parity and knowledge towards MTCT of HIV and AIDS except only two items (measures of preventing HIV infection and benefits of HIV testing) which were significant.

Table 1: Level of education and attitude of pregnant women towards MTCT

<i>Items</i>	<i>P-value</i>	<i>Significant or not significant</i>
1. HIV can be transmitted from an infected mother to her unborn child during labour.	0.775	No significance
2. Pregnant women are not aware of risk factors of MTCT of HIV/AIDS.	0.118	No significance
3. Anti-retroviral prophylaxis treatment during pregnancy can prevent MTCT of HIV/AIDS.	0.62	No significance
4. VCT during pregnancy does benefit pregnant women.	0.196	No significance
5. Awareness on MTCT of HIV/AIDS needs to be promoted to pregnant women attending ante-natal clinic.	0.425	No significance
6. It is of importance for pregnant women to know their HIV status prior to delivery.	0.469	No significance
7. It is necessary to tell your partner and family members about your status during pregnancy.	0.319	No significance
8. It is time wasting to educate pregnant women about MTCT of HIV/AIDS.	0.000	significant
9. You can create time to listen to a health education on MTCT of HIV/AIDS.	0.242	No significance
10. I will encourage other pregnant women to do an HIV test.	0.133	No significance

Table 2: Parity and knowledge towards MTCT of HIV and AIDS

<i>Item</i>	<i>P-value</i>	<i>Significant or not significant</i>
What is HIV/AIDS?	0.827	Not significance
What are the measures in preventing HIV infection?	0.006	significant
What are the benefits of HIV-testing?	0.000	significant
What is MTCT of HIV and AIDS?	0.385	No significance
What are the modes of MTCT of HIV/AIDS?	0.390	No significance
What is prevention of MTCT of HIV/AIDS?	0.590	No significance
What are the safe infant feeding options?	0.999	No significance

Knowledge of Pregnant Women Towards MTCT and HIV and AIDS

Majority of pregnant women 79(45%) knew that HIV/AIDS is a sexually transmitted disease, 77 (44%) said it is a virus, 12(7%) had no knowledge about HIV/AIDS, 4(2.3%) only 1(0.6%) was not sure of what HIV and AIDS is.

Knowledge of Pregnant Women Regarding MTCT

Out of 175 pregnant women 86(49.1%) could explain MTCT, 76(33.5%) did not know what MTCT is, while 13(7.4%) were undecided.

Knowledge Regarding Prevention of Mother to Child Transmission

About 104 (59.4%) women had correct responses while 61(34.9%) were not correct and 10 (5.7%) were undecided.

Attitudes of Pregnant Women towards MTCT of HIV/AIDS

About 67 (38.3%) participants agreed that HIV can be transmitted from an infected mother to her unborn child during labour while 42 (24%) of pregnant women strongly agreed, 36 (20.6%) were undecided, 25 (14.3%) disagreed and 5 (2.9%) strongly disagreed.

DISCUSSION

This study sought to investigate the knowledge and attitudes of pregnant women about MCTC and HIV and AIDS

The Attitude of the Pregnant Women towards MTCT of HIV/AIDS

Attitudes are an important factor in minimising MTCT of HIV and AIDS. Majority of pregnant women 82 (46.9%) strongly agreed that Voluntary Counselling and Testing during pregnancy does benefit pregnant women while 4 (2.3%) strongly disagreed. Most of them 83 (47.4%) strongly agreed that awareness on MTCT of HIV/AIDS needs to be promoted. This is indicative of high positive attitudes to MTCT. The level of agreement by a high percentage of participants might be a good indication of posi-

tive attitudes. Our findings agree with those of Brown et al. (2001), who also reported a high level of awareness. They reported that 78% of participants were aware of the risk of perinatal HIV transmission and 36% knew that intervention could reduce the chances of such transmission.

Association between Level of Education and Attitude of Pregnant Women Towards MTCT of HIV/AIDS

About 1.1% of the participants with no formal education lacked knowledge of MTCT. According to Mputle (2008), respondents with higher than primary levels of education were more likely to mention at least one mode of MTCT of HIV. Moses (2007) revealed that 74% of the respondents with no formal education or no primary education were aware of mother-to-child transmission of HIV, two-thirds of women with at least secondary education were aware of mother-to-child transmission of HIV. The results of our study might not be similar to other studies because other authors based their studies on the level of education and knowledge while our study was based on the level of education and attitude of pregnant women.

Knowledge of Pregnant Women about MCTC and HIV and AIDS

Pregnant women had good overall knowledge of MTCT, 86(49.1%). They could explain MTCT. Most of the pregnant women 78(44.6%) stated that HIV/AIDS can be transmitted through breastfeeding. 43(24.6%) did not know the modes of MTCT, 38(21.7%) answered incorrectly while 16(9.1%) were undecided. 104(59.4%) stated that MTCT of HIV/AIDS can be prevented by taking Antiretroviral treatment. Only 61(34.9%) answered incorrectly. The findings of this study correlates with those of Rogers et al. (2006). They reported that 60% of pregnant women had good overall knowledge scores pertaining to risk factors for HIV transmission and 52% knew how MTCT can be prevented. Their result also agreed with Pool et al. (2001) and Etiebet et al. (2004) who revealed that pregnant women were generally aware that HIV can be transmitted from mother to child during delivery by blood contact. These findings attest to the good knowledge of HIV and AIDS transmis-

sion by pregnant women. This result might be a good representative of the general knowledge of the population of HIV and AIDS transmission. According to Maputle (2008) the findings indicated a high level of awareness on basic facts about HIV/AIDS. This might be due to the fact that 70% of the pregnant women had undergone voluntary counselling and testing (VCT).

The lack of knowledge on the transmission demonstrated by a about 10 percent of the participants is however, of great concern if HIV and AIDS is to be eradicated and even minimized through this mode of transmission to neonates.

Only 1% of the participants in our study with no formal education lacked knowledge of MTCT. According to Maputle (2008), respondents with higher than primary level of education were more likely to mention at least one mode of MTCT of HIV. Abiodun et al. (2007) revealed that 74% of respondents with no or primary education were aware of mother-to-child transmission of HIV, two-thirds of women with at least secondary education were aware of mother-to-child transmission of HIV.

The results of our study might not be similar to other studies because the other authors based their studies on level of education and knowledge while our study was based on level of education and attitude of pregnant women.

Parity of Pregnant Women and Knowledge Towards MTCT

It is expected that the more the parity the more the likelihood that pregnant women will be more knowledgeable about MTCT. The knowledge should have been obtained during ante-natal clinics provided by nurses and other health workers and may be informal education by peers. Though this was not within the scope of this paper, it will be interesting to investigate the role of peers in educating pregnant women on MTCT. In this study, most of the primigravidas 52 (94.5%) knew the measures in preventing HIV while only 3(5.5%) were not knowledgeable about the measures in preventing HIV. 104 multiparous (86.7%) knew about the measures in preventing HIV. The knowledge demonstrated by multiparous participants are similar to those of Abiodun et al (2007) who revealed that out of 160 respondents, a majority of 69% had previous two deliveries. There difference in knowledge was not significant.

The assertion of the researchers in this study, disagrees with Rogers et al. (2004) who revealed that 78% of pregnant women who had knowledge about HIV/AIDS had previous pregnancies. The results of our study are different from that of Rogers et al (2004). The difference might be because Rogers used large sample size of 202 pregnant women while our sample size was 175 pregnant women. The other difference might be that majority of participants in Rogers study are from urban areas, in two clinics while we conducted our study in one clinic. The participants in our study were from villages. The need to produce more health education materials in the native language for pregnant women is highly recommended. The researchers' findings, however, agree with those of Petrovic et al. (2007) who revealed that majority of primiparous women lack basic knowledge of MTCT. They did not know that HIV is present in the breast milk and that it is a source of transmission. The mothers seemed to be uncertain about what HIV actually is.

CONCLUSION

It could be concluded that majority of pregnant women had general knowledge regarding HIV and AIDS. It was also found that majority of pregnant women lacked knowledge regarding MTCT and its modes. There were however certain misconceptions that HIV positive women should not breastfeed. Majority of pregnant women had positive attitude towards MTCT as they would make time to listen to a health education on MTCT. The outcome of this study should be used to design health talks for pregnant women attending clinics. It is also recommended that this be presented to the Provincial Department of Health to inform policy and its intervention on MTCT and HIV and AIDS.

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