

**LEVEL OF MALE INVOLVEMENT AND FACTORS INFLUENCING MALE INVOLVEMENT IN THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV**

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**ABSTRACT**

A cross-sectional study on level of male involvement and factors influencing male involvement in the PMTCT programme was carried out among 115 males whose female partners were attending the antenatal care (ANC) in the Oshakati District of the Oshana Region. The purpose of the study was to determine factors associated with low male involvement in the prevention of mother to child transmission of HIV in Oshakati District. The objectives of this study were to determine factors influencing male involvement in PMTCT and to determine level of male involvement in PMTCT, with the aim of proposing interventions to ensure improved male involvement in the PMTCT programme for positive PMTCT outcomes. Data was collected using a standardised interview questionnaire. A purposive sampling technique was employed. Data was analysed using a Statistical Package for Social Sciences (SPSS) software package version 22. The analysis included bivariate analysis with Pearson chi-squared statistics and p-value, to determine any associations between the dependent variables and the main outcome of interest. The following factors were found to be associated with male involvement in PMTCT: education level (0.001), age of female partners (0.002), type of a relationship (0.005), as well as attitudes and beliefs about PMTCT. Other factors influencing male involvement in PMTCT included lack of information about PMTCT, culture, lack of trust within the relationship, time and health system. The study concluded that male partners lack knowledge about PMTCT, hence their involvement is also limited. Thus, a comprehensive strategy should be put in place to sensitise and advocate the importance of male partner involvement in ANC/PMTCT in order to reach out male partners.

**KEYWORDS:** Male involvement, prevention of mother-to-child transmission of HIV.**INTRODUCTION AND BACKGROUND**

Namibia is ranked among the ten top countries with the highest HIV prevalence levels in the world (World Health Organisation, 2012), with 13.1% adult population living with HIV in 2013 (MoHSS, 2014), while approximately 250 000 people, which is more than tenth of the population, were vulnerable and orphaned, many of them because of HIV (Republic of Namibia, 2010). The HIV burden is much higher among the pregnant women, with the prevalence of 16.9% in 2014. The available data from the National HIV Sentinel Survey indicated the HIV prevalence among pregnant women rapidly increases from 4.2% in 1992 to 16.9% in 2014, having reached a peak of 22% in 2002, before it started showing some signs of stabilisation and statistically significant decline (MoHSS, 2014).

Namibia has a generalized mature epidemic with HIV primarily transmitted through heterosexual means. The epidemic is sustained through specific sexual practices,

community norms and practices, alcohol abuse that affects the decision on sexual behaviours in addition to

low male circumcision and HIV risk perceptions. Other sources of new HIV infection are through mother-to-child transmission, which is the most common route of infection for HIV-positive children under the age of five years (MoHSS, 2010). According to the World Health Organisation (2012), Namibia had an annual incidence level of 5800 new HIV infections, of which one quarter was through mother-to-child transmission (WHO, 2012). Mother-to-child-transmission of HIV (MTCT) happens during pregnancy, birth or through breastfeeding (MoHSS, 2014) and has accounted for 240 000 cases of new HIV infections among children in low and middle income countries in 2013. The rate of HIV transmission from an HIV-positive mother to her child if she is not receiving any antiretroviral medicine, ranges from 30 % to 45%, depending on the duration of breastfeeding (UNAIDS, 2011).

With effective PMTCT interventions, including improved antenatal services, opt-in HIV counselling and testing for pregnant women, anti-retroviral treatment for HIV-positive pregnant women and new-borns, referral to support groups, counselling on options for safer infant feeding practices and continued follow-up and treatment for HIV-positive mothers and their children and where PMTCT programmes are fully implemented, this risk may be reduced to 2% (UNAIDS, 2011).

Factors influencing risk of vertical HIV transmission include, new HIV infection, maternal TB, high maternal viral load, low CD4 count, advanced diseases, poor nutrition, prematurity, multiple births, breastfeeding, mixed feeding, immature gastrointestinal tract, immature immune system, viral, bacterial, or parasitic placental infection, sexually transmitted infections, premature rupture of membranes, invasive delivery procedures such as episiotomy that increase contact with mother's infected blood or body fluids (MoHSS, 2014).

The PMTCT programme plays a big role in reducing the MTCT, and its effectiveness depends on involvement of male partners considering the fact that men are decision makers in African families where PMTCT is offered. They make important decisions that have a big impact on women's health. Male partner involvement has been seen to facilitate the recommended PMTCT interventions and their involvement underscores their importance in reducing HIV infection in children. The benefits of involving men in the PMTCT services are enormous as their role in HIV prevention is critical in changing the course of epidemic. Male involvement is a key to preventing HIV infection among women as it increases couple voluntary HIV counselling and testing (VCT), increases disclosure of HIV status, facilitates early diagnosis of HIV among men, increases linkage of men to HIV care and increases condom use. Male involvement prevents unintended pregnancies among HIV-positive women by increasing uptake of contraceptives, promoting reproductive health choices and reducing intimate partner violence (Osoti, Han, Kinuthia, & Farquhar, 2014).

With male involvement in the PMTCT, a couple has a chance to make joint informed decisions on living positively with HIV, to share responsibility for preventing HIV transmission to the unborn child and to discuss safer sexual practices, as well as to make informed decisions to access care and treatment. In addition, men can also play a crucial role in supporting HIV-positive pregnant women, by assisting them to get to clinics or hospitals where chances of safe delivery are higher and to choose a safe infant feeding method. When men participate in PMTCT programmes, their knowledge of HIV increases, their behaviour becomes supportive and their receptiveness to HIV testing increases. Men's involvement positively impacts infant feeding practices and survival. When men know that their spouses are HIV-positive and are involved in a

PMTCT programme, they allow their wives to access ARV for themselves and their babies. They permit and support safer / appropriate infant feeding methods. They make an informed choice on future child bearing as a couple (Nkuoh, Meyer, Tih & Nkfusai, 2010). When male partners are involved, they are likely to support their wives at critical decision-making points such as practising safer sex, providing financial, psychosocial and other logistical support for their wives to access PMTCT services (Drasiku, 2010). Partner participation increases spousal communication about HIV and sexual risk. This becomes especially critical in HIV-discordant relationships when men's involvement may encourage the couple to address condom use and reduce risk, thus helping to prevent the transmission of HIV and other sexually transmitted infections to partners and offspring (Ramirez-Ferrero & Lusti-Narrasmhan, 2012).

Prevention of mother-to-child transmission of HIV is a four-pronged strategy that includes primary prevention of HIV, prevention of unintended pregnancies among HIV infected women, prevention of HIV transmission from HIV infected pregnant women to their babies, (which is a core PMTCT intervention) and provision of treatment, care and support for HIV infected women, their children and their families. The core PMTCT interventions include HIV counselling and testing (HCT), antiretroviral therapy (ART) for both partners and prophylaxis for the baby, as well as counselling on infant feeding practices (MoHSS, 2014).

In an effort to reduce the HIV infection among infants and young children in the country, the Ministry of Health and Social Services (MoHSS) piloted the prevention of mother-to-child transmission of HIV programme in 2002 at the Oshakati and Katutura Intermediate Hospitals. The programme was later rolled out to 34 health districts countrywide. The statistics have shown that since the implementation of a PMTCT programme in 2002 in the Oshakati District, male partners were not coming forth as expected, with only 4.7% managing to visit the ANC / PMTCT facilities with their female partners, for a period of ten years (MoHSS, 2012 / 13).

Studies that have examined male partner involvement in PMTCT in Africa have reported low levels of male participation. Only 5% of pregnant women attending a Nairobi Council Clinic in Uganda received HIV counselling with their male partners (Aluisio, Richardson, Bosire, John-Stewart, Mbori-Ngacha & Farquhar, 2011). In the Eastern Province of South Africa and in Uganda, only 5% and 14.9% of male partners were reported to have accompanied their female partners to the antenatal care clinic visits (O'Gorman, Njirenda, & Theobald, 2010; Peltzer, Sikwane, & Majaja, 2011; Byamugisha, Tumwine, Semiyaga & Tyllestar, 2010). Similarly, despite instituting a programme targeted at encouraging male partner participation in PMTCT and antenatal programmes, the observed percentage of men participating in such activities in a facility in Cameroon

was only 18% (Nkuoh *et al.*, 2010). Falnes, Moland, Tylleskar, De Paoli, Msuya, & Engebretsen (2011) also note that very few men joined their partners for PMTCT or antenatal activities at five health clinics in northern Tanzania. In Congo and Malawi, studies have shown that low male partner involvement is one of the challenges to the success of the PMTCT programme in a country, as only less than 10 per cent of male partners were reported to have accompanied their partners to ANC (Ditekemena, Matendo, Koole, Colebunders, Kashamukwa, Tshefu, 2011; Nyondo, Chimwaza, & Muula, 2014).

The Oshakati District has been recording fewer males on the Prevention of Mother- to-child transmission of HIV programme since its inception in 2002, although the PMTCT coverage has been reported to be 100%, in the sense that all the pregnant women who have been coming to ANC in the Oshakati District have agreed to be counselled and tested for HIV (MoHSS, 2010 / 2011). From 2008 -2012, a total of 22 621 pregnant women were offered prevention of mother-to-child-transmission services (PMTCT). These women were encouraged to bring along their male partners during the next antenatal care visits and only 1060 male partners (4, 7%) visited PMTCT sites. This represents a lost HIV prevention opportunity as men can infect their wives with HIV or be infected especially in discordant relationships where they are unaware of their status, hence unlikely to practise safer sex. This can be seen in a case where a mother tested HIV-negative during ANC while her husband was not tested. A few months after delivery, the baby, the mother and the father were tested HIV-positive, with the mother having a high CD4 count and her husband having a low CD4 count, which implies recent infection in the mother, possibly from her husband during pregnancy. There is also a potential for re-infection of HIV-positive women by yet another strain of HIV by a male partner. Without male involvement, women will also find it difficult to disclose their HIV status to their partners will find it challenging to choose safe infant feeding options or properly adhere to anti retroviral treatment (Aluisio *et al.*, 2011).

This study, therefore, intends to identify factors contributing to low male involvement in the prevention of mother-to-child transmission of HIV / AIDS programme in the Oshakati District, with the aim of proposing interventions to ensure improved male involvement in the PMTCT programme as better male involvement can positively change the PMTCT outcomes.

## MATERIALS AND METHODS

The purpose of the study was to determine factors associated with low male involvement in the prevention of mother-to-child transmission of HIV in the Oshakati District of the Oshana Region. The objectives were to determine the level of male involvement in the PMTCT programme; and determine factors contributing to poor

male involvement in the PMTCT in the Oshakati District.

The quantitative design was the most appropriate research design for this research as the study sought to investigate demographic characteristics of the male partners who were involved or not involved in the PMTCT programme. It enables the researcher to measure the frequency of responses and examine differences between key variables such as educational level, employment, type of relationship or residence. A quantitative approach allows for the quantification of the factors on which the researcher focuses as it deals with the systematic collection of numerical information. It explains a fact by collecting numerical data that will then be analysed using statistical models. Quantitative methodology is applicable where the aim of the research is to ascertain "how many, what and where"? In seeking these answers, the approach relies on the use of predetermined response by utilizing a standardised data collection instrument, the structured questionnaire (Polit & Beck, 2012). In this study, a structured questionnaire was used during the interview process and numerical data was collected.

This study was conducted at the Oshakati Health Centre and Okaku Clinic, both located in the Oshakati District. The Oshakati District, with an estimated population of 183 120 people (Government of the Republic of Namibia, 2011), is situated in the centre of the northwest, is 5 290 km<sup>2</sup> and shares borders with the following regions: Oshikoto to the east, Omusati to the south and west Ohangwena to the north. It comprises the three fast-growing towns of Oshakati, Ongwediva, and Ondangwa where many companies and industries have sprung up, influencing people to migrate from rural areas to these urban centres.

In this study, the population of interest was all male partners whose pregnant female partners were attending antenatal care services in the Oshakati District. A target population is the portion of the study population to which the researcher has reasonable access (Polit & Beck, 2012), since studying the entire population is rarely possible. It is the group from which the sample is actually selected (De Vos *et al.*, 2011). In this study, the target population constituted male partners of pregnant women who attended ANC / PMTCT services in two selected health facilities in the Oshakati District, regardless of their HIV serostatus. The study sample was selected from this target population. Demographic data was also collected from the female partners of the study sample in order to analyse and understand some characteristics in line with the objectives and main outcome of interest of the study, that is, male involvement in the PMTCT programme.

### Inclusion criteria

To be included in this study, a participant had to be:

- A male, aged 19 years and older;
- Residing in the Oshakati District; and

- In a sexual relationship with a pregnant woman attending ANC in the Oshakati District.

#### Exclusion criteria

- Male partners whose female partners were pregnant, but they were non-residents of the Oshakati District;
- Male partners whose female partners are pregnant but they were outside the Oshakati District at the time of the study; and
- Male partners whose female partners were not pregnant.

In this study, a non-probability purposive sampling technique was used. Purposive sampling enabled the researcher to search for a particular participant who can explain the phenomenon under study (Holloway & Wheeler, 2010; Brink et al., 2012). Purposive sampling maximises the range of specific information obtained from a particular context, in this case, male involvement in the PMTCT (Brink et.al. 2012; Du Plooy-Cilliers, Davis & Bezuidenhout, 2014).

Purposive sampling also enables the researcher to purposefully choose elements that he / she wishes to include in the sample, thereby excluding those that do not (Du Plooy-Cilliers et al, 2014). In this study, I chose only males whose female pregnant partners were attending ANC and excluded those whose female partners were pregnant but were not attending ANC.

The decision regarding sample size involves determining the number of people that must be studied so as to enable the researcher to obtain sufficient accurate answers to permit a decision about recommendations to be made (Polit & Beck, 2012). In this study, the minimum sample size was calculated, based on the assumption that there would be at least a 10% difference in non-involvement in the PMTCT between those with high education (secondary and tertiary) and those with low education (no formal education and primary education).

The calculation was done using computer software, Epi info version 3.5. as follows:

- Confidence interval 95%;
- Power 80%;
- Ratio of exposed and unexposed = 1:1 (Exposed being the number of respondents with high level of education and non-exposed being the number of respondents with low educational level);
- Estimated frequency of non-involvement among low education group = 90%;
- Estimated frequency of non-involvement among high education group = 80%;
- Difference in proportion = 10%;
- Expected odds ratio 2:3; and
- Estimated total number of respondents = 418.

The research instrument, namely a structured interview questionnaire, was developed. The questionnaire format

and sections used from studies done on male involvement were adapted and modified for the use of this study. Findings from the studies on male involvement were also adapted and included into the questionnaire items. The questionnaire contained four sections: Section A captured socio-economic and demographic characteristics of the respondents; Section B captured knowledge and awareness on the PMTCT / ANC by the respondent; Section C captured attitudes and beliefs of the respondents; Section D captured level of male involvement in the PMTCT by the respondents.

In this study, both the content and the face-value validity were assessed. The researcher established face-value validity by submitting the questionnaire to her supervisors, who evaluated the questions in relation to the objectives of the study. Content-related validity was achieved through an extensive literature search on factors associated with low male involvement in the PMTCT, to ensure that the data collection instrument had all the necessary questions for addressing PMTCT-related issues. In order to ensure the reliability of the data collection instrument, the researcher conducted repeated interviews with ten males during the piloting phase. The use of face-to-face interviews by the researcher alone was also another method utilised to improve reliability in the study.

Coding is the major data analysis activity that takes place after completion of the data collection process. Coding represents the operations in terms of which data are broken down, conceptualised and put back together in new ways (Brink et al, 2012). In this study, data entry was done using Microsoft Excel after coding was done. The database for the study was created. The data was imported into the Statistical Package for Social Sciences (SPSS) software package version 22 for analysis. Analysis consisted of an initial univariate analysis whereby frequencies of the various variables were computed and presented as numbers and percentages and the generated data was subsequently presented in tables and explained. Tables were generated showing the percentage distribution of the background variables of all the respondents. Further analysis included bivariate analysis with Pearson chi-squared statistics and p-value to determine any associations between the dependent variables and the main outcome of interest. For this study the main outcome of interest was male involvement in the PMTCT and the main proxy indicator for this was taken as the male partner accompanying the female partner to an ANC / PMTCT clinic. Demographic variables and other variables of interest were analysed, to examine associations using the Pearson's chi-squared value and the p-value at 95% confidence interval. In order to evaluate the data, the researcher enlisted the assistance of an experienced person in data analysis.

Approval to conduct the study was obtained from the UNAM Postgraduate Studies Committee and permission was granted by the Ministry of Health and Social

Services Research Ethical Committee. Permission to conduct a study in the Oshana Region was also granted by the Regional Management Team. In addition, before individuals were recruited as respondents, their written consent was also obtained.

Informed consent that included the identification of the researcher, purpose, objectives, methods, duration of the interview was written, explained, and handed to the respondents. The researcher also disclosed to the respondents the benefits of the study to the society. This interpretation of the consent form was also done in Oshiwambo, the language spoken by the majority of the respondents. The researcher ensured that respondents understood the information provided and voluntarily agreed to participate in the study.

Respondents were informed of their rights to decide whether or not to participate in a study without the risk of penalty, their right to withdraw from the study any time, to refuse to give information and to ask for clarification about the purpose of the study. Any form of coercion was avoided. In this study, respondents were selected by chance and their participation in the research was completely voluntary. All the respondents were equally valued and respected as they were approached without any form of stigma or discrimination.

The fundamental ethical principle of fair treatment is based on the ethical principle of justice which implies being fair and impartial (Grove *et al.*, 2012). This principle was ensured in the study because the study subjects were all selected for the reasons directly related to the research, and not because they were readily available or could be easily manipulated (Brink *et al.*, 2012). In addition, all research subjects were asked similar questions in order to ensure the principle of justice. Any agreement that the researcher reached with the respondents was also respected. Since data collection was done in an interview form, the researcher tried to be punctual and terminated the process at the agreed time. Where necessary the interview duration was extended with the permission of the respondent.

Anonymity is preserved when a person's acts or statements are revealed without a disclosure of his or her identity (Polit & Beck, 2012). In this study, the subjects were all assured of anonymity with regard to names, contact details, reports, and publications of the study. Le May and Holmes (2012) states that, anonymity is preserved by coding the data in a way that participants cannot be identified in any presentation of the findings. The worth and dignity of the subjects was protected at all times during the study. Instruments and methods used during the interviews were disclosed to the subjects. Their responses were anonymous and the information was treated with high confidentiality. Respondents could not be identified as their names telephone numbers, and addresses were not mentioned or recorded during the

interview. Instead, they were allocated unique identifiers (codes).

The researcher has an ethical obligation to protect the respondents against any form of harm that could result from their participation in a study. The researcher should take an active role in promoting good and preventing harm in the world around him / her, as well as in the research studies (Holloway & Wheeler, 2010). In this study, the researcher protected the respondents from discomfort and harm by ensuring that the benefits of the study outweigh the risks (Brink *et al.*, 2012) (De Vos *et al.*, 2011). Therefore, in this study the researcher did not conduct any medical or other physical experiments on respondents.

All information of the study was kept at a place only accessible by the researcher as this has prevented unauthorised people from having contact with the study information. All respondents in the study were assured that the information and opinions they shared would be treated with strict confidentiality. They were informed that data would only be used for the stated purpose of the research and that no other person would have access to them. Data was stored in a secured place where only the researcher had access.

The researcher is guilty of deception when he or she provides information to another person that is not true (De Vos *et al.*, 2011), even if this can sometimes be done unintentionally. To ensure respondents would not be deceived, the researcher provided the respondents with all the information about the research, as well as an official letter from UNAM outlining the research topic of this study. The researcher did not intentionally mislead respondents either by withholding information or giving incorrect information that influenced them to participate in the study. No false promises were made to anyone in the selected study sample.

## **RESULTS**

### **SOCIO-ECONOMIC AND DEMOGRAPHIC DATA OF THE RESPONDENTS (MALE AND FEMALE PARTNERS)**

Socio-economic and demographic data (Section A) includes age, level of education, type of relationship, employment status, as well as residence of both male and female partners. The results of this study also indicated the distribution and association / relationship of male involvement in terms of the demographic data. The results are described as follows:

#### **Age of male and female partners**

The age of partners may be one of the demographic factors associated with male involvement in the PMTCT. It may indicate the level of maturity of individuals. The age of female partners was also considered. Thus, the researcher in this study investigated the variable "age" and data pertaining to age is presented in tables below.

**Table 1: Age of male and female partners (N = 115)**

Age	Male		Female	
	Frequency	Per cent	Frequency	Per cent
Younger than 20 years	1	0.9	48	41.7
20 – 29 years	32	27.8	38	33
30 – 39 years	50	43.5	29	25.2
40 – 49 years	29	25.2	0	0
50 – 59 years	3	2.6	0	0
Total	115	100.0	115	100

From the table above, the study revealed that out of the total number of male respondents of 115, 43.5% (n = 50) were in the 30 to 39 year age group and 0.9% (n = 1), in the group of less than 20 years. Those in the age group between 20-29 years comprised 27.8% (n = 32), and those in the age group between 40-49 years comprised 25.2% (n = 29) while those in the age group between 50-59 years were 2.6% (n = 3). The ages of female partners are reflected as follows: out of 115 female partners, 41.7% (n = 48) were below the age of 20 years, 33% (n = 38) in the age group of 20-29 years and 25.2% (n = 29) in the age group of 30 – 39 years. It emerged that female partners were younger than their male partners.

The analytical design of the study showed that the age of male partners was not statistically significant with male involvement in the PMTCT in the Oshakati District generating a p = factor of p = 0.080 as shown in Annexure F. This means male involvement in the PMTCT is not influenced by age. However, the study found a correlation between the age of female partners and male involvement at the 0.01 level (p-value of

0.002). This could mean that there is a strong relationship between the age of female partners and male involvement as the older women were more likely to have their male partners involved in the PMTCT programme.

#### Level of education

The findings indicated that 73.9% (n = 85) of the male partners had attained a secondary level of education, 20.9% (n = 24) had attained a tertiary level while 1.7% (n = 2) had no formal education. The findings further indicated that all the female partners have undergone education at different levels. Eighty respondents (69.5%) had attained the secondary level, 21.8% (n = 25) had attained tertiary level, and 8.6% (n = 10) had attained primary level. For both male and their female partners, the majority had at least a secondary level while a good number had tertiary level of education. That meant most of the respondents in the study could easily understand the message of male involvement in the PMTCT programme.

**Table 2: Education level of male and female partners**

Educational level	Male		Female	
	Frequency	Per cent	Frequency	Per cent
No formal education	2	1.7	0	0
Primary education	4	3.5	10	8.6
Secondary education	85	73.9	80	69.6
Tertiary education	24	20.9	25	21.8
Total	115	100.0	115	100

This study found a statistically significant association between the level of education and male involvement in the PMTCT at p = 0.001. This means that education has an influence on male involvement in the PMTCT. The higher or the better the level of education, the better is the male involvement.

#### Type of relationship between partners

The findings from the study showed that 28.7% (n = 33) were husbands and wives and they lived together, 18.3%

(n = 21) were girlfriends and boyfriends living together while 53% (n = 61) were girlfriends and boyfriends not living together. This means that a high proportion of male partners were not living together with their female partners and this might diminish their chances of being together and accompanying each other to ANC / PMTCT services.

**Table 3: Type of a relationship**

Type of a relationship	Frequency	Per cent
Wife / husband	33	28.7
Girl / boyfriend living together	21	18.3
Girl / boyfriend not living together	61	53.0
Total	115	100.0

Thus, this study found a significant correlation (at the 0.01 level) between the type of relationship and male involvement in the PMTCT ( $p = .005$ ). This means that male involvement is influenced by the type of relationship between partners. The less committed the partners are from one another, the lower the male involvement.

#### Employment status of male and female partners

The findings of this study indicated that 87.8% ( $n = 101$ ) of the male partners were employed, whereas 12.2% ( $n = 14$ ) were unemployed. Those that were employed were either employed part-time, 27% ( $n = 32$ ) or full time 72% ( $n = 83$ ). Those who were self-employed were 26%, those employed by government were 31.3%, ( $n = 36$ ) and

those employed by private organisations were 27.8% ( $n = 32$ ). However, measuring employment was difficult because even those male partners who were only cleaning one's yard, watering one's garden or selling sweets, were regarded as employed. These findings may mean that the employment rate of male partners was high during the study period.

The study further revealed that only 30.4% ( $n = 35$ ) of female partners were employed at the time of the study, whereas 69.6% ( $n = 80$ ) were unemployed. This indicated a high unemployment rate among female partners. The implication of this may be that many of the female partners were dependent on the male partners for economic survival.

**Table4: Employment status of male and female partners**

Employment status	Male		Female	
	Frequency	Per cent	Frequency	Per cent
Yes	101	87.8	35	30.4
No	14	12.2	80	69.6
Total	115	100.0	115	100

The study did not show a statistically significant relationship between employment status of male partners and their involvement in the PMTCT in the Oshakati District ( $p = 0.157$ ) as indicated in Annexure F. This means that the employment status has not influenced male involvement in the programme.

#### Residence of male and female partners

The study revealed that 16.5% ( $n = 19$ ) of the male respondents lived in urban areas, 43.5% ( $n = 50$ ), lived in semi-urban areas, while 40% ( $n = 46$ ) lived in rural areas. That meant the majority of the respondents in the

study lived either in the semi-urban or rural areas, with only a few living in urban areas, where PMTCT information could easily be accessed.

The findings further revealed that 45.1% ( $n = 52$ ) of the female partners lived in semi-urban areas, while those who lived in urban and rural areas accounted for 28% ( $n = 32$ ) each. The findings show that most of the respondents, both males and females, lived either in semi-urban or rural areas where it may be a challenge to access PMTCT services compared to those who lived in urban areas.

**Table 5: Residence of male and female partners**

Residence	Male		Female	
	Frequency	Per cent	Frequency	Per cent
Urban	19	16.5	31	26.9
Semi urban	50	43.5	52	45.1
Rural	46	40.0	32	28
Total	115	100.0	115	100

However, the study did not find a statistically significant relationship between the place of residence and male involvement in the PMTCT in the Oshakati District ( $p = 0.212$ ). This means that male involvement is not influenced by the residential areas of the respondents.

In general, the study has shown that male involvement in the PMTCT may be influenced by some demographic factors. Although there was no evidence of influence due to age, such evidence was available when assessing the influence of education and the type of a relationship on men's participation in the PMTCT.

#### THE LEVEL OF MALE INVOLVEMENT IN THE PMTCT PROGRAMME

The level of involvement was assessed in terms of knowledge and awareness of the PMTCT (Section B) and attitude and beliefs of the respondents (Section C).

#### Knowledge and awareness of the PMTCT

This focuses on five aspects namely, a woman can be infected with HIV while pregnant; an HIV infected woman can transmit the HIV virus to her unborn baby while pregnant; an HIV infected woman can transmit the HIV virus to her baby during delivery; an HIV infected woman can transmit the HIV virus to her baby during

breastfeeding and respondents have heard about the PMTCT programme.

**Table 6: Responses on knowledge and awareness of the PMTCT**

Statement	Response	Frequency	Per cent
A woman can be infected with HIV while pregnant	Yes	111	96.5
	No	4	3.5
	Do not know	0	0
An HIV infected woman can transmit the HIV virus to her unborn baby while pregnant.	Yes	73	63.5
	No	35	30.4
	Do not know	7	6.1
An HIV infected woman can transmit the HIV virus to her baby during delivery	Yes	108	93.9
	No	1	0.9
	Do not know	6	5.2
An HIV infected woman can transmit the HIV virus to her unborn baby during breastfeeding	Yes	102	88.7
	No	1	0.9
	Know	12	10.4
Have you heard about the PMTCT programme?	Yes	22	19.1
	No	93	80.9

The findings revealed that 96,5% (n = 111) had knowledge that a woman can be infected with HIV while pregnant as compared to 3.5% (n = 4) who had no knowledge. This means that the majority of the male partners have knowledge that a woman can be infected with HIV while pregnant.

The findings further indicated that 63.5% (73) had knowledge, 30.4% (n = 35) did not have knowledge, while 6.1% (n = 7) did not know that an HIV-positive pregnant woman can transmit the HIV virus to her unborn baby during pregnancy. This means by not being aware, male partners may not feel the need to take precautionary measures against HIV infection and mother-to-child transmission of HIV.

It appears that the majority of the respondents (63.5%) were aware that the unborn baby can be infected with HIV before birth, and only 22.6% mentioned that this could happen if the partners engaged in unprotected sex. By being unaware of the HIV transmission during pregnancy, the male partner may also not practise safe sex with his female partner, who in turn may infect the unborn child with HIV.

The study tried to find out if the male partners had knowledge that an HIV-positive pregnant woman can transmit the HIV virus to the baby during delivery. The findings were that 93.9% (n = 108) were aware that babies can get infected with HIV at birth. 0.9% (n = 1) responded that HIV is not transmitted during delivery while 5.2% (n = 6) did not know that the HIV-infected pregnant woman can transmit the HIV virus to her baby during delivery. This shows a high level of awareness among the male partners that an HIV-infected pregnant woman can transmit the infection to her baby during delivery.

The study revealed that 88.7% (n = 102) knew that an HIV infected woman can transmit the HIV virus to the

baby during breastfeeding, 0.9% (n = 1) said that HIV is not transmitted during breastfeeding while 10.4% (n = 12) had no knowledge that an HIV-positive pregnant woman can transmit the HIV virus to her baby during breastfeeding. This shows a high level of awareness by the male partners that a baby can become infected during breastfeeding by an HIV-positive mother. However, a significant proportion of the respondents do not seem to know that babies can become infected during breastfeeding by the HIV-positive mother. The implication of not knowing that HIV can be transmitted to the child during breastfeeding means that the male partner may not practise safer sex or support his female partner to adhere to safe infant feeding options to prevent HIV infection.

The study revealed that only 19.1% (n = 22) of the respondents have heard about the PMTCT programme, compared to 80.9% (n = 93) who have not heard about it. Among the 22 respondents who have heard about it, 41.9% (n = 9) could not remember what it entails since it was long time since they heard about it. This means that if the male partners do not have knowledge about the PMTCT, then their involvement may also be limited. However, when the data was subjected to a test of significance. This may mean that knowledge and awareness about the PMTCT have not influenced them to get involved in the PMTCT.

#### **Beliefs and attitudes about the PMTCT**

This section focuses on seven aspects namely, a man should accompany his pregnant partner to the PMTCT / ANC clinic; a man and his partner should both undergo HIV testing at the PMTCT site; the HIV status of a female partner indirectly confirms the HIV status of a male partner; ANC / PMTCT services are for women and children only; if a pregnant woman has tested HIV-positive, it is a sign of being unfaithful to her partner and that a women can be divorced if found HIV-positive.



**Table 7: Responses on the beliefs and attitudes about the PMTCT**

Statement	Response	Frequency	Per cent
A man should accompany his pregnant partner to the PMTCT / ANC clinic	Agreed	6	5.2
	Undecided	20	17.4
	Disagreed	89	77.4
A man and his partner should both undergo HIV testing at the PMTCT site	Agreed	80	69.5
	Undecided	4	3.5
	Disagreed	13	11.3
The HIV status of a female partner indirectly confirms the HIV status of a male partner	Agreed	106	92.2
	Undecided	1	0.8
	Disagreed	8	7
ANC / PMTCT services are for women and children only	Agreed	38	33
	Undecided	5	4.3
	Disagreed	72	62.6
If a pregnant woman has tested HIV-positive, it is a sign that she has not been faithful to her partner	Agreed	54	47
	Undecided	19	16.5
	Disagreed	42	36.5
A woman should be divorced if found HIV -positive	Agreed	63	54.8
	Undecided	26	22.6
	Disagreed	26	22.6

The study findings established that 6% (n = 2) agreed, 17.3% (n = 20) could neither agree nor disagree while, 77.4% (n = 89) disagreed, that a man should accompany his female partner to the ANC / PMTCT clinic. The data indicates a high level of disagreement and indecision about the fact that a man should accompany his partner to the ANC / PMTCT clinic. This level of disagreement does not support efforts to strengthen male involvement in the PMTCT and may require innovative strategies to overcome the reluctance.

The study further indicated that 11.3% (n = 13) disagreed, 3.5% (n = 4) could neither agree nor disagree and 69.5% (n = 80) agreed that they should both undergo HIV testing at the PMTCT site. This means that the majority of the male partners do subscribe to the idea of couple counselling and testing at the PMTCT sites. On the question of whether the respondents believed that ANC / PMTCT services are for women and children only, the findings established that 32% (n = 38) agreed, 62.6% (n = 72) disagreed and 4.3% (n = 5) could neither agree nor disagree with the statement. The implication of this belief is that male partners will not be able to attend ANC / PMTCT services, since they believe that it is solely a women's and children's arena. Failure to visit the ANC / PMTCT clinic means men will not be able to get tested for HIV, let alone taking part in other PMTCT activities, such as using preventive measures to reduce HIV risk or assisting and supporting the female partner to adhere to safer infant feeding options.

Whether it is believed to be a sign of being unfaithful to her partner if the women tested HIV-positive, the study found that 47% (n = 54) agreed, 16.5% (n = 19) could neither agree nor disagree while 36.5% (n = 42) disagreed with the statement. The implication of this belief is that it creates feelings of distrust among families

that prompt partners to blame one another for the HIV infection.

Another finding revealed that 92.2% (n = 73) agreed, 7% (n = 8) disagreed while 0.8% (n = 1) did neither agree nor disagree that the HIV testing result of the female partner indirectly confirms their own HIV status. A high percentage of male partners have a belief that their female partner's HIV testing is a proxy indicator of theirs.

It appears that the respondents had a belief that the pregnant women should be divorced if found HIV-positive. The findings established that 54.8% (n = 63) agreed, 26% (n = 22.6) could neither agree nor disagree, while 22.6% (n = 26) disagreed with the statement. The implication of this belief is that among those who agreed, it may create a tendency to blame and cause chaos among families, to the point of taking decisions to divorce one another. In this case, women will carry the blame. The majority of the respondents agreed with the notion.

When the data was subjected to a test of significance, a significant association was found between male involvement and the following variables: that the HIV status of a female partner indirectly confirms the HIV status of a male with male involvement (p = .004), that a man and his female partner should both undergo HIV testing at the PMTCT site (p = 0.30); that when a pregnant woman has tested HIV-positive, it is a sign she has been unfaithful to her partner (p = .000) and that a woman should be divorced if tested HIV-positive (p = .000). The significance of these variables is reflected in Annexure F.

## OBJECTIVE 2: TO DETERMINE FACTORS INFLUENCING MALE INVOLVEMENT IN THE PMTCT

### Factors influencing male involvement in the PMTCT

The research sought from the respondents the reasons for their non-involvement in the PMTCT programme. The

reasons provided are summarised in five main themes (Table 8).

**Table 8: Responses on the reason for poor male involvement in the PMTCT**

Statement	Frequency	Per cent
She is not sick, therefore there is no need to accompany her to the ANC / PMTCT clinic (Lack of information)	8	6.9
We are not staying together, where will I say I am going? What will my parents or the society say? (Culture)	12	10.4
I am afraid of the HIV test (Fear)	5	4.3
The ANC / PMTCT clinic is full and there are delays (Health system factor)	2	1.7
ANC is not for men (Culture)	8	6.9
I was not informed that I should go to ANC / PMTCT (Lack of information)	80	69.5
Not sure if the pregnancy is mine (Lack of trust)	5	4.3
I am a married man with my wife and children, she is just a mistress; the people will blame me if they see me in the company of the other women (Attitude)	2	1.7

The study found that 6.9% (n = 8) of the respondents felt that as long as the female partner is not sick, there is no need to accompany her to the clinic. This signals lack of understanding about the PMTCT. The other finding was that 10.4% (n = 12) felt since they were not staying together, it was difficult to inform the parents of the intention to accompany the partner to the clinic. They also felt that even the society would not approve of such behaviour. This may imply that the society is still living in an outdated era that may not facilitate HIV prevention. Fear of an HIV test was also expressed as one of the reasons for poor male involvement by 4.3% (n=5), while 1.7% (n = 2) said there were delays and the clinic was always full. These findings may mean that men did not weight the risk between HIV infection and being afraid of an HIV test and being impatient to wait for the service. The study also found that 6.9% (n = 8) of the respondents did not accompany their partners because they felt that ANC services are not for men as men do not carry pregnancies. This may mean that males were still rooted in outdated culture that needs to be changed.

However, the majority of the respondents (69.5%) expressed lack of information about PMTCT services as the reason for their poor involvement. This may mean that if male partners do not have information about the PMTCT, they may not know their role in the programme, and so are not likely to get involved. Surprisingly, 4.3% (n = 5) said they did not know if they were the fathers of the pregnancies, since they were not married to these pregnant ladies, while 1.7% (n = 2) stated their poor involvement to be caused by the fact that they cannot accompany a “mistress” as they have their wives and children at home. This may mean female partners who are impregnated by married men have to cope with their

pregnancies alone, including MTCT if tested HIV-positive.

## DISCUSSION

The age range was between 19 to 59 years for males and between 18 to 39 years for females. Respondents had different levels of education that included primary, secondary and tertiary. However, among the male respondents, some had no formal education. Most of the male respondents were employed (87.8%) while for female partners, only 12.2% were employed. This implies that economically, most of the females were dependant on their male partners

The majority of the respondents (53%) were not living together with their partners, 18.3% were living together with their partners as girlfriends, while 28% were living together with their partners who were their wives. Furthermore, 16.5% were living in urban areas, 43.5% were living in semi-urban areas and 40% were living in rural areas. For this study, the main outcome of interest was male involvement in the PMTCT and the proxy indicator for this was taken as the male partner accompanying the female partner to the ANC / PMTCT clinic.

From the study, age of female partners, educational level and type of a relationship were found to have an association with male involvement. These study findings are in agreement with findings of other studies conducted in Zambia and Ethiopia that found association between male involvement and age, educational level and type of relationship (Abuhay *et al.*, 2014; Tirahum & Mohammed, 2015). These studies report an association between age and male involvement in the PMTCT in that

those who are in the age range of 36–55 were almost two times more likely to get involved in the PMTCT programme than those who are 17–25 years old. This might be due to a better understanding in older men about the PMTCT than their counterparts. However, this study did not find an association between age of male partners and male involvement, but has found an association between male involvement and age of female partners, possibly related to the context and the culture of the population. It could be that the older female partners were able to convince or persuade their male partners to be involved in the PMTCT programme. Other similar studies done did not assess the association between the age of female partners and male involvement.

The importance of finding an association between the age of female partners and male involvement is that a positive association may suggest that an increase in age has a positive influence on men's willingness to be involved in the PMTCT. The importance of finding an association between educational level and male involvement is that low formal education in men limits their understanding of issues on HIV and AIDS. It may also suggest that an increase in the level of education has a positive influence on men's involvement in the PMTCT. This is in line with the fact that people that are more knowledgeable could take care of HIV infection, as they easily understand both the transmission and prevention methods. The significance of finding an association between the type of relationship and male involvement is that when the partners accompany each other, they have a better chance of communicating to one another on matters pertaining to their lives.

It is interesting to note that this study has not found any association between male involvement and residence, contrary to the studies done in Ethiopia and Zambia which revealed that residents of rural areas have lower access to all forms of media than their urban counterparts (Tirahum & Mohamed, 2015). Although employment was thought to make it easier for men to get involved in the programme, as they have money to pay for transport fares to ANC / PMTCT facilities, the study did not find an association between male involvement and employment status. This finding is contrary to the studies in the central province of Zambia, South Africa, and Sub-Saharan Africa, which reported that men who were employed were reported to be four times more likely to get involved in the PMTCT programmes than those who were not employed (Matongo et al., 2014; Musheke, Ntalasha, Gari, Mckenzie, Bond, Martin-Hilber, Merten, 2013).

Based on the study findings, male partners are less likely to get involved in the PMTCT programmes when they are in a sexual relationship with female partners who are younger than themselves; they have not attained a high education level; both male and female partners are living in semi-urban or rural areas or they are living apart from their partners.

Knowledge and awareness about the PMTCT programme is important for male involvement in the programme as lack of or insufficient knowledge about a health service may hinder an individual from taking effective action. Men need information about the PMTCT and their possible role in these services and how they can access it (Akarro et al., 2011). The study established that 80.9% did not have knowledge about the PMTCT and 30.4% did not know that an HIV infected pregnant woman can transmit the HIV virus to her unborn child during pregnancy, contrary to what Matongo et al. (2014) found in Uganda. These studies confirmed high knowledge of HIV transmission during pregnancy among the respondents.

As illustrated by Nyondo et al. (2014) in the study they conducted in Malawi, this study also established lack of knowledge on HIV transmission from the mother to the child during pregnancy as a contributing factor to poor male involvement in the PMTCT. The study confirmed that 76.5% did not know how HIV is transmitted from the mother to the baby during pregnancy. This has a negative implication as far as MTCT is concerned. If male partners are not aware that the unborn baby can be infected through unsafe sexual practices, including sexually transmitted infections, they remain naive and will not do anything to prevent MTCT of HIV. In support of these findings were Mbezi (2010) and Gebru, Kassaw, Ayene, Semene, Assefa, Hailu, (2015).

It appears that most males do not participate in the PMTCT programme because they do not realise their importance due to inadequate knowledge about the programme. The study found that only 19.1% of the male partners who participated in this study knew about the PMTCT programme. These findings correlate with a study conducted in Rundu, north-east Namibia and other studies conducted in other sub-Saharan African countries such as Zambia, Malawi, Kenya, Uganda, Ethiopia and Cameroon (Osman et al., 2014; Auvinen et al., 2014; Kang'oma, 2011; Ongweny-Kidero, 2014; Morfaw et al., 2013; Saidi, 2014; Matongo et al., 2014; Nsagha et al., 2014; Musheke et al. 2013; Tirahum & Mohammed, 2015). These studies found that lack of awareness and sensitisation of what the PMTCT is, its importance to the well-being of families, misconceptions and wrong perceptions are some of the reasons for low male involvement in the PMTCT. By not involving men in these programmes, there is a negative attitude towards ANC and PMTCT services, with men not realising their full potential as they remain unaware of their need to be involved in HIV / AIDS programmes, such as the PMTCT. Well-informed men are likely to participate positively in the decision making for the wellbeing of the family, will be more motivated to undergo HIV testing and are more likely to adopt low-risk behaviour and increase mutual support.

Beliefs and attitudes are determinant factors in male involvement. Findings from this study revealed that the

majority of the respondents (77.4%) did not believe that a man should accompany his pregnant partner to ANC / PMTCT facilities. These findings correlate with what Morfaw *et al.* (2013) presented at the African forum in Uganda, namely that men do not like to accompany their pregnant partners to ANC, since they perceive the partners as a burden and their demand for accompaniment to seek health services as an infringement of their rights and as showing a lack of respect for them. Their study further revealed that weaker relationships, fidelity within the relationship and fear of divorce, were barriers that prevent male partners from accompanying their pregnant women to health facilities. Men were reportedly afraid of being seen with either one or another of their sexual partners at the health facility for fear of being accused of favouritism. It was also presented that some men were in illicit relationships and did not want to expose these relationships by being seen with their partners, especially those men who were married.

This study found that 69.5% of the respondents did not believe that a man and his partner should both undergo HIV testing at the PMTCT programme. The respondents reported fear of an HIV test as a stumbling block to their involvement in the PMTCT services. This finding correlates with what Tabana, Doherty, Rubenson, Ekström, and Thorson (2014) have established in rural South Africa. Their study reveals that only a few men were counselled and tested jointly with their female partners; the rest preferred either not to be tested or to be tested in a distant centre.

In this study, 92% of the respondents believed that the HIV status of their female partners indirectly confirmed their HIV status. This finding may have indirectly acted as a factor that hindered male involvement in ANC / PMTCT services. This finding concurs with a study conducted in South Africa, Ethiopia and Tanzania (Adeleke, 2013; Gebru *et al.*, 2015; Falnes *et al.*, 2011; Goga, Dinh and Jackson, 2012; Koo *et al.*, 2012) which concluded that men had a belief that HIV test results of a partner indirectly confirmed their HIV status. They were reportedly adamant that they would never go for an HIV test themselves, using their partner's HIV status during ANC as a proxy indication of theirs; a barrier that was associated with poor male involvement.

This study also established that 62.6% of the respondents believed that ANC / PMTCT services are for women and children only. With such a belief, male partners will be reluctant to go to an ANC/PMTCT clinic. These findings correlated with the findings of studies conducted in Uganda, South Africa, Malawi, Ethiopia and Tanzania (Kalembo *et al.*, 2011; Osman *et al.*, 2014; Adeleke, 2013; Morfaw *et al.*, 2013; Tirahum & Mohammed, 2015) that found an association between male involvement and a belief that ANC / PMTCT services were for women and children. These studies confirm a strong belief that antenatal care services are

programmatically a woman's domain and exclusively for women and those only weak men, controlled by the partners, visit such clinics.

As Ladur (2011) confirms in his study on factors influencing male involvement in the PMTCT in Cape Town, this study found a similar belief that when a pregnant woman has tested HIV-positive, it is a sign she has been unfaithful to her partner, a belief that was revealed by 57% of the respondents. This belief may also have played a major role in the limited involvement of male partners in ANC / PMTCT services in this study. It may have also resulted in female partners not informing their partners that they were tested for HIV and what their HIV status results were and what information they had received from health workers. The findings correlated with studies conducted in Uganda and rural South Africa, Durban (Morfaw *et al.*, 2013; Tabana *et al.*, 2014; Maman *et al.*, 2011), which revealed that learning about each other's HIV-positive status was perceived as a confirmation of infidelity that would lead to a marriage or family breakdown.

The study revealed that 54.8% believed that a woman should be divorced if tested HIV-positive, a belief that may have motivated them to move away from the relationship, especially those who are not staying together. The findings of this study concur with what Byamugisha *et al.* (2010) found in Malawi, that also found a correlation between HIV and divorce and that the revelation of HIV-positive diagnosis by the wife leads to a family breakdown.

The research sought from the respondents the reasons for their non-involvement in the PMTCT programme. Several reasons for non-involvement were given and were summarised into the following six themes: Cultural, time, health system factors, fear, attitude, and a lack of knowledge.

This knowledge deficit has been suggested to be one of the important factors contributing to low participation of men. This study found that 69.5% of men had no knowledge of the PMTCT; hence their participation in the PMTCT is low. In fact, some respondents expressed their surprise when they learnt that men are allowed to attend the clinic with their partners. Lack of knowledge was also expressed when they said those who carry pregnancies should go to the ANC clinic and only if the pregnant women were sick, was there a possibility they would accompany them. This is in agreement with studies conducted in Nairobi, Uganda, Tanzania, that found a PMTCT knowledge deficit among men (Adera, Wudu, Yimam, Kidane, Woreta, Molla, 2015; Amsalu *et al.*, 2013). These findings are contrary to what Amanuel & Abajobir (2013) found in South Ethiopia that suggest that a good understanding of the PMTCT should help increase male participation in PMTCT programmes. Unfortunately, findings of this study do not link knowledge and understanding of the PMTCT to high participation of men in the PMTCT programmes. Others

felt since they were not living together, it would not be possible to know when the other partner has an appointment at the clinic.

Fear of knowing their HIV status was found to be one of the reasons men do not want to come with their partners for PMTCT programmes. The study established that 4.3% expressed fear of finding out the HIV-positive status and living in fear of death, and abandonment. This study further found that men have extra-marital sexual relations. They were therefore afraid of participating in PMTCT programmes because they knew they would be required to be tested. Men's fear of having an HIV test has been shown to present barriers to male involvement in the PMTCT as found in Zambia, Lilongwe, Malawi, Uganda and Cameroon, Rundu-Namibia (Haile & Brhan, 2014; Saidi, 2014; Morfaw *et al.*, 2013; Matongo *et al.*, 2014; Kang'oma, 2011; Kalembo *et al.*, 2011).

Going to the antenatal clinic to access PMTCT services involves spending long hours at the health facility. Respondents were of the view that they were unwilling to wait for a long period of time, and that this could be one of the reasons they were not participating in PMTCT programmes. These findings concur with what was found in South Africa, Malawi, Uganda, Brazil, Bangladesh and Nigeria: that men are too busy to wait at the clinic for the long procedures that women need to undergo. (Adeleke, 2013; Kululanga, Sundby, Malata, Chirwa, 2012; Khuoh *et al.*, 2010; Kalembo *et al.*, 2011; Adelekan, Edoni, & Olayele, 2013).

As Kabagenyi, Jennings, Reid, Nalwadda, Ntozi, & Atuyambe (2013) found in their study in rural Uganda, time is associated with male involvement in the PMTCT. This study has also confirmed that 33% of the respondents said that antenatal care and PMTCT services were designed mainly for women. They complained of a lack of space even if they decided to go. These were also the findings from other studies done in South Africa, Kenya, Egypt, Eritrea, Ghana, India, Pakistan and Tanzania (Kalembo *et al.*, 2010; Byamugisha *et al.*, 2010; Ditekemena *et al.*, 2011; Ladur, 2011) which found that the reproductive health system was designed to suit women.

Lack of trust seems to be a reason for poor male involvement. Some of the respondents (4.7%) expressed their feelings that they were not sure if the pregnancies were theirs, since they were not married. They do not want to be responsible for something that did not belong to them. This was the same revelation in Ethiopia, Kenya, South Africa, Ethiopia, Malawi (Ditekemena *et al.*, 2011, Ladur, 2011; Abijobir and Zeleke, 2013; Kululanga *et al.*, 2012).

The issue of being seen in the company of a pregnant woman other than your wife in case of a married man seems to go against culture. The male respondents expressed the reality that they were married men, who

have wives and children at home. It is thus not acceptable to the society if they accompany "mistresses" to the ANC clinic. This was therefore the reason why they could not get involved. Some said they could not get involved because they are not living together and sometimes parents would not approve as they are already disappointed when their daughter becomes pregnant. Studies in Tanzania, Zambia, Nigeria, South Africa, and Malawi have also identified culture as one of the factors associated with male involvement (Akarro *et al.*, 2014; Auvinen *et al.*, 2014; Koo *et al.*, 2013; Adelekan *et al.*, 2013; Kangoma, 2011; Osman *et al.*, 2014; Ongweny-Kidero, 2014; Matongo *et al.*, 2014).

## CONCLUSION

The involvement of male partners in the programme plays a crucial role in the success of a PMTCT programme. The study reveals that factors associated with poor male involvement in the Oshakati District include demographic and economic factors, knowledge and awareness, as well as beliefs and attitudes about the PMTCT programme. Thus, the conclusion may be drawn that, in this study, when the male partners had low educational level, when the partners are not living together, when the male partner has no knowledge about the PMTCT, when they were not provided with information about the PMTCT and the important role that they have to play in the programme, then they are less likely to be involved in the PMTCT. Negative attitudes and beliefs of the respondents towards the PMTCT were recorded among respondents. This may be attributed to the societal norms and cultural barriers.

The study found an association between male involvement and the beliefs that the HIV status of a female partner indirectly confirms the HIV status of a male; a man and his female partner should not both undergo HIV testing at the PMTCT site; if a pregnant woman has tested HIV-positive, it is a sign she has been unfaithful to her partner; and a woman should be divorced if tested HIV-positive. However, no statistical association was found between male involvement and the following beliefs that a man should accompany his pregnant women to an ANC / PMTCT clinic; and that ANC / PMTCT services are for women and children only

These beliefs are also affected by education. As the educational level of male partners is low, knowledge, awareness and access to information is also limited, such that they are not likely to get involved in the PMTCT. These beliefs are also affected by culture. It is conventional in many African cultures for a man not to accompany his partner to ANC as pregnancy and child birth are regarded as a woman's affair, which has a negative influence in male involvement in the PMTCT.

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