GENDER DIMENSIONS IN MISCONCEPTIONS ABOUT HIV/AIDS PREVENTION AND TRANSMISSION IN BOTSWANA

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Abstract

Misconceptions can prevent individuals from making informed choices and taking appropriate action. HIV/AIDS continues to be subject to much misconception and misinformed opinion. The purpose of the paper is to use a gender-based approach to investigate misconceptions about HIV/AIDS prevention and transmission. The data used are a nationally representative sample from the Botswana AIDS Impact Survey conducted in 2001. Both bivariate and multivariate analyses are used to examine misconceptions by gender. Results from bivariate analysis show that a disproportionately higher percentage of males compared to females have misconceptions about how HIV/AIDS can be prevented and transmitted. Since misconceptions may prevent people from making informed choices, intervention programmes aimed at HIV/AIDS prevention should treat dispelling misconceptions as an important part of the prevention strategy.

Introduction

Knowledge about how HIV can or cannot be transmitted is vitally important in the prevention of HIV/AIDS. Although knowledge about HIV/AIDS does not always correlate with increases in safer sex behaviour, increasing widespread knowledge about STIs such as HIV/AIDS is considered an important step in leading to possible behaviour change (Population Council, undated). At the same time, misconceptions can prevent individuals from making informed choices and taking appropriate action. HIV/AIDS continues to be subject to much misconception and misinformed opinion, and it is for this reason that it is important to understand how accurate and inaccurate knowledge may contribute to individual behavioural patterns (Population Council, undated). UNAIDS (2000a) observed that knowledge is an important prerequisite for prevention of HIV transmission and behavioural change. The purpose of this study is to investigate the gender dimensions in misconceptions about how HIV/AIDS can or cannot be prevented or transmitted.

Background

Gender-based analysis is important not only because it fills a void by taking the gender variable into account but also because it introduces a new dimension to research (Sow, 1999). Gender analysis allows a researcher to "simultaneously question men and women's status and roles in the social stratification, and the impact of social sex or gender relations in situations involving individuals or groups. It is to question the way social status and roles are determined by one's belonging to a given sex" (Sow, 1999:34-35). It is a fact that women do not enjoy the same autonomy as men with regard to their status, roles and material production. Moser (1995) has observed that women and men have different positions within the household and different control over resources, implying that they play different roles in society and have different needs. It is therefore this role and needs differentiation that

provides the basis for gender planning and defines the goal of emancipation of women (Moser, 1995). Gender analysis reveals the mechanisms of domination over women and arms them with tools to struggle against oppression (Sow, 1999). Gender analysis allows a researcher to observe how unequal relations between men and women influence social behaviour and other social outcomes.

The Executive Director of UNFPA in 2002 stated that young women, who are highly vulnerable, are dangerously ignorant of HIV/AIDS and that many have never even heard of the deadly disease and many harbour misconceptions about how the virus is transmitted (UNFPA, 2002:2). A recent study of young people by the United Nations found that young people do not have the proper knowledge to protect themselves from HIV infection (UNICEF, UNAIDS & WHO, 2002). The survey indicated that data from 50 countries showed that more than 50 per cent of young people aged 15 to 24 have serious misconceptions about how HIV/AIDS is transmitted – a strong indicator that young people are not getting access to the right information. Another study from Russia found that students need to be taught about how HIV is and is not transmitted and to correct widespread misperceptions that HIV risk occurs only for certain "risk groups" (Amirkhanian, Tiunov and Kelly, 2001:109). UNAIDS (2002) has also observed that "There is a continued need to let people know the basic facts about HIV/AIDS transmission, non-transmission, prevention and care" (page 8). Ignorance of the facts leads to fear, which, in turn, adds to stigma and discrimination. Unless unfounded myths are dispelled, stigma and discrimination cannot be eliminated.

The Government of Botswana and UNDP (2000) has observed that there exist several common misconceptions among people in Botswana. First, that AIDS is punishment for having sex with a widow/widower. Secondly, that having sex with a virgin can cure AIDS. Thirdly that traditional doctors can cure AIDS. The fourth misconception is that HIV/AIDS is brought to Botswana by foreigners. Fifthly, that HIV/AIDS affects only promiscuous people and prostitutes. Sixth that AIDS is fire as described in the Bible and

nobody can stop it. Finally that mosquitoes can transmit HIV. These misconceptions have delayed changes in behaviour and assisted the spread of the HIV virus (Government of Botswana and UNDP, 2000).

The need to generate more gender-specific data has been emphasized in several international conferences (Baoteng, 1994). One important dimension to HIV/AIDS epidemic is that sexual risk behaviours are influenced by social and interpersonal factors such as gender. UNFPA (2002) has observed that: "Socio-cultural norms, beliefs and practices that apply to and affect women and men differently have a direct effect on vulnerability to HIV infection" (p.1). The fact that women and girls are often raised to be submissive and unaware of sexual matters until marriage exposes them to a higher risk of contracting HIV than are men and boys. A gender-based approach to HIV/AIDS risk factors helps to explain why women and girls are disproportionately affected by HIV/AIDS (Tlou, Rantona and Phaladze, 2001). For instance, the Government of Botswana and UNDP (2000) noted that in Botswana in 1999, 145,000 women aged 15-49 years were living with HIV and AIDS compared to 125,000 men. UNAIDS (2000b) argue that beliefs about what it is to be a man (or woman) undoubtedly underpin HIV/AIDS statistics and that together with cultural expectations about gender roles and behaviours, they influence how people act and the risks they take.

Research has shown that the gender-based imbalance in power found in the economic and social spheres of life is reflected in sexual relationships (Population Council, undated). HIV/AIDS awareness and knowledge have been identified to be weak in rural areas and among women (UNAIDS/WHO, 2002). Women often have less control over the nature and timing of sex and the practice of protective behaviours. A woman's ability to practice safer sex use may be influenced by her ability to communicate openly about sex with her

partner, the power dynamic in their relationship, or how much the partner believes in the traditional gender roles (Population Council, undated; Machacha, 2001; MacDonald, 1996). Beliefs or norms about masculinity and femininity often encourage men to have multiple partners and women to be passive and ignorant about matters of sexuality and reproduction. The belief by men that it is acceptable to have extramarital affairs, although they are not necessarily keen on using condoms and would use them only when they do not trust the other party, for example, for casual sex suggests that a gender-based analysis is vitally important when addressing sexual risk behaviours to HIV/AIDS (Tlou, Rantona and Phaladze, 2001:68). It should therefore be noted that gender affects both men's and women's risk of HIV. This study intends to investigate gender disparities in misconceptions about HIV/AIDS using data from Botswana.

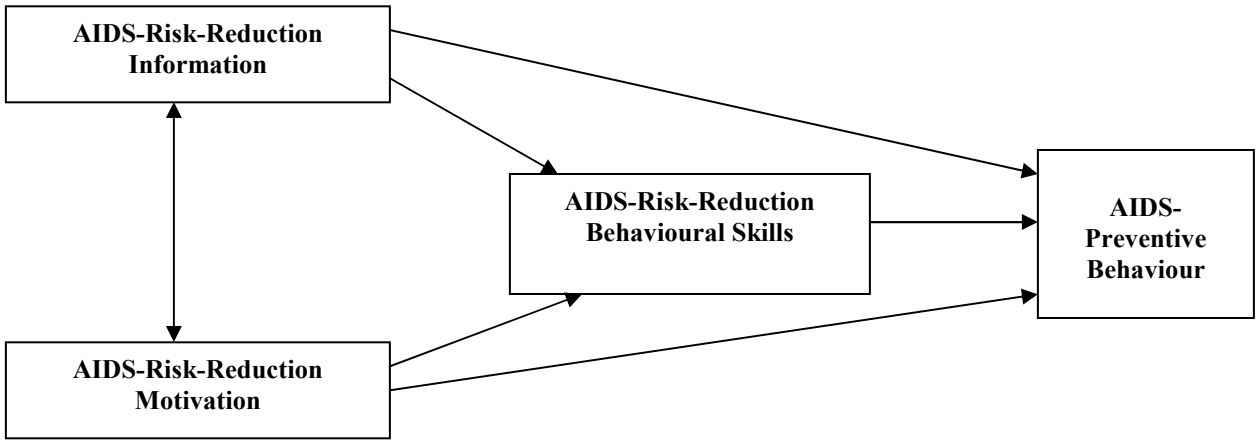
Conceptual framework

A coherent conceptual framework is called for in order for us to understand how misconceptions undermine efforts to prevent HIV/AIDS. The Information-Motivational-Behavioural (IMB) Model appears appropriate in this context to use because it links information, motivation and behavioural skills coherently (Figure 1). The model argues that well-informed individuals may have either high or low motivation to practice AIDS preventive behaviour and that well-motivated individuals may or may not be well informed (Perloff, 2001:84). People cannot enact AIDS preventive behaviour if they do not know how AIDS is transmitted or can be prevented. According to the IMB model, information is needed to correct existing misconceptions. It should, however, be noted that knowledge alone is not enough. Previous studies have shown that people can be highly informed about HIV transmission and prevention but still engage in risky behaviour because they lack

motivation or believe this knowledge does not apply to them (e.g. Daiz, 1998; Sheeran at el., 1999; Sobo, 1995: cited in Perloff, 2001).

The second component of the IMB model is motivation. The model states that individuals must be highly motivated to initiate and sustain AIDS behavioural changes. The core component of the model is behavioural skills. These skills include the ability to communicate about safer sex issues with one's partner (Perloff, 2001). If people possess these skills, they are better able to sustain long-term behavioural change. According to IMB, although knowledge is not enough to change behaviour, information is needed to correct misconceptions.

Figure 1: The Information-Motivation-Behavioural-Skills Model



Source: Perloff (2001).

Hypotheses

In this paper, several hypotheses have been proposed. First, that a higher proportion of males compared to females have misconceptions about HIV/AIDS prevention and transmission. Second, that young people compared to old people are more likely to have misconceptions about HIV/AIDS prevention and transmission, because generally young people do not have access to health information. Third, that people who do not have formal

education are more likely than their counterparts to have misconceptions about HIV/AIDS prevention and transmission. Fourth, that married people are more likely to harbour misconceptions about HIV/AIDS than others. Fifth that residents of rural areas are more likely to have misconceptions about HIV/AIDS because they do not receive the necessary information. Sixth that people who have not used condoms during their last sexual encounter are more likely to harbour misconceptions about HIV/AIDS prevention and transmission than their counterparts. Seventh that people who have multiple sexual partners have misconceptions about HIV/AIDS prevention and transmission. Eighth that people who have ever had genital discharges or ulcers are more likely to have misconceptions than their counterparts. Finally, that those who believe that nothing can be done to reduce HIV infection harbour misconceptions about HIV/AIDS transmission and prevention.

MATERIALS AND METHODS

Data

The data analysed in this paper are taken from the Botswana AIDS Impact Survey (BAIS) conducted in the year 2001. Sample selection was done in two stages. At the first stage, 98 enumeration areas were selected with probability proportional to measures of size, where measures of size are the number of households in the enumeration area. At the second stage, the households were systematically selected from a fresh list of occupied households prepared at the beginning of the survey's fieldwork, i.e. listing of households for the selected enumeration areas. The sample was designed to provide estimates of AIDS indicators at the national level, urban and rural areas, and for the 14 districts (Republic of Botswana, 2001). Overall, 2,126 households were drawn systematically, 2,023 of which were occupied. Of the 2,023 occupied households, 1,781 were successfully interviewed, yielding a household response rate of 88.0 percent. The response rate was highest in towns (90.8 percent), followed by urban villages (89.7 percent) and rural areas had the lowest (85.8 percent). In the interviewed households, 4,728 eligible persons aged 10-64 years were identified. Of these,

4,494 were successfully interviewed, yielding a response rate of 95.1 percent (Republic of Botswana, 2001).

The questionnaires for the BAIS study were based on the UNAIDS Model Questionnaire[1] with some modifications and additions. Some of the modifications included lowering the age limit of the eligible persons to 10 years and increasing the upper limit to 64 years. Two questionnaires were administered in the survey: household questionnaire and an individual questionnaire for men and women aged 10-64 years. Respondents who did not complete the questionnaire were excluded from the present analysis.

The data quality is believed to be high for a number of reasons. First, the interviewers were thoroughly trained for 2 weeks. Second, there was close supervision of the interviewers during the data collection stage. Third, questionnaires were thoroughly edited to check that relevant questions have been responded to and coded according to the codes designed for the study. Finally, consistency checks on the data set were performed by the Computer Edit Specifications designed by the subject matter specialist (Republic of Botswana, 2001).

Measures

The Botswana AIDS Impact Survey has several questions that were used to address the objectives of this study.

Independent Variables

Independent variables used for this study include age (10-24 versus 25-64), current marital status, the highest level of education attained, place of residence. It should be noted that regarding place of residence, three categories have been used: usual urban, urban villages, and rural areas. An urban area in Botswana is defined as "all settlements on state land and settlements on tribal land with population of 5,000 or more persons with at least 75% of the

labour force in non-agricultural occupations" (Central Statistics Office, 1994:6). Usual urban settlements are towns and cities. Urban villages are settlements that qualify to be urban areas excluding towns and cities according to the above definition. Usually, these settlements have modern facilities such as tribal administration headquarters and modern social amenities. The remaining settlements are rural areas.

Statistical Methods

Both bivariate and multivariate analyses are conducted. During bivariate analysis, all independent categorical variables relating to misconceptions are examined by gender using chi-square test. Logistic regression analysis is used to evaluate the effect of a select group of predictor variables on the probability of having a misconception about HIV/AIDS, while controlling for other variables in the model. Logistic regression method is used because it provides an interpretable linear model for a binary dependent variable. It also allowed the testing of the significance of a given predictor whilst controlling for all other predictors in the model (Hosmer and Lemeshow, 1989; Agresti and Finlay, 1986). Separate logistic regression models are used to evaluate the effects of individual factors on the probability of expressing negative attitudes toward people living with HIV/AIDS. The SPSS-PC logistic programme is used to estimate regression coefficients through the maximum likelihood procedure (Hosmer and Lemeshow, 1989).

RESULTS

Bivariate results

Table 1 shows the proportions of respondents holding different myths about HIV/AIDS prevention and transmission. The big picture shown in Table 1 is that men are more poorly

[1] This questionnaire can be found from: http:/www.unaids.org/publications/order.html.

informed than women. About 43 percent of male respondents compared to 39 percent of female respondents believe that a person can get infected with HIV/AIDS through mosquito bites. The next most popular misconceptions is that 42 percent of males compared to 34 percent females believe that one can get HIV/AIDS by sharing a meal with a person who has HIV/AIDS. 28 percent of males compared to 23 percent of females believe that consistent use of condoms cannot reduce HIV infection. Approximately one fifth of male respondents compared to 17 percent of female respondent believe that a healthy-looking person cannot be infected with HIV/AIDS. A smaller proportion of respondents, 9 percent of males and 6 percent of females, believe that HIV/AIDS cannot be transmitted from a mother to a child. From Table 1, it is evident that misconceptions about HIV/AIDS transmission and prevention are pervasive in the Botswana society.

Factors associated with misconceptions about HIV/AIDS prevention and transmission.

Factors associated with the misconception that a healthy looking person cannot be infected with HIV/AIDS

The determinants of the belief that a healthy looking person cannot be infected with HIV/AIDS are shown in Table 2. The misconception that a healthy looking person cannot be infected with HIV/AIDS is more pronounced among the young and the less educated. For example, young males are 2.4 times while young females are 2.0 times more likely than adult their adult counterparts to believe that a healthy looking person cannot be infected with HIV/AIDS. Respondents with no education are more likely than those with secondary or higher education to believe that a healthy looking person cannot be infected with HIV/AIDS. There are also sex differentials regarding the misconception that a healthy looking person cannot be infected with HIV/AIDS. For instance, males who did not use

condoms during their last sexual encounter are 1.9 times significantly more likely than those who used them to state that a healthy looking person cannot be infected with HIV/AIDS while this variable is not significant for females. While males who reside in urban villages are 42 percent less likely than those who reside in usual urban areas to believe that a healthy looking person cannot be infected with HIV/AIDS, females residing in urban villages are 2.4 times more likely than those residing in usual urban areas to believe that a healthy looking person cannot be infected with HIV/AIDS.

Factors associated with the misconception that people cannot reduce their chances of getting HIV/AIDS by using a condom correctly every time they have sex

Table 3 shows the results of factors associated with the misconception that correct and consistent use of a condom during sexual intercourse does not reduce chances of getting HIV/AIDS. Males who believe that nothing can be done to reduce HIV infection are 3.2 times more likely than their counterparts to say that correct and consistent use of a condom during sexual intercourse does not reduce chances of getting HIV/AIDS. Age, education, marital status and place of residence are not associated with the misconception that correct and consistent use of a condom during sexual intercourse does not reduce chances of getting HIV/AIDS.

The age of the female respondent is the only variable associated with the misconception that correct and consistent use of a condom during sexual intercourse does not reduce chances of getting HIV/AIDS. For instance, young women compared to adult women are 77 per cent less likely to have a misconception that correct and consistent use of a condom during sexual intercourse does not reduce chances of getting HIV/AIDS. No other variable is

associated with the misconception that correct and consistent use of a condom during sexual intercourse does not reduce chances of getting HIV/AIDS.

Factors associated with the misconception that a person can get infected with HIV/AIDS through mosquito bites

Table 4 shows the determinants of the misconceptions that a person can get infected with HIV/AIDS through mosquito bites. The results for males indicate that young males are 1.5 times more likely than adult males to have a misconception that a person can get infected with HIV/AIDS through mosquito bites. Males with no education are 3 times more likely than males with secondary or higher education to report that a person can get infected with HIV/AIDS through mosquito bites. Males who had sexual intercourse with more than one partner are 1.3 times more likely to state that a person can get infected with HIV/AIDS through mosquito bites. As for females, young women are 26 per cent less likely than adult women to report that a person can get infected with HIV/AIDS through mosquito bites. Females with no education are 1.7 times more likely than females with secondary or higher education to report that a person can get infected with HIV/AIDS through mosquito bites. Women residing in urban villages are 1.4 times more likely than those who reside in usual urban areas to state that a person can get infected with HIV/AIDS through mosquito bites.

Factors associated with the misconception that having only one sex partner who has no other partner cannot reduce HIV infection

Factors associated with the misconception that having only one sex partner who has no other partner cannot reduce HIV infection are shown in Table 5. For both sexes, the belief that nothing can be done to reduce HIV infection is strongly associated with the

misconception that having only one sex partner who has no other partner cannot reduce HIV infection. This finding may reflect the fact that people who have misconceptions are also more likely to lack information about protective and safe sexual behaviour. Males who hold the belief that nothing can be done to reduce HIV infection are 4.7 times more likely than their counterparts to state that having only one sex partner who has no other partner cannot reduce HIV infection. Similar conclusions can be drawn for females. However, males who had sex with more than one sexual partner in the last year are 1.8 times more likely than their counterparts to indicate that having only one sex partner who has no other partner cannot reduce HIV infection. Males who reside in urban villages or rural areas are roughly 40 per cent less likely than those who reside in usual urban areas to state that having only one sex partner who has no other partner cannot reduce HIV infection. As for females, married females are 50 per cent less likely than those who are never married to indicate that having only one sex partner who has no other partner cannot reduce HIV infection. Other factors do not show any statistically significant associations.

Factors associated with the misconception that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS

Table 6 shows the factors associated with the misconception that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS. For both sexes, no education is significantly associated with the misconception that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS. Males who have no education are 2.9 times more likely than those with secondary or higher education to state that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS. Males with more

than one sexual partner are 1.3 times more likely than their counterparts to report that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS.

Among females, young women are 29 per cent less likely than adult women to indicate that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS. Females with no education are 2.8 times more likely than females with secondary or higher education to report that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS. Females residing in urban villages are 1.7 times more likely than females who reside in usual urban areas to report that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS.

Factors associated with the misconception that people can get HIV/AIDS because of witchcraft

Factors associated with the misconception that people can get HIV/AIDS because of witchcraft are shown in Table 7. Education is the only factor that is associated with the misconception that people can get HIV/AIDS because of witchcraft for both sexes. Males who have no education are 1.7 times more likely than males who have secondary or higher education to report that people can get HIV/AIDS because of witchcraft. Males with only primary education are twice more likely than males who have secondary or higher education to believe that people can get HIV/AIDS because of witchcraft. Males who reside in rural areas are 1.5 times more likely than males residing in usual urban areas to state that people can get HIV/AIDS because of witchcraft. Males who have had genital discharge or ulcers are 2.2 times more likely than those who did not have it to indicate that people can get HIV/AIDS because of witchcraft.

Females who have no education are 2.3 times more likely than females who have secondary or higher education to report that people can get HIV/AIDS because of witchcraft. Females with primary education are 1.6 times more likely than females who have secondary or higher education to believe that people can get HIV/AIDS because of witchcraft. Women who believe that nothing can be done to reduce HIV infection are 3.2 times more likely than their counterparts to state that people can get HIV/AIDS because of witchcraft.

Factors associated with the misconception that HIV/AIDS cannot be transmitted from a mother to a child

Factors associated with the misconception that HIV/AIDS cannot be transmitted from a mother to a child are shown in Table 8. Males who live in urban villages are 3.7 times more likely than males who live in usual urban areas to state that HIV/AIDS cannot be transmitted from a mother to a child. Other factors are not associated with the misconception that HIV/AIDS cannot be transmitted from a mother to a child. As for females, women with no education are 40 per cent less likely than women with secondary or higher education to state that HIV/AIDS cannot be transmitted from a mother to a child. Married females are 3.5 times more likely than never married females to report that HIV/AIDS cannot be transmitted from a mother to a child. Females who are living with their partners are 2.8 times more likely than never married females to report that HIV/AIDS cannot be transmitted from a mother to a child. Females who believe that nothing can be done to reduce HIV infection are 76 per cent less likely to state that HIV/AIDS cannot be transmitted from a mother to a child.

Discussion and conclusions

Since misconceptions can prevent people from making informed choices and taking appropriate action, it is important to identify misconception existing in the country so that lack of knowledge does not help to fuel the spread of HIV/AIDS epidemic. Programs aimed at HIV/AIDS prevention need information about the misconceptions that people have. Government of Botswana and UNDP (2000) observed that HIV/AIDS myths have delayed changes in behaviour and have aided the spread of the virus. The data used in the analysis reveal that misconceptions still prevail today despite efforts to dispel them. Two misconceptions appear to be particularly prevalent: the misconception that a person can get infected with HIV/AIDS through mosquito bites and the misconception that a person can get infected with HIV by sharing a meal with a person who has HIV/AIDS. These misconceptions are more pronounced among males than females. Population Council (undated) has observed that widespread knowledge about HIV/AIDS is an important step leading to possible behaviour change.

As regards factors associated with misconceptions, lack of education appears to be the main reason for higher misconceptions about HIV/AIDS prevention and transmission for both sexes. This finding may reflect the importance of education in promoting safer sexual and reproductive health among respondents. Programs designed for HIV/AIDS prevention may be more effective among people with some education than those who have never been to school. Therefore other strategies for targeting people who lack education need to be designed.

Misconceptions about how HIV infection may be transmitted and prevented may not only encourage people to engage in risky behaviours but also tend to promote negative attitudes towards people living with HIV/AIDS. Consistently, respondents who believe that HIV infection can be transmitted through witchcraft or mosquito or sharing a meal with a PLWA are statistically significantly more likely to stigmatise and discriminate against PLWA than other people (Letamo, 2003). The high prevalence of misconceptions about HIV/AIDS probably shows that the educational message have not quite reached a large majority of people in the country. The Information, Education, and Communication campaigns on HIV/AIDS need to be intensified to dispel some of the prevailing misconceptions about HIV/AIDS transmission. There is clearly a need for a detailed study to investigate why people still have HIV/AIDS misconceptions despite the seemingly abundance of information on HIV/AIDS.

In designing intervention programmes and strategies of HIV/AIDS prevention, gender imbalance between males and females need to be taken into consideration. Failure to consider gender issues in HIV/AIDS intervention strategies may not produce desirable impacts because the unequal power relations between the sexes will not be factored into the equation. HIV/AIDS intervention strategies may not bear fruit if misconceptions have not been dispelled because ignorance may result in high-risk sexual behaviours. The high prevalence of misconceptions about HIV/AIDS prevention and transmission among males compared to females may well be a testimony to differences between males and females in the utilisation of health care services. Tlou, Rantona and Phaladze (2001) have observed that women use health care services more often than men although they do not have access to

quality health services because women cannot afford the fees that are charged at private clinics.

In Botswana female-headed households are common and a substantial number of women are not married. A relevant assumption to this paper is "that the household functions as a socio-economic unit within which there is equal control over resources and power of decision-making between all adult members in matters influencing the household's livelihood" (Moser, 1995:15). It is a well-known fact that male condoms are effective in preventing HIV infection but their use is under the control of men. Therefore misconceptions about HIV/AIDS prevention and transmission among men which may expose them to the high risk of HIV infection ultimately affect women because women are unable to negotiate safer sex as a result of their lower status, economic dependence and fear of violence (Machacha, 2001). Although men are generally assumed to be knowledgeable about sexual matters, they lack the necessary information to make healthy choices (Tlou, Rantona and Phaladze, 2001).

The inequality between men and women is important in addressing HIV/AIDS prevention. Since research has shown that misconceptions about HIV/AIDS prevention and transmission may lead to risk sexual behaviours, it is paramount that misconceptions are aggressively dispelled. The IEC aimed at increasing knowledge about HIV, behaviours that spread it and the ways it can be avoided needs to be intensified. These messages need to be gender sensitive in that the prevalence of misconceptions tends to vary with gender. In an attempt to impart correct messages about HIV, at the same time there is need to have programmes specifically aimed at reducing misconceptions. Future research needs to

investigate whether these misconceptions lead to risky behaviours. For instance, do people who believe that condoms can reduce the risk of contracting HIV infection engage in unprotected sex because of the misconception that mosquito bite, or witchcraft or sharing a meal with someone who has HIV/AIDS can transmit HIV? These people may say why bother to reduce pleasure of sex if they might contract HIV/AIDS from other uncontrollable events (UNAIDS, 2000a).

Study limitations

The major limitation of this study is that secondary data have been used, therefore limiting the researcher to variables collected by the survey. Another limitation of this study is that the information collected is self-reported, which is subject to reporting errors and biases. The third limitation is that the questions used to measure misconceptions are hypothetical questions. Knowledge and misconception questions often ask the respondent how HIV/AIDS can or cannot transmit, prevent or treat. The questions are not factual. Finally, this study is based on cross-sectional data, implying that the direction of causal relationships cannot be determined. The interpretation of the results therefore limits it to associations between variables rather than cause and effect relationships.

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Table 1: Misconceptions about HIV/AIDS by sex of respondent

Misconception	Sex of respondent					
	Male		Female			
	No.	%	No.	%	Π^2	p-value
A healthy looking person cannot be infected with HIV/AIDS	325	20.5	335	17.2	6.15	0.013
Consistent use of condoms cannot reduce HIV infection	125	28.4	115	22.9	3.81	0.051
A person can get infected with HIV/AIDS through mosquito bites	658	42.7	725	38.8	5.34	0.021
A person can get infected with HIV/AIDS by sharing a meal with a person who has HIV/AIDS	670	42.2	641	33.7	27.00	0.000
A person can get infected with HIV/AIDS through witchcraft	241	15.8	229	12.2	8.79	0.003
HIV/AIDS cannot be transmitted from a mother to a child	129	8.5	112	5.7	10.48	0.001

Table 2: Adjusted odds ratio for the belief that a healthy looking person cannot be infected with HIV/AIDS

	Adjusted odds ratios (95% CI)	
Explanatory variables	Males	Female
Age		
<25	2.359***	2.026**
=>25	1.000	1.000
Education		
No education	3.047***	3.318***
Primary	1.863**	2.624***
Secondary & higher	1.000	1.000
Marital status		
Married	1.174	1.365
Living together	1.030	1.745**
Never married	1.000	1.000
Place of residence		
Usual urban	1.000	1.000
Urban villages	0.575*	2.406**
Rural areas	0.974	3.394***
Used condom at last sex		
Yes	1.000	1.000
No	1.878**	1.106
No. of sexual partners		
1	1.000	1.000
>1	1.005	1.198
Ever had genital discharge		
Yes	0.454	1.117
No	1.000	1.000
Anything can be done to reduce HIV infection		
Yes	1.000	1.000
No	1.952	1.871
Predicted correctly (percent)	88.1	91.0
-2 Log likelihood	598.936	574.516
(N)	872	1035

Significance level *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 3: Adjusted odds ratio for the belief that a condom correctly used every time one has sex cannot reduce HIV infection

	Adjusted odds ratios (95% CI)	
Explanatory variables	Males	Female
Age		
<25	0.932	0.230*
=>25	1.000	1.000
Education		
No education	0.729	0.644
Primary	1.122	0.406
Secondary & higher	1.000	1.000
Marital status		
Married	1.000	1.000
Living together	0.677	0.929
Never married	0.501	1.377
Place of residence		
Usual urban	1.000	1.000
Urban villages	1.977	1.082
Rural areas	1.265	1.107
Used condom at last sex		
Yes	1.000	1.000
No	1.955	1.721
No. of sexual partners		
1	1.000	1.000
>1	0.867	0.295
Ever had genital discharge		
Yes	0.000	0.627
No	1.000	1.000
Anything can be done to reduce HIV infection		
Yes	1.000	1.000
No	3.178**	1.567
Predicted correctly (percent)	69.9	82.8
-2 Log likelihood	199.448	133.163
(N)	173	157

Significance level *** p < 0.01; ** p < 0.05; * p < 0.1

Table 4: Adjusted odds ratio for the belief that a person can get infected with HIV/AIDS through mosquito bites

	Adjusted odds ratios (95% CI)	
Explanatory variables	Males	Female
Age		
<25	1.454*	0.739*
=>25	1.000	1.000
Education		
No education	3.030***	1.705**
Primary	2.177***	1.436**
Secondary & higher	1.000	1.000
Marital status		
Married	0.824	0.746
Living together	1.202	1.071
Never married	1.000	1.000
Place of residence		
Usual urban	1.000	1.000
Urban villages	1.020	1.397*
Rural areas	1.015	0.896
Used condom at last sex		
Yes	1.000	1.000
No	1.226	1.147
No. of sexual partners		
1	1.000	1.000
>1	1.345*	1.153
Ever had genital discharge		
Yes	1.234	0.816
No	1.000	1.000
Anything can be done to reduce HIV infection		
Yes	1.000	1.000
No	0.553	0.814
Predicted correctly (percent)	54.7	57.6
-2 Log likelihood	1088.435	1278.282
(N)	823	958

Significance level *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 5: Adjusted odds ratio for the belief that having only one sex partner who has no other partner cannot reduce HIV infection

	Adjusted odds ratios (95% CI)	
Explanatory variables	Males	Female
Age		
<25	0.912	1.139
=>25	1.000	1.000
Education		
No education	0.671	0.770
Primary	1.003	1.200
Secondary & higher	1.000	1.000
Marital status		
Married	0.851	0.502**
Living together	0.696	0.709
Never married	1.000	1.000
Place of residence		
Usual urban	1.000	1.000
Urban villages	0.591*	1.393
Rural areas	0.646*	0.998
Used condom at last sex		
Yes	1.000	1.000
No	1.060	1.057
No. of sexual partners		
1	1.000	1.000
>1	1.771**	0.818
Ever had genital discharge		
Yes	0.978	0.583
No	1.000	1.000
Anything can be done to reduce HIV infection		
Yes	1.000	1.000
No	4.741***	4.431***
Predicted correctly (percent)	88.2	90.5
-2 Log likelihood	637.590	659.792
(N)	916	1080

Significance level *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 6: Adjusted odds ratio for the belief that a person can get HIV infection by sharing a meal with a person who has HIV/AIDS

	Adjusted odds ratios (95% CI)	
Explanatory variables	Males	Female
Age		
<25	1.030	0.710*
=>25	1.000	1.000
Education		
No education	2.942***	2.796***
Primary	2.929***	1.784***
Secondary & higher	1.000	1.000
Marital status		
Married	0.899	0.769
Living together	0.750	0.887
Never married	1.000	1.000
Place of residence		
Usual urban	1.000	1.000
Urban villages	1.205	1.688***
Rural areas	1.245	1.058
Used condom at last sex		
Yes	1.000	1.000
No	1.115	1.246
No. of sexual partners		
1	1.000	1.000
>1	1.342*	1.043
Ever had genital discharge		
Yes	0.514*	1.372
No	1.000	1.000
Anything can be done to reduce HIV infection		
Yes	1.000	1.000
No	1.633	1.602
Predicted correctly (percent)	63.9	67.4
-2 Log likelihood	1077.199	1191.240
(N)	847	991

Significance level *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 7: Adjusted odds ratio for the belief that a person can get HIV/AIDS because of witchcraft

	Adjusted odds ratios (95% CI)	
Explanatory variables	Males	Female
Age		
<25	1.397	0.752
=>25	1.000	1.000
Education		
No education	1.741*	2.233**
Primary	1.970***	1.616*
Secondary & higher	1.000	1.000
Marital status		
Married	1.092	0.759
Living together	1.119	0.933
Never married	1.000	1.000
Place of residence		
Usual urban	1.000	1.000
Urban villages	1.207	0.767
Rural areas	1.540*	0.801
Used condom at last sex		
Yes	1.000	1.000
No	0.971	1.303
No. of sexual partners		
1	1.000	1.000
>1	1.071	0.843
Ever had genital discharge		
Yes	2.208**	0.740
No	1.000	1.000
Anything can be done to reduce HIV infection		
Yes	1.000	1.000
No	1.439	3.235**
Predicted correctly (percent)	84.7	88.4
-2 Log likelihood	694.797	675.037
(N)	839	977

Significance level *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 8: Adjusted odds ratio for the belief that HIV/AIDS cannot be transmitted from a mother to a child

	Adjusted odds ratios	
Explanatory variables	Males	Female
Age		
<25	1.027	0.931
=>25	1.000	1.000
Education		
No education	1.203	0.404*
Primary	1.064	0.610
Secondary & higher	1.000	1.000
Marital status		
Married	0.579	3.519**
Living together	0.592	2.839**
Never married	1.000	1.000
Place of residence		
Usual urban	1.000	1.000
Urban villages	3.736**	1.220
Rural areas	0.647	0.802
Used condom at last sex		
Yes	1.000	1.000
No	1.259	1.149
No. of sexual partners		
1	1.000	1.000
>1	0.875	1.453
Ever had genital discharge		
Yes	2.149	3.113
No	1.000	1.000
Anything can be done to reduce HIV infection		
Yes	1.000	1.000
No	0.995	0.239**
Predicted correctly (percent)	94.2	96.4
-2 Log likelihood	359.896	306.286
(N)	847	1053

Significance level *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$