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Factors affecting the utilisation of voluntary counselling and testing (VCT) services for HIV/AIDS in Sowa, Botswana.

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DECLARATION

I, Patrick Akhiwu declare that this research report is my own work. It is being submitted for the degree of Masters in Family Medicine in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

Signed.....

Dated this.....day of....., 20

ABSTRACT

Introduction

Voluntary Counselling and Testing (VCT) play a crucial role in the control and management of the HIV/AIDS epidemic. It is essential to understand the factors that influence the utilisation of VCT to improve implementation of measures that encourage VCT uptake. The purpose of this study was to determine factors affecting the utilisation of Voluntary Counselling and Testing (VCT) services for HIV/AIDS in Sowa, Botswana.

Methodology

A cross-sectional study was carried out by collecting data from 71 randomly selected participants residing in the community of Sowa, Botswana. Open and close ended questions were used. Relevant demographic data were collected from each respondent. Univariate and multivariate analysis was done using chi square test and logistic regression models through STATA11 statistical software.

Results

About half of the respondents were willing to utilise the VCT services. Willingness to utilise VCT was significantly associated with the respondents' choice of VCT centres, worry about confidentiality at VCT centres, and concern about their partners' being aware of their use of VCT. The expected reactions of their partner, family and community to the use of VCT by the respondents, in addition to the willingness of respondents to inform their partners the result of their HIV test, were other factors associated with the use of VCT. Multivariate regression showed that being "not worried" (AOR 33.48; 95CI 5.63 - 199.15) about confidentiality at VCT centres predicted the willingness to use VCT. In addition, not worried that their partners were aware they had utilised VCT (AOR 7.25; 95CI 1.69-31.14), and readiness to inform their partners about the result of their HIV test (AOR 14.96; 95CI 3.74-59.85), predicted the willingness of respondents to utilise VCT. Similarly, the expectation of a happy

reaction from partner (AOR 47.02; 95CI 3.83- 577.11) and family (AOR 45.13 95CI 3.28-620.72) on being aware the respondent had used VCT, also predicted willingness to use VCT.

Conclusion

This study confirmed that stigma related to VCT use and confidentiality at VCT centres influence the utilisation of VCT services. Also, concern about partner's awareness that a respondent had used VCT and the expected response of partner, family, and community, were all important influencing factors to the utilisation of voluntary counseling and HIV testing services. These issues need to be addressed in order to increase VCT uptake among individuals and the community.

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NOMENCLATURE / ABBREVIATIONS

ACHAP:	African Comprehensive HIV/AIDS Partnership
AIDS:	Acquired Immunodeficiency Syndrome
ANC:	Antenatal Care
ARVs:	Anti-Retroviral(s)
BOCAIP:	Botswana Christian AIDS Intervention Programme
BOTUSA:	Botswana - USA Partnership
CDC:	Centre for Disease Control
GDP:	Gross Domestic Product
HAART:	Highly Active Anti-Retroviral Therapy
HIV:	Human Immunodeficiency Virus
NGO:	Non-Governmental Organisations
MTP:	Medium Term Plan
NACA:	National AIDS Coordinating Agency
PLWHA:	People Living with HIV/AIDS
PMCTC:	Prevention of Mother to Child Transmission of HIV Infection
PSI:	Population Services International
STD:	Sexually Transmitted Diseases
TTC:	Tebelopele Testing Centre
UNAIDS:	United Nation Program on AIDS
VCT:	Voluntary Counselling and Testing
WHO:	World Health Organisation

CHAPTER 1: INTRODUCTION

HIV/AIDS is a major global problem. Over 60 million of the world population have been infected with HIV and about 30 million deaths have been attributed to HIV/AIDS related causes[1]. There were 2.6 million new infections, 1.8 million AIDS related deaths and about 33.3 million people living with HIV in 2009[1].

It is reported that 6800 persons become infected daily with HIV and 5700 die from AIDS mostly due to inadequate access to HIV prevention and treatment services, and in sub-Saharan Africa, AIDS is the primary cause of death accounting for 72% of AIDS-related deaths worldwide.[2] It is the region most heavily affected by HIV, accounting for 67% of HIV infections worldwide, 68% of new HIV infections among adults and 91% of new HIV infections among children in 2008.[2] Also, by 2008, more than 14.1 million children in sub-Saharan Africa were estimated to have lost one or both parents to AIDS. [2]

Among the countries in Sub-Sahara Africa, the southern African countries bear the major burden of HIV accounting for 35% of HIV infection and 38% of AIDS death worldwide in 2007. [3] Botswana in southern Africa is one of the countries most affected by HIV/AIDS. With a population of about 1.8 million and an estimated number of 300,000 people living with HIV, Botswana's prevalence of 23.9% in 2007 was the second highest in the world after Swaziland[3]. Botswana is a land locked country with an area of 582,000 square kilometer. Located in the middle of Southern Africa, it is bordered by Namibia, Zambia, Zimbabwe and South Africa. The national language is Setswana while the official language of government is English. The first AIDS case in Botswana was reported in 1985, when the disease was attributed to homosexuality and foreigners[4].

The devastating effect of HIV/AIDS in Botswana and its health care system is underlined by the report from the AIDS/STD unit of the Ministry of Health in the Medium Term Plan 2 (1997-2002) for

Botswana, which stated that 50% of beds in the pediatrics and medical wards of the two main referral hospitals were occupied by patients with HIV related illness.[5]

The impact of HIV/AIDS is ultimately felt in different ramifications by all segments of the society including the family, community and economy. An analysis of HIV/AIDS impact on children in Botswana paints a gloomy picture, estimating that up to 90% of deaths among under-fives in Botswana will be directly or indirectly caused by HIV/AIDS by 2015[6]. About 95 000 children have lost at least one parent and a number of children now play the role of caring for ill relatives or look after younger siblings, disrupting family cohesion and increasing the number of street children. The psycho-socio-cultural consequences may include increased burden on the surviving parent, grandparents and other members of the African extended family.

The socio-economic impact of HIV/AIDS on the economy, citizens and family dynamics of Botswana is highlighted by the fact that one in five families lost substantial income as a consequence of providing HIV care leading to food shortages and inability to meet other basic needs such as clothing, transportation and school levies, thus leading to economic insecurity within the family and even dissolutions of households[7]. This is not unexpected as the macroeconomic impacts of HIV/AIDS are likely to be associated with increased poverty at the household level. It had been estimated that for countries with an HIV prevalence of above 20%, Gross Domestic Product (GDP) will be 2.6% less per year than it would have been in the absence of AIDS[8]. Thus, in Botswana where the AIDS epidemic is most acute, the likely impact on the macro-economy is even greater, as shown in 2001 by an International Monetary Fund model which estimated that annual GDP growth in Botswana will fall from approximately 5.5% prior to AIDS to between 1.5 and 2.5% with AIDS in the next decade[9,10]. In addition, with the introduction of free ARV treatment the public expenditure would be expected to rise by over 5 percent of GDP due to higher health care spending with increased social support and public sector employment costs.

Realizing the seriousness and urgency of the problem the government of Botswana initiated strategies to address HIV/AIDS. The president of Botswana, Mr. Festus Mogae, became very involved requesting for help from the international community and non-governmental organizations[11]. The government of Botswana, in association with various international organizations, has instituted different initiatives and programmes to try and urgently address this serious situation.

The response by the Botswana government to HIV/AIDS can be divided into three stages. The first stage was the initial response in the early stages which was the period 1987 to 1989. The elimination of the risk of HIV transmission through blood transfusion was the main focus. This was followed by a longer second stage (1989-1997) and the first Medium Term Plan (MTP). This stage involved the introduction of programmes to address education, information and communication issues and saw the adoption of the Botswana National Policy on AIDS[12]. The third stage of response was from 1997 onward and involved expansion to incorporate education, prevention, comprehensive care and antiretroviral treatment for eligible citizens of Botswana. The government commitment to fighting the spread of HIV/AIDS was expressed by the formation in 1999 of the National AIDS Coordinating Agency (NACA) which, under the National AIDS Council (chaired by the President), is responsible for mobilizing and co-coordinating a multi-sectoral response to HIV/AIDS. It has representatives from different sectors including the private, public and civil societies.

Voluntary Counselling and Testing (VCT) has been and still is a major part of the management of HIV/AIDS. It is very visible in Botswana's third stage of response where it plays an indispensable role. VCT is comprehensively involved in the prevention and care of HIV/AIDS, prevention of mother to child transmission of HIV infection (PMCT), intervention, diagnosis of HIV infection, initiation of chemoprophylaxis and therapeutics, and ongoing emotional, spiritual, and social care and support[13]. VCT is recognized by the government and organisations as a major tool and a priority intervention measure in the prevention and treatment of HIV/AIDS by its support of the VCT centres all over the

country. One such VCT provider is the Tebelopele network of VCT centres. Tebelopele, a Setswana word which means "moving forward", is a non-governmental organisation (NGO) focused on the provision of VCT services. The government of Botswana and the Center for Disease Control (CDC) in the US has supported the Tebelopele network, which since 2000 has provided free, immediate and confidential VCT services in different parts of Botswana[14]. Apart from the work of the Tebelopele network other activities in relation to VCT are ongoing. The 'know your status' campaign developed by the CDC in collaboration with Population Services International (PSI) is one such campaign. It educates and encourages people to test and know their status. The message is carried through the popular media, billboards, and public places and events[15]. The African Comprehensive HIV/AIDS Partnership (ACHAP) which is a collaboration between the government of Botswana and the Bill and Melinda Gates Foundation set up more counselling centres and has trained over 400 counsellors with the Botswana Christian AIDS Intervention Programme (BOCAIP).[16]

In Botswana VCT services play a key role in HIV prevention and care. It is one of the major strategies being used in the fight against HIV/AIDS in Botswana. HIV testing is a pre-requisite to accessing antiretroviral medication in Botswana. Though the importance of VCT is well recognized in the prevention and control of HIV/AIDS, it has been reported that testing for HIV may have negative outcomes for the person being tested. Furthermore, due to the stigma and discrimination from families and communities, people may be afraid to actually seek HIV testing as studies have documented these negative outcomes to include, abuse, abandonment, marital/partner breakup, discrimination, psychological stress, etc.[13]

During the early phase of the PMTCT programme in Botswana there was a much lower turnout due to fear of testing positive, lack of facility for VCT for partners and worry about the reaction of partners regarding the lack of treatment for themselves and infected women[17]. The presence of antiretroviral therapy is expected to translate to increase utilisation of VCT services. The effect of fear and

stigmatization associated with HIV testing may negatively affect the utilisation of VCT and consequently the prevention care and control of HIV/AIDS.

1.1 Justification For The Study

Though there has been previous research on attitudes towards testing in developing countries, there are limitations with these researches. Acceptability of VCT has usually been assessed through indirect measures such as uptake of testing in the context of clinical trials for PMTCT[18]. Most of the research in developing countries was carried out in the absence of antiretroviral treatment[19]. With the increased availability of ARV treatment in Botswana and now in other African countries, and the associated need for recommending HIV testing, it becomes important to explore attitudes and factors associated with VCT in a setting where ARVs are available and accessible. Botswana, with its high HIV prevalence and bold policy responses to the epidemic, is an ideal place for such a study, especially as it was the first country in Africa to initiate free antiretroviral treatment for patients and a policy of freely accessible HIV testing in the government health services[20]. These actions and other related steps by the Botswana Government regarding the HIV/AIDS epidemic indicate the availability of resources and political will towards controlling the epidemic. Also, though VCT utilisation has improved among women attending antenatal care (ANC) with the availability of ARV medication, fear of HIV testing may still exist. It is important that factors that would affect utilisation of VCT services are identified and analyzed. There have been few studies in Botswana that have comprehensively addressed the factors that affect the utilisation of this special and highly needed service. This study seeks to explore such factors, including awareness of HIV, limitation related to access to VCT, and supporting partner, family and community. It is important to obtain more comprehensive information to enable the relevant authorities 8to address the issues identified, improve on present strategies and generally increase the number of people attending VCT and testing for HIV. This study would not only benefit Botswana but also other African countries that have to put in measures to manage the HIV/AIDS epidemic. It would

assist the government, non-governmental organizations (NGO) and other stakeholders to understand these factors, and thus put in place necessary changes and development to increase the use of VCT services in communities in Botswana and other African countries.

CHAPTER 2: LITERATURE REVIEW

The impact and importance of voluntary counselling and testing (VCT) in the comprehensive management of HIV/AIDS cannot be over emphasized. However, there are factors that influence positively or negatively the utilisation of VCT. This literature review looks at some of these factors identified as influencing VCT utilisation. A summary of the development of VCT, importance of VCT, and history of VCT in the world, Africa, and Botswana, are included to enhance the understanding of the effect of these influential factors.

In this review, voluntary counselling and testing, HIV, socio-demographic, barrier, incentive, motivational and facilitating factors, some of the keywords in the literature search, are explored in more details. This involved assessing literature from different reliable sources that included peer reviewed journals, published books and reputable electronic search engines such as the United States National Library of Medicine (PubMed) and the Cumulative Index to Nursing and Allied Health Literature (CINAHL Plus). A list of key words and phrases were compiled and searched with the search engines and web directories. Phrase searching, exclusion of irrelevant terms, and inclusion of relevant terms were applied for a more specific search.

2.1 History Of VCT

VCT as used here refers to intervention that includes pre and post test counselling associated with HIV testing[13].

Before the initiation of publicly funded HIV counseling and testing services in 1985 in the USA, little was known about the history and prevalence of HIV. HIV status was determined on donating blood. Introduction of counselling was to assist people understand their positive or negative results, address accuracy and consequences of HIV tests, and also assist with the difficulties some face on learning about their HIV status[21].

By 1987, there was an increase in the knowledge of epidemic and predictive value of HIV test, resulting in the expansion of HIV counseling and testing for clients in need of care for family planning, childbirth, drug abuse, and sexually transmitted infections, with the aim of reducing the risk of HIV transmission[22]. Later on in the USA, the introduction of anti-retroviral therapy to protect the unborn child from HIV infection had such a great effect that HIV testing was advocated as a routine test for pregnant women[23].

2.1.1 ***VCT In Africa***

In Africa, by 1990, VCT was already a part of HIV management. It was also experiencing challenges in utilisation. In neighbouring Zambia, concerns about confidentiality and length of time waiting for result was reported to have contributed to low-utilisation rates[24]. Studies from Kenya showed that women may get abused and beaten by their husbands for utilizing VCT and knowing their status, and may lose their home and children as a result of testing positive[25].

Reports on the early history of VCT in South Africa indicate that in 1988, the mining health services sent nurses to the South African Institute for Medical Research to train as HIV counsellors, and by 1992, nurses were made responsible for pre and post test counselling with VCT being made available on request at primary care centres[26]. This was a period in South Africa when testing was offered to the sick as HIV infection was relatively rare. Voluntary request for testing was not common. However, in some African countries where the rate of infection and prevalence were relatively high, voluntary counselling and testing rates were increasing despite the low rates of sero-status disclosure to sexual partners[27,28]. The Rakai project, a research organization which is a branch of the Uganda Virus Research Institute, had been providing home delivered VCT in Uganda since 1990[29]. It reported an increase in the proportion of people receiving VCT and HIV test result from about 35% in 1994-1995 to 65% in 1995-2000, translating to about two fold increases in six years[30]. It is worthy of note that Uganda, where the Rakai project was undertaken and which was one of the earliest countries in Africa

affected by the AIDS epidemic, demonstrated a decline of 22% in their HIV-1 prevalence in the early 1990s to a level of 8% HIV-1 prevalence among rural and urban dwellers[31,32,33,34].

2.1.2 ***VCT In Botswana***

HIV counselling and testing has been developing and is now routinely provided as a major part of HIV management in health facilities in Botswana. VCT has largely been provided in Botswana by private organizations and government facilities.

Tebelelopele network of VCT centres, now a private organization, is a major provider of VCT services to the population of Botswana. The Tebelelopele network has been supported by the Botswana-USA Partnership (BOTUSA) since 2002. BOTUSA, a collaboration of the Botswana government and the US centre for Disease Control and Prevention (CDC) started its activities in Botswana in 1995[35]. In 2004, the Tebelelopele VCT network became independent of the government and started functioning as a nongovernmental organisation. By October 2005, it had grown and expanded to sixteen centres and eight satellites in Botswana.[13]

As mentioned above, Botswana government VCT activities has developed to include the provision of routine, non-compulsory HIV screening, in health settings and prenatal clinics as part of a national HIV policy. One of the aims of this is to facilitate access to the free government antiretroviral treatment (ARV) programmes after taking the HIV test. These tests have become routine in public and private clinics in Botswana. With regards to routine or "opt- out HIV testing", it must be mentioned that Botswana was the first country in Africa to provide this service of as a national policy[36]. This routine HIV testing includes a stated goal of informed consent, a shortened pretest information session and a right to decline the test. The routine test has been embraced by a majority of the Botswana population, as shown in a cross-sectional population based study carried out in 5 districts in Botswana. This study by Weiser at al on 1268 adults, showed a significant number of respondents (81%) were extremely or very much in favour of routine testing while 8% were somewhat in favour of the policy[36].

15% of respondents had tested using the routine testing route. The study showed that the majority of respondents believed the policy would increase access to testing and treatment and also decrease violence towards women and discrimination towards people living with HIV/AIDS. However, 43% of the respondents believed it may lead to avoidance in seeking medical help because of the fear of testing, while about 14% believed the policy could result in an increase in gender based violence.

It is worthy to note that though 90% respondents tested said they received pre and post test counselling and returned to get their results, about 68% of the participants claimed they were unable to refuse the test.

2.2 Importance Of VCT

The global increase in HIV infection and expanding knowledge of HIV management has underlined the development and importance of HIV counseling and testing worldwide. HIV Voluntary Counseling and Testing (VCT) is the first step clients take towards taking responsibility for the protection of themselves and others. By taking the voluntary step, they accept their vulnerability to HIV infection[37].

VCT is a major pillar of HIV prevention and is recognised as playing critical roles in the prevention and early diagnosis of HIV, and also as an entry point of care in prophylactic and therapeutic interventions[38]. It provides clients with a chance to learn and accept their HIV status, in a confidential setting. It also allows for possible referral for further medical and psychological care. VCT as a major entry point assists with the reduction of HIV transmission of pregnant women to their babies through the prevention of mother to child transmission of HIV (PMTCT) programme in addition to increasing openness about HIV[39]. It is of benefit to the individual, his/her partner and the community. VCT is important in the prevention of HIV transmission from an infected person to another or an infected mother to her child, just as it assists in preventing a negative person from acquiring the infections from an infected person[1].

Peltzer at al[40] in a study in 2004, showed that VCT promotes change in behaviour of the population, risk reduction in some groups and reduced transmission of HIV infection in general. This is related to the use of VCT as an important means of health information and promotion thus encouraging behavior changes among the uninfected, discordant couples, and those infected with HIV[25,41,42] . For the infected that need and are able to assess ARV treatments, it is a major route of entry into the system where they will be able to utilize the necessary resources for the management of opportunistic infections and HIV/AIDS[1].

Apart from the importance of VCT in accessing treatment, it is also very useful for those with no access to treatment, as it allows them to learn about their HIV status and plan for the remaining years of their life as reported by some respondents in a study carried out in Kenya and Tanzania[43].

2.3 Factors Associated With VCT

The utilisation of VCT services varies between settings and countries and is affected by multiple factors. These factors have been characterized by different authors into different groups.

Valdiseri et al[44]characterized variables influencing diagnosis of HIV along three major axes:

- Socio demographic
- Attitudinal and behavioral
- Systems related

In the UNAIDS VCT technical update of 2003, societal and delivery associated factors were grouped to include[45]:

- Stigma
- Community perception/mobilization
- Method of reporting / confidentiality
- Treatment availability
- Rapid or same day testing

- Quality of services

Maman et al[28] divides factors influencing the decision to test for HIV into:

- individual,
- relational and
- environmental factors.

The individual factors refer to demographic and cognitive factors while relational variables include characteristics of partners or partner dynamics that influence HIV testing disclosure and decision. The environmental influencing factors include social factors, referring to the role of family, friends and community.

Maedot et al[46] reviewed studies that were done in the developing world regarding factors determining VCT acceptance, and grouped the factors as below:

- Socio-demographic factors
- Individual, cognitive and effective attributes
- Perceived ability to cope with the possible positive test results
- Relational factors
- Health service related factors.

Reflecting on the factors and groupings by the various authors above, one may conclude that they are interrelated and refer to VCT utilisation issues related to the person, the community and the VCT service providing organization.

2.3.1 *Socio-Demographic Factors*

The socio demographic variables include, among others, gender, race, age and socioeconomic status.

2.3.1.1 Gender And VCT

A study by Holtzman et al[47] and Solomon et al[48], showed that a substantial proportion of women in the USA who are at risk of being infected with HIV have not been tested. It was also reported that they may delay seeking testing for over one year even when they suspect exposure to HIV.

A study by Siegel et al [49] examined the testing experiences of HIV infected women. It discussed barriers preventing women from realising they were at risk of being infected by HIV. Even when they do realise they were at risk, there were barriers discourage them from going for HIV testing. Some of the major barriers preventing women from recognizing their at risk status include ignorance of their partner's risk practices, lack of understanding about risk behavior, perceived invulnerability to infection and lack of information about HIV related symptoms. However, on accepting their risk to HIV infection, fear and denial were then the barriers to seeking testing. On the other hand, Miller et al [50] found that among 470 African American and Hispanic women attending a family planning clinic in an inner city in the USA, 64% accepted HIV testing while about 87% came back for their results. The fact that 87% of the women came back for their results seems to contradict the findings of Solomon et al[48] which reported that substantial proportion of inner-city women do not return for their results. However Miller et al[50] suggested that the higher response of women to HIV testing may be attributed to the non-random nature of sampling participants.

In sub-Saharan Africa, most research on factors associated with VCT or use of VCT is related to women attending antenatal clinics[51]. Basset[52] states that many pregnant African women do not choose to have HIV tests when offered; thus few are identified and able to access necessary drugs. This is highlighted by findings from Harare, Zimbabwe, where only an estimated 15% of HIV infected women of a target population in a pilot study site benefited from drugs used to reduce MTCT[53]. This is despite the fact that the study was carried out in an adequately supported research setting. The low rates of participation in VCT was said to be responsible for this finding, as it was a prerequisite to treatment.

Basset reported that among the few that test, many will not come for their result or if they are made aware of their HIV positive status will not take the anti-retroviral (ARV) drugs or give birth in a health facility[54]. Basset argues that the VCT may place unfair responsibility and possibly blame on the woman if she is HIV positive thus the low response, by women. This situation in Zimbabwe in southern Africa had also been seen in Abidjan, Ivory Coast, where increasing women's willingness to test did not translate to greater access to available anti- retroviral drugs[55].

As mentioned earlier, review of the literature revealed that studies in sub Saharan Africa regarding factors associated with HIV testing have been focused on women attending prenatal clinics. A few studies focusing on men have been carried out. A study on factors associated with HIV testing among men in Uganda by Gage and Ali,[38] revealed that men who have discussed HIV with their spouses were 1.6 times more likely to have been tested and more willing to test if not previously tested. They also showed that men who paid for sex were more likely to have been tested than those who have not. This relationship between engagement in risky behaviors and HIV testing as shown among Uganda men is supported by studies done in other parts of the world. In San Francisco, USA, Schwarz et al[56] had shown in a study on predictors of HIV testing that reassurance and the need for medical care of infected people were the most common reason for testing, while the belief of not being infected was the most common reason for not testing. The study results had shown that 51% of the participants had repeated testing mainly to confirm prior HIV test result or because they had engaged in continued risky behavior.

Studies done on samples comprising of men and women have presented interesting outcomes. A study in a Philadelphia community comprising a sample of heterosexual women and men at high HIV infection risk revealed that women were significantly more likely than men to have tested[57]. This relationship between female gender and increased reported testing rates agrees with the earlier findings of Shutter et al[58] and later findings by Omer and Haidar[59]. However, it disagrees with the

findings of Fylkesness and Siziya[60] which showed no consistent differences in acceptability of VCT between men and women and contradicts the findings of Nyblade et al[61] which showed that women were less likely to participate in VCT than men. The study by Nyblade et al[61] in Uganda on users and nonusers of VCT among 10,950 participants made up of 4764 male and 6186 female, showed that women were significantly less likely to participate in VCT than men. They also reported that among the female respondents, those that were HIV-positive were significantly less likely to choose VCT than those who were HIV-negative. However, this was not the case for the male respondents, as they did not demonstrate statistically significant association between HIV status and choosing VCT. They explained that the relationship between women and decreased likelihood of accepting VCT could be due to perceived negative consequences like abandonment by spouses, which highlights their relative social and economic vulnerability. This view was supported by the findings that women, who had no means of independent support like homemakers, were less likely to have VCT when compared to women who were subsistence farmers. The subsistence farmers were also less likely to accept VCT when compared to women with more economic independence like shopkeepers. These findings underline the impact of socio-economic and cultural factors on gender and the use of VCT.

This study by Nyblade et al[61] noted other gender differentials in relation to the acceptance of VCT. Women who had higher numbers of reported illnesses, and possible AIDS-associated symptoms accepted VCT more than women who did not. This was however not the case with men who showed no association between reporting illness and possible symptoms of AIDS, and use of VCT.

Other studies have shown the difference in the VCT testing pattern between men and women. More recently, a study carried out in India on gender differentials in the uptake of HIV testing in the private and public sectors by Joseph et al, published in 2010, showed that the testing patterns of men and women are not consistent[62]. They examined reasons for undergoing an HIV test, location of testing and conditions under which individuals were tested. They reported that more women than men were

repeatedly tested for HIV, regardless of the sector. However, while family members were more likely to advise women to test, and to test in the public sector, private practitioners were more likely to advise men to test and to test in the private sector. In addition, men were more willing to receive pre-testing information in the private sector and also more willing to receive direct disclosure of their HIV positive result by the health provider irrespective of the setting.

Most studies carried out in Botswana on VCT have focused on women and antenatal clinics. However, one of the few population based surveys was by Rajaraman and Heymann,[63] comparing determinants of HIV testing in 2002 and 2004 among 1038 men and women. It revealed that there was no significant gender difference in the utilisation of VCT in 2002. However, by 2004, females in urban and rural parts of Botswana were more likely to have tested than males. This finding was reported as not surprising as men were usually, not as health-care seeking as women, and were less likely to visit the clinic for their personnel health, or, escort sick children or adults to the clinics. This gender difference seems to be applicable even to the adolescents and youth of Botswana as demonstrated by Fako in his study of Botswana youth[64]. He concluded that there was a significant relationship between gender and willingness to test for HIV infection among students, with girls more willing to test for HIV infection than boys.

2.3.1.2 Age And VCT

Studies carried out outside Botswana regarding the relationship between age and VCT has presented different conclusions on the effect of age on willingness to utilize VCT. However, studies in Botswana appear to show persistently that younger age groups are more likely to have HIV tests than older age groups[64,65].

In agreement with the Botswana studies were the findings by Gage and Ali in Uganda, which concluded that HIV testing rates decreased with advancing age[38]. They claimed a significant negative association between willingness to test for HIV and age, reporting that the odds of testing declined by

2.5% as age increased yearly. Older men that had not tested were less willing to test and older men in general were less likely to test. They suggested, in 2005, that the increased rates associated with younger men may be linked to the more than a decade of targeting Uganda youths with HIV prevention messages, which included the benefits of testing and using VCT. They stressed the importance of their findings by suggesting that special efforts should be made to reaching older men of "reproductive age" in their thirties to fifties as they would be most likely to have multiple partners and also less likely to have tested for HIV. These findings are consistent with other studies linking increased HIV testing rates with younger age[59].

In other parts of Africa, studies have further underlined the relationship between age and utilisation of VCT. Fylkeness and Siziya also found that readiness to have VCT was higher among the younger age groups in Zambia, a neighboring country to Botswana[60]. Their study showed that 49% of participants in age group 20-24 year were ready to have VCT as compared to 23% in the 40-49 years age group. In Ethiopia, East Africa, Admassu and Fitaw found that VCT acceptance was highest among study subjects aged 15 to 19 years while the lowest was among those aged 40 years and above[66]. They attributed the positive association of the younger age group to better access to health information, public gathering, organization, clubs and other means off institutional media. This association of health education and younger age group is similar to the interpretation in the study by Gage and Ali in Uganda[38]. This younger age group association with willingness to utilize VCT is similar to the other studies carried out in Ethiopia[,67,68]. The findings above relating increased willingness to use VCT to the younger age group differs from the findings of Nyblade et al which showed a contrasting relationship[61]. Their study recorded that the odds of participating in VCT for both men and women increased significantly with age up to 42 years for men and 43 years for women, with adolescents having the lowest rates among both genders. They hypothesize that this may be because the younger age groups suspect they are at risk of HIV infection and fear confirming this. This is in complete contrast to the findings by Fylkeness

and Siziya where the suspicion of HIV infection was actually a motivator to HIV testing[60]. However, it should be mentioned that in the study by Nyblade et al[61], the relationship between younger age group and willingness to test for HIV may also be related to the lack of treatment options, thus de-motivating those who feel at higher risk, in this case the younger age group, from using VCT.

As mentioned earlier, different studies carried out in Botswana had shown that acceptance of VCT decreased with increase in age. Thior et al showed that a group of women who were 32 years of age or older were less likely to accept VCT, when compared to women 21 years or younger[65]. They explained that this could be due to the perception by the older women that they are more likely to be HIV/AIDS positive due to previous unsafe sexual practice, and loss of relatives or friends with AIDS. Rajaraman and Heymann found that people in the oldest age group (50-64) years were less likely to have tested in their study conducted in 2002 and 2004[63]. However, of interest was their finding that in 2004, in both rural and urban areas, the age specific distribution of testing was similar, with the group of 30's more likely to test as compared to those under 30, while those above 50 had the least likelihood of testing. In addition, it was revealed that in rural areas, the group in their 40's were more likely to have tested than the group of under 30's, though this was only for rural areas and not significant in urban locations.

Fako demonstrated a similar relationship of age to willingness to test among the youth[64]. Younger students in the 12-15 years age group were significantly more willing to test for HIV infection than older students of 16 years and above. This difference between younger and older students was not dependant on the level of education. Fako also found that, in secondary and tertiary institutions, younger students were more willing to test than older students.

2.3.1.3 Education And VCT

Studies have shown contradictory results in terms of the relationships of educational levels to HIV testing. Thior et al showed that in Botswana, the higher the level of education achieved by a woman,

the less her chance of accepting VCT[65]. They found that women with twelve or more years of education were significantly less likely to accept VCT than women who were uneducated. This conclusion that uneducated women were more likely to accept VCT than the educated agrees with observations from other studies carried out in Botswana regarding acceptability of VCT by pregnant women[4,69,70,71] . Thior et al explained that this relationship was due to fear of HIV testing, from the educated women's evaluation of risks, or implications of a positive HIV results. They supported their conclusion by stating that 72% of women in their study who claimed fear as a reason for not undergoing VCT, had education of seven years and above.

In contrast, Rajaraman and Heymann found that higher level of education predicted greater likelihood of HIV testing in the clinic based adult sample of 2002 and population based sample of 2004[63]. They further analyzed their findings to show that in 2004 the effect of education on testing was more in rural areas than in urban areas. The rural primary school educated adults were 1.69 times more likely to have taken a test than those with no formal education. Secondary education increased testing by two and a half fold while tertiary education increased likelihood of testing by more than four folds in the rural areas. In urban areas, tertiary educated adults were 2.44 times more likely to have a HIV test and secondary educated adults 1.37 times more likely than adults with no formal education. However, unlike the observations in the rural areas, no significant difference was found between primary school educated adults and adults with no formal education in the urban areas. Their observation that the number of years of formal education positively and significantly influence HIV testing, is supported by findings in Botswana by Weiser et al, and studies in other parts of the world[36,60, 72, 73, 74 ,75 ,76]. Rajaraman and Heymann explained this relationship by suggesting that formal education increased utilisation of VCT by increasing exposure, empowering the person to better understand health related information, increasing confidence to interact with health care workers and negotiate health care

services. The relationship between formal education and utilisation of health services is supported by Stroebe in his book, Social Psychology and Health[77].

2.3.1.4 Marital Status And VCT

These contrasting findings regarding the relationship of education with HIV testing were also observed with marital status and HIV testing. Thior et al also showed that unmarried women were more likely to accept VCT than married orcohabiting women, while Rajaraman and Hermann found that marital status did not have a significant effect, or if significant, married orcohabiting women were more likely than single or separated women to take an HIV test[63,65].

Thior et al explained that unmarried women were more likely to accept VCT as compared to married or cohabiting women (44% versus 57%) because married women were still under the authority of their husband. This view is supported by other authors[4, 27,72,78,,79]. They are therefore more likely to request permission from their husbands, before testing or using VCT, to avoid possible problems they may encounter on disclosing a positive HIV result[64,65]. On the other hand, Rajaraman and Heyman[63] demonstrated a contradictory finding regarding marital status and HIV testing. They reported that in some urban areas,cohabiting or married adults were more likely to take a HIV test than single or separated adults. However, this relationship was not significant in the rural areas of Botswana.

2.3.1.5 Other Sociodemographic Factors And VCT

Other factors found to affect utilisation of VCT in Botswana were observed by Thior et al, Rajaraman and Heymann, and Fako[63,64,65]. Thior et al noted that unemployed women were less likely to accept VCT as compared to domestic workers[65], while Rajaraman and Hermann revealed a strong positive association between monthly income and HIV testing[63]. Rajaraman and Hermann explained that income level would most likely affect the odds of being granted or affording to take leave from work for HIV testing, or medical attention[63]. They went further to say that access to VCT, ability to afford

transportation for HIV test, or seeking treatment, is affected by low-income despite the fact that VCT is free countrywide. Fakos's study on Botswana youth also revealed that students with higher socio-economic status were willing to have a HIV test than those with lower socio-economic status[64]. These findings relating decreased utilisation of VCT with decreased socio-economic status has been documented in many literature[80,81]. Also, in both industrialized and developing countries, poverty has been linked with lower health seeking behaviour[82,83].

2.3.2 *Barriers, Incentives, Motivational And Facilitating Factors*

Other factors influencing the utilisation of VCT include individual, relational, services and systems related factors. These can be subdivided into motivation and facilitating factors for people that tested for HIV, and incentives and barriers for those that did not test[84].

2. 3.2.1 Barriers

For those not willing to test, some of the factors acting as barriers are as discussed below.

2.3.2.1.1 *Logistical Difficulties*

Logistic difficulties include issues related to distance to testing sites, access and availability of time to get to the VCT site[84]. On getting to the testing sites, other logistical barriers include administrative difficulties, crowding of the facility, and human and material shortages. The combination of these logistical difficulties at the VCT centres may result in long waiting times. The consequences of this, is that potential testers may go back home without being tested and some may not return

Table I: FACTORS ASSOCIATED WITH UTILISATION OF VCT[84]

DECISION NOT TO UTILISE VCT	DECISION TO UTILISE VCT
BARRIERS	**MOTIVATING FACTORS**
- Logistical difficulties - Stigma & Discrimination - Relationship/Marriage/Family - Perception of low risk - Fear of living with HIV diagnosis - Procedures/Services/Environment - Lack of ARV	- Recommendation by Health Care workers. - Concerns related to HIV symptoms - Planning a family
POTENTIAL INCENTIVES	**FACILITATING FACTORS**
- Accessing treatment - Prevention of Mother to Child Transmission (PMTCT) - Entering a committed relationship	- Contact/encouragement by People Living with HIV/AIDS (PLWHA). - Information/increased awareness about HIV and VCT. - Perception of being at risk of HIV infection.

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2.3.2.1.2 *Stigma And Discrimination*

Stigma and discrimination have increased HIV transmission and reduced use of VCT since the HIV/AIDS epidemic started[84].

The 2001 UNAIDS report on the impact of voluntary counselling and testing suggests that the negative impact of stigma on VCT is worldwide[13]. It is seen in every country and region thus creating 'major barriers' to preventing further infection, alleviating impact, and providing adequate care, support and treatment. These barriers directly or indirectly affect the use of VCT. The report states that stigma reduces visibility and openness about HIV/AIDS, resulting in concealment, encouraging denial, and thus reduced VCT use. It also leads to discrimination, violation of human rights, and abuse which could also discourage people from using VCT.

Stigma and discrimination has been reported to be important deterrents to VCT in Botswana[84]. Rajaraman and Surender[84] showed that respondents feared being ostracized by the community and even friends and relatives if they test positive to HIV. Those who were parents fear that by testing positive they may be passing the stigma burden unto their children. The importance of stigma on testing in Botswana is underlined by a study which suggested that 29% of participants mentioned testing positive as their main reason for refusing to take HIV test[65]. Other studies in Botswana and studies in and outside Africa, support the negative impact of stigma and discrimination, fear of the psychosocial consequences of having a positive HIV test and the expected loss of social status and discrimination on utilisation of VCT[13, 26,85,86,87,88].

Ginwalla et al[26] identified stigma surrounding HIV as a major reason for the reluctance to use VCT services among mine workers in South Africa. The participants in the study were worried about breach of confidentiality and the possible stigma related to a positive HIV test. Similar results were shown in Uganda by Kipp et al, where they demonstrated that stigma associated with HIV/AIDS and

people living with HIV/AIDS (PLWHA), was an additional barrier to the acceptability of VCT[85]. The fact that they may be seen at VCT centres including the fear of discrimination is enough to deter some people from utilising VCT services[89,90,91,92]. However, in the study in Botswana, none of the participants raised objections to being tested despite their continuous concern about stigma and the negative effect of disclosing their status[84]. The respondents who had tested were relieved that they had taken the test, while those who had not tested, wanted to be assured that if symptoms of HIV infection are suspected by health care workers, they would be advised to take the test.

The impact of stigma on testing is not limited to those who fear being at the receiving end of stigma. People with stigmatizing attitudes towards people living with HIV/AIDS are less likely to use VCT, or heard of routine testing. This was demonstrated in a study carried out in a Cape Town black township. It also showed that those individuals who had not been tested had significantly higher levels of AIDS related stigma and negative attitudes towards testing than individuals who had been tested[22]. They claimed that this is despite the fact that among those not tested, two thirds reported having been involved in at least one behavioural factor that could be termed risky.

Stigma and its ramifications has had a major negative impact on women, with them being at the receiving end of sexual abuse, domestic violence, abandonment, breakup of marriage, discrimination in property inheritance, loss of employment and the general negative attitude towards people living with HIV/AIDS[28,93,94,95,96]. The infant formula distribution programme in Botswana has also been adversely affected by stigma. Some people are reported to 'talk badly' about mothers they see carrying infant formula from clinic as they associate such cases with testing positive for HIV[71]

2.3.2.1.3 *Relationship, Marriage And Family*

Negotiating HIV testing and possible negative social outcomes of disclosure of sero-status are additional limitations and barriers to utilizing VCT[28]. Disclosure of HIV results to male partners by women have resulted in different reactions from their partners. Some studies showed that women

experience understanding and support from their spouses upon disclosure[97,98],while others revealed that a significant proportion of women experienced negative outcomes, including physical violence, on disclosing their sero-status[18, 82,84,]. Some women are so afraid of the negative consequences that they opt not to disclose their sero-status to their partners[83, 85,99,].

In Botswana difficulties with negotiating testing within a relationship were associated with issues of infidelity or blame in some cases and in others a larger concern of the possible impact of sero-discordance on the future of the relationship[84].

The fear of being regarded as promiscuous or HIV positive by their partners discouraged some from raising the topic of HIV testing with these partners[84]. This difficulty of negotiating partner testing or disclosing HIV status for women has been documented in other studies[28,75,92]. The expected anxiety associated with dealing with the impact of sero-positivity on self, family and relationship has resulted in reluctance to have HIV tests[75,92,91,100,101]. In contrast, a study in Botswana showed a positive effect on HIV testing when the person who is disclosing the result is known to the person testing.[63]. This positive effect was seen by the researchers as part of the personalised and community based aspect of HIV prevention effort. This deduction is supported by Stoneburner and Low-Beer in a multi-side study carried out in Zambia, Malawi and Uganda linking hearing about HIV/AIDS from friends and families with HIV risk reduction[102].

The influence of family and relationship dynamics on HIV testing among youths represented by students of secondary and tertiary institution in Botswana was well documented by Fako[64]. This study showed that students whose parents live together most of the time were significantly more likely to test than those whose parents never lived together, or sometimes lived together. Other family features that were found to positively influence HIV testing among youths included strong attachment to mothers, strong attachment to fathers, high level of emotional support from families, discussion of sex with family members, highly religious family and psychological bonding with family members[64].

This study revealed that students attached to their maternal grandparents showed more willingness to test for HIV than those attached to paternal grandparents or not attached to any grandparent[64]. This may be explained by the closeness between maternal grandmothers and their grandchildren. In Botswana it is common for mothers to leave their children in the care of their own mothers (the maternal grandmothers of the children).

2.3.2.1.4 *Testing Procedure, Services & Environment*

The quality of counseling services' procedures and the general environment may act as barriers. In Botswana, a study showed that in some testing centres, due to the lack of adequate counseling and the distressful videos showing the conditions of people living with HIV/AIDS (PLWHA) usually played in the waiting room, few people who visit these centres go ahead to test for HIV[84]. In addition, the counseling sometimes unduly emphasises the client's right to withdraw instead of encouragement to test, thus influencing the clients to avoid testing[84]. The attitude of health care workers at the testing centres may also affect the utilisation of VCT, especially if the perception of the clients is that the health care workers or the centres would not keep the results of their HIV tests confidential[60,91,92,103]. Kebaabetswe also highlighted the effect of poor maintenance of confidentiality and negative attitude of some health workers as barriers to women seeking the use of VCT in Botswana[71]. The effect of poor quality of interactions between counsellors and clients, especially that referred to as 'inappropriate confidentiality safeguards' has been found to limit the acceptability of VCT and the chance of people returning for their results[104]. This finding is supported by other findings which showed that pregnant women were more likely to participate in VCT at the PMTCT programme if the attitude of the health providers is positive[105,106,107,108].

In many cases especially where the community is small as in Sowa Town, the nurses and health personnel in the clinics are well known to the community or they know most members of the community. This closeness has been found sometimes to act as a barrier to participation in VCT[109].

In Botswana, the fact that testing services are free and widespread diminishes the importance of cost and access issues as barriers to VCT utilisation. However, this does not completely rule them out[63].

2.3.2.1.5 *Fear Of Living With An HIV Diagnosis*

Studies in Botswana showed that though ARV was available some still fear knowing their HIV status[84]. There was the fear of not being able to live a normal life if diagnosed as HIV positive. Some believed that not knowing that one was infected though HIV positive, was much better than the anxiety and worry associated with an HIV positive diagnosis. Also contributing to the effect is the perceived physical suffering that has been associated with AIDS.

2.3.2.1.6 *Perception Of Low Risk*

The perception of low risk has been seen as a barrier to VCT utilisation especially among those who have never been sexually active[84]. They assume that since they are not sexually active they should not be infected. However, there is evidence of caregivers having contracted HIV infection from those that they were nursing[110]. This has been attributed to factors which include the high number of HIV/AIDS cases that have been undiagnosed, ignorance of protection from HIV infection while providing care, and lack of protective equipment among those who are aware and wish to protect themselves[111]. It was also noted that some have a wrong perception of low risk despite their sexual history suggesting otherwise[84.]

2.3.2.1.7 *Lack Of Arv*

The lack of treatment is not an issue in Botswana which provides free ARV for all citizens. However, studies in other African countries have shown that even when sick, people do not want to know their HIV status because there is no available treatment[91, 92]. It has also been reported that some look at an HIV positive diagnosis as a death sentence[92].

2.3.2.2 Incentives

After discussions on barriers to HIV testing, it is appropriate to look at incentives that would influence people to overcome those barriers discouraging them from using the counseling and testing services for HIV. A Botswana study described such incentives to include[84]:

- Accessing treatment
- Prevention of Mother to Child Transmission (PMTCT)
- Entering a committed relationship

2.3.2.2.1 *Accessing Treatment*

Available and accessible ARV was the most important incentive among those who had not tested in a Botswana study[84]. The majority said they would take an HIV test if they developed symptoms of HIV/AIDS or when advised by a health worker to do so[84].Though some respondents were aware of the health benefit of testing early enough, they still lacked the courage to take the early step. However, all but one respondent claimed they would like to have an HIV test if they develop symptoms of HIV/AIDS to allow them access to treatment[84].

The impact of ARV treatment as an incentive in utilising VCT in Botswana is further supported by other studies which showed that the introduction and free availability of ARV therapy to citizens in Botswana through a national ARV programme was followed by a substantial increase in the proportion of people utilising the VCT services. Creek et al found that before ARV therapy was available, 8.3% of clients sought VCT because of illness, and 26.3% were HIV-positive. After ARV therapy became available, 20.1% of clients sought VCT because of illness[112]. Warwick also revealed a similar trend in a retrospective review of records at a local hospital which was a major testing site. The records showed that once treatment became available locally, the number of HIV tests performed increased fivefold[113].

This relationship between availability of ARV and VCT utilisation is strengthened by studies carried out in other African countries exposing the opposite effect on VCT utilisation, attributed to the unavailability or cost of ARV for HIV/AIDS patients. In such cases, the perceived benefit of VCT was low[114,115]. Also, in contrast to the findings in Botswana where respondents said they would go for a HIV test when they fall ill, in these other studies people refused HIV testing even when they were sick[91, 92]. A study in neighbouring South Africa among mine workers also revealed that with the absence of treatment options many did not see the benefits of testing[116]. They felt that testing may increase their risk of exposure to the ramification of a positive test. However, there have been recent changes in many of these countries with more accessibility to ARV. These studies on accessing treatment underline the importance of having affordable and available HIV chemotherapy to influence the utilisation of VCT services. It is suggested that being able to access and use ARV is an incentive to testing despite other barriers, especially as the ARV may prevent suffering, pain, other symptoms and early death.

2.3.2.2.2 *Prevention Of Mother To Child Transmission*

With the possibility of protecting the baby, it is not surprising that the PMTCT programme was mentioned as an incentive for HIV testing in Botswana[84]. However, Thior et al in their Botswana study found that the acceptance rate of VCT was relatively low when compared to reports from other countries where the PMTCT programme was being practiced[64,117[-]. Infant formula distribution was found to be an issue with the PMTCT programme. They explained that infant formula was offered later during the post-natal period, so women who have already delivered may have felt the perceived risk of testing was not offset by the benefit for their children. This was reported to have reduced the impact of infant formula as an incentive. As mentioned above, the distribution of infant formula may also act as a barrier by its stigmatizing effect. However, Kebaabetswe noted that in Botswana infant

formula is a major incentive, and that while there may be problems of stigma associated with the infant formula, people appreciated the government distributed free infant formula[71].

2.3.2.2.3 *A Committed Relationship*

HIV test was found to be important for those who had not tested and wanted to be involved in a committed relationship. However, for those who had tested already, entering a committed relationship was not regarded as a strong incentive to utilising VCT[84].

2.3.2.3. Motivating Factors

A number of other factors have been identified as playing roles in motivating people to utilise VCT. These include[84]:

Recommendation by health care workers

Concerns related to HIV symptoms

The planning of a family

2.3.2.3.1 *Health Care Workers Recommendation*

Among those that tested in Botswana, it was found that a majority took that step because they had been prompted by a health care worker. Though some were quite aware about issues of HIV/AIDS, they did not test until encouraged by the health care worker[84].

Rajaraman and Surender in their study showed that in some cases people in Botswana would only seek assistance of health care workers after serious deterioration of their health[84]. These respondents had stated that their health care worker advised them to take the test to determine if it was HIV causing their ailment or some other cause. Being aware of the symptoms of HIV/AIDS, some who were ill were relieved to have been referred for the test and felt happier after actually taking the test, being informed they were positive, and enrolled into the ARV programme[84]. It can be inferred that the encouragement and directions by the health care workers assisted in motivating them to take the HIV test.

2.3.2.3.2 *Concerns Related To HIV Symptoms*

Though the study above showed that a majority of people that took the HIV test were prompted by a health worker, there was the minority that decided on their own to take the test[84]. Motivation to take the test included the need for relief from the constant worry, fear and suspense of not knowing if one was infected with HIV, especially with the associated constant illness that makes them suspect they are infected with HIV. By knowing their status they felt relieved and empowered to take decisions on how they should live. Another reason given for a patient initiated decision to have a HIV test was the need for the patient to access other treatments which may have been delayed because of the believe that the patient's ailment is HIV related[84].

2.3.2.3.3 *Planning A Family*

Having children was found to be a strong motivation point for HIV testing[84]. However, Rajaraman and Surender in their study showed that those who took the HIV test for this reason usually took this decision after a recommendation by a health care worker while they were attending ante-natal clinics or planning to have children[84]. The major reason given by the participants was to protect the child. Just as seen with respondents who were self motivated to take the test in this study, there were also those that took the initiative to test because of their plan to have children[84]. On testing negative as it was with most of the respondents who tested because of their plan to have children, they would go ahead and have children. However, in a few of the cases that tested positive, some had to 'radically change their plans'[84]. However, it could be argued that the fear of taking such an important decision not to have children based on a positive outcome may discourage some from taking the test, as they may prefer to be ignorant of their status, and take the risk of going ahead to have children.

2.3.2.4 Facilitating Factors

Other factors found to influence the decision to take a HIV test in Botswana could be referred to as facilitating factors and include[84]:

i. Contact and encouragement by people living with HIV/AIDS (PLWHA)

ii. Information and increased awareness about HIV and testing

iii. Perception of being at risk of HIV infection.

2.3.2.4.1 *Contact And Encouragement By People Living With HIV/AIDS (PLWHA*)

The facilitating impact on HIV testing by PLWHA was attributed to the different possible outcome of recovery, or illness and/or death associated with HIV/AIDS. Being aware of PLHWA who responded to treatment and recovered encouraged some, while others who had the opportunity to witness the suffering or/and death of PLWHA decided to test early enough to enable access to treatment and possibly avoid the illness or/and death associated with HIV/AIDS[84]. One could assume that the readily accessible HAART programme would have influenced the effect of contact with PLHWA.

The impact of PLHWA on testing in Botswana was shown in a 2004 survey which found that those who know an HIV positive person were more likely to take an HIV test due to an increased risk perception because of the encouragement from PLHWA[63]. The study found that just knowing someone with HIV/AIDS increased the likelihood of HIV testing between one and a half to two folds. This was found to have the same effect as caring for someone suspected to be HIV positive in an earlier survey in 2002[63]. The 2002 survey attributed the increased testing among HIV caregivers to the possibility that since they may have been caring for their partners, there may be increased awareness regarding HIV symptoms, and possibly higher likelihood of HIV testing.

2.3.2.4.2 *Information And Increased Awareness About HIV Testing*

As mentioned above, the 2002 survey by Rajaraman and Heymann showed that caregivers had increased HIV awareness, thus facilitating the taking of HIV test[63]. This increased awareness may be attributed to the caregiving advice received from home based care educators and clinic staff, more exposure to health information and health care services, and increased awareness of risk from caring for a PLWHA. Apart from the effect of caregiving on awareness, other studies showed that increased

knowledge about HIV/AIDS issues facilitated taking HIV test in Botswana [63]. This relationship has been supported by studies done outside Botswana [78].

Another study in Botswana by Fako[64] differed with their findings. They showed no association between willingness to test and overall knowledge about condoms, sexually transmitted diseases and overall knowledge about HIV/AIDS[64]. However, it should be noted that this study was restricted to young people who were students in secondary schools and tertiary institutions and not the general population.

2.3.2.4 .3 *Perception Of Being At Risk Of HIV Infection*

The study in Botswana by Fako indicated that absence of prior involvement in sexual activity was the most important predictor of willingness to test for HIV[64]. Non-sexually active students were twice as willing to test as compared to sexually active students. The sexually active students were the least willing to test. In contrast the study by Rajaraman and Surender[84] in Botswana among an adult population showed that over 80% of respondents who had tested for HIV feared that they might be HIV infected. The fear was attributed to sexual activity, caring for PLWHA or the experience of ill health which they assume to be HIV related[84].

The impact of perception of HIV risk on HIV testing seems to differ between the youthful students and the adult groups. This suggest that other psycho-social-cultural and age related factors may be involved in a situation where on the one hand sexual activity was the most important predictor while on the other hand the fear of HIV infection was important to over 80% of respondents that took the HIV test.

Similar results to that found among students in Botswana were also found among students in neighboring South Arica where a majority of the students had been sexually active[40]. In the South Africa study, about 50% had used condoms but only 20% were willing to test. The above finding are consistent with a study across Europe among heterosexual people which showed that those reporting

risky behaviors never sought voluntary testing and another study showing that HIV uninfected respondents were more likely to have been tested than HIV-infected participants[76,118].

2.4 Summary

From the review of the literature, the impact of VCT in the prevention and control of HIV/AIDS has been increasingly important. There are many factors affecting the utilisation of VCT. Different studies have showed the contrasting effect of socio-demographic factors on VCT. A socio-demographic factor with a positive influential effect on VCT by one study may have a negative effect on VCT by another study. It is important to determine the effects some of these factors have in Sowa, Botswana. The review of literature also highlighted factors related to willingness to use or not use VCT. Barriers and incentives to use of VCT were related to the decision not to use VCT, while motivators and facilitators to the use of VCT were linked with the decision to use VCT.

The literature review exposed factors acting as barriers to use of VCT to include, logistical difficulties related to VCT sites, stigma surrounding HIV, perception of low HIV risk, fear of living with HIV diagnosis, lack of ARV, quality of VCT procedures and services, and reaction of partners, family and community. Incentives influencing use of VCT include availability of ARV, PMTCT, and entering a committed relationship. Concerns that one may be experiencing HIV symptoms, plan to have a family, and advice from health care workers were some of the motivating factors. Facilitating factors for those that tested include increased awareness about HIV and usefulness of HIV testing, increased perception of HIV infection risk, interaction with PLWHA, and death or recovery of PLWHA.

CHAPTER 3: METHODOLOGY

3.1. Aim Of The Study

To determine factors influencing the use of VCT services for HIV/AIDS in Sowa, Botswana.

3.2 Study Objectives:

- To describe the demographic characteristics of people who have decided to use or not use the VCT services for HIV/AIDS in Sowa
- To assess knowledge, attitude and perception of individuals and the community in relation to VCT services.
- To analyze factors influencing the decision to use or not use VCT.
- To identify barriers, fears and concerns related to VCT use.

3.3 Study Area And Population

This study was carried out in Sowa area in the Tutume Sub-district of northern Botswana. Sowa Town with a population of 2879 is surrounded by smaller villages and settlement. It provides residence for workers at the Botswana Ash mine which is situated twenty kilometers away in the Makgadikgadi pan, and the Africa Copper Mine which is about fifty kilometers away. The study was carried out among residents of Sowa community who were over 18 years of age and willing to participate in the study.

3.4 Research Process

3.4.1 *Choice Of Research Design*

This was a descriptive cross sectional community-based survey using a questionnaire with closed and open ended components. This design was chosen as an appropriate way to explore people's knowledge and attitudes in relation to the utilisation of available voluntary counselling and testing services.

3.4.2 *Selection Of Interviewers*

Sowa community is relatively small when compared to other town communities in Botswana. Most of the residents of Sowa are known to each other. The selected interviewers were people who are not permanent residents of Sowa community, as it was felt that respondents are more likely to express themselves to people they are not familiar with, and who most likely do not know their partners or family.

Three tertiary level educated Batswana who were not permanently employed, and do not reside in Sowa but visit on a temporary basis, were finally selected and trained as interviewers to carry out the survey with the researcher. They were trained by the researcher on the steps of the interview process with specific emphasis on ethical issues. Part of the training was on how to identify distress in a respondent and to stop the interview if it was causing discomfort or distress. These three interviewers were Tswana-speaking but fluent in English.

3.4.3 *Sample Size And Sampling Procedure*

Since there was no published local data on determinants of VCT uptake, a sample size of at least 70 respondents was determined based on the assumptions that the number of people living in Sowa and surrounding areas was about 5000, and the estimated prevalence of VCT utilisation was 25%, with a worst acceptable prevalence of 15%. With a standard deviation of 95%, the margin of error was calculated to be 11.55

The respondents were randomly selected from the community, after dividing the community into four parts. The houses in each street in these four parts were listed and given numbers. Stat Trek's Random Number Generator using statistical algorithm was used to produce 80 random numbers from these house numbers. Duplicate entries were not allowed. A participant was then selected from each of the randomly selected households. All the eligible members of the selected household who were willing to participate had a number assigned to them, the numbers were placed in a container and one

of the numbers was picked blindly. A participant was chosen per household to allow for a wider scope, as the researcher assumed that members of a household were likely to have similar views.

3.5. Inclusion & Exclusion Criteria

3.5.1 *Inclusion Criteria*

All residents of Sowa for at least six months who were 18 years of age and above were eligible for inclusion. The study was explained to the respondents and they had to sign the written consent to be included.

3.5.2 *Exclusion Criteria*

Visitors and non residents of Sowa were not eligible. Residents who had resided in Sowa community for less than six months were not eligible. Residents who refused to be interviewed or declined signing the consent form were excluded.

3.6 Data Collection

3.6.1 *Data Collection Instrument*

A questionnaire was used to collect data for the study. The questionnaire was developed by defining decision-making variables that may be associated with the utilisation of VCT, based on the literature. Measures were then developed for these variables. These measures were presented in the form of questions which were then combined in the questionnaire for the interview. The questionnaire sought information on demographic characteristics, knowledge of HIV, awareness of location and use of VCT, willingness to use VCT, and preference of VCT location. The closed questions further solicited information on respondents' assessment of confidentiality at VCT centres, their concerns regarding confidentiality at the centres, and the expected reactions of their partner, family and community on becoming aware the respondent had used the VCT services. It also assessed the willingness of respondents to inform their partner the results of the HIV test from the VCT centres. Open-ended

questions explored reasons for the respondents' preference of particular VCT locations. They allowed the respondents to use their own words regarding the expected reaction from partner, family and community on receiving news of a positive HIV test. They further attempted to uncover some of the issues that would encourage or discourage the respondents from using the VCT services.

The questionnaires were prepared in English and Setswana. The interview schedule in English was prepared by the researcher and translated into Setswana by a Setswana teacher in the local secondary school, and the researcher. Accuracy of translation was checked by going through each question, ensuring it was simple to understand then translating the Setswana versions to English. This Setswana to English version was then compared with the earlier English version. The back translation was found to agree with the original English version. To ensure uniformity and understanding of the questions, questions were read to participants, and they were also given the chance to go through the questions themselves. The responses of the participants were written in the space provided. These responses were also read back to the interviewee to check for accuracy of transcription. None of the participants required translation of the questions from English to any other language apart from Setswana.

3.6.2 ***Pilot Study***

To ensure understanding of the questions, and to detect potential problems with the questionnaire, a pilot study was carried out before the first formal interview. Ten participants were chosen from relations and persons entering a chosen clinic in Sowa where the researcher works. The first five persons (relations and patients) entering the clinic were coded 1 to 5. One of the coded numbers was randomly chosen out of a closed container by a blindfolded member of staff. This person was chosen as the first respondent. Subsequently every fifth person was selected. If a person refused, the next person coming into the clinic was then selected. The reason for the interview was explained to the participant by the interviewers. The interviewer ensured the participant was over 18 years, resided in

Sowa area, was not too ill and was able to communicate comfortably. Emphasis was placed on confidentiality and freedom to refuse or consent with no consequential reward or penalty. Those who agreed to be interviewed were requested to sign a consent form. Each participant was taken to a room kept aside for the interview. All the interviewers had their chance to conduct interviews.

After the interview the responses recorded on the interview schedule were reviewed by the author and other interviewers. This process was carried out for all the respondents with good results apart from the issue of residency in Sowa community. Some of the patients or relations were regular visitors to family and friends in Sowa and had come to the clinic as patients or relatives of patients. The exclusion criteria were reviewed with the interviewers and a decision was taken to qualify a resident of Sowa community as one who had been working or living in Sowa for at least six months. Six months was considered as adequate for respondents to have an opinion about their community in Sowa.

3.6.3 ***Collecting The Data***

Members of the selected household meeting the criteria had the purpose of the study explained to them and their consent to participate sought after explanation of maintenance of confidentiality and their right to participate or not without any repercussion or reward. They were assured that their identity and response would remain completely anonymous, and their names would not be recorded on the interview schedules. The confidentiality of the whole process was guaranteed by the interviewer. If more than one person in the household qualified and was willing to be interviewed, then they were given numbers which were placed in a container and a blindfolded person would pick a number. The member whose number was pulled out would be selected for the interview and a written consent signed. The participant was given the choice of deciding if they preferred the interview in their home or at our clinic where we had a room reserved for the interview. For those who preferred their homes the interviews took place in private inside or outside. Five respondents

decided to have their interviews at the researcher's clinic. The participants had the choice of responding in English or Setswana and the responses to the open ended questions were recorded in their exact words. The interview process for all respondents was expected to last about 45 minutes but actually lasted about 30 minutes on the average.

3.7 Data Entry

Information from the questionnaire was transcribed into the STATA 11 statistical software.

The socio-demographic variables were coded numerically and entered into the database. These variables could be categorical as seen with religion, where we have different religious groups with no intrinsic ordering. The variable could also be ordinal as seen with educational level of respondents. The responses to the other closed questions were also coded numerically. The outcome variable of willing or not willing to use VCT was recorded into two dichotomous groups for logistic regression models to be used.

All the respondents' data were recorded on the designed questionnaire sheet. No names or identifiers were recorded. The open ended responses were recorded in writing on the questionnaires and additional sheets.

3.8 Data Analysis

Analysis was carried out using STATA 11 Statistical software.

As mentioned above, willingness to use the voluntary counseling and HIV testing services was the outcome variable. It was measured by the response to the question: "Would you like to use the voluntary counseling and HIV testing (VCT) service?" The expected responses were: "yes"; "no"; "not sure"; and "already tested". These were grouped into "willing to use VCT" and "not willing to use VCT" as the dichotomous outcome variables. All independent variables from the closed question component of the survey were categorical or ordinal apart from 'age'. This allowed the use of contingency table analysis, chi-square or Fisher exact test of association and independence, to

investigate association and strength between willingness to use VCT services and independent variables. Bivariate analysis was carried out to assess if willingness to use VCT among the respondents was related to socio-demographic variables, knowledge of how an HIV infected person presents, and knowledge of location, preference and views of maintenance of confidentiality at VCT centres. Other independent variables were analysed to expose their relationship with willingness to use VCT. Chi square test and odds ratios were calculated through STATA11 to determine the association between different factors and the outcome variable. For different variables, frequencies, odds ratio, 95% confidence intervals, and p-values were computed to assess the presence and degree of association between the independent and dependent variables. Multiple logistic regression was used to identify the most important determinant variables predicting willingness to use the VCT services.

The open ended questions were relatively few but were analysed using techniques applicable to qualitative data, by reading through each response to determine common themes and develop categories, identifying trends and patterns.

3.9 Ethical Consideration

There may be issues involved with asking sensitive questions that may be related to experience of stigma and unpleasant consequences from a respondent, who may be distressed by the memories.

3.9.1 *Informed Consent And Confidentiality*

All respondents that agreed to be interviewed were requested to give written consent. The reason for the study and all important information related to the interview process was explained to the participants in their language of choice. The participants were made aware that their rejection or acceptance of the interview would not result in any penalty or reward. The participants were assured that their identity would remain anonymous during and after the survey and all responses would be extremely confidential. No identifiers were collected.

All responses from the participants were recorded in the form used for interview.

3.9.2 *Risks To Subject*

There was no physical risk in the interviewing process and no performance of any invasive procedure was required in the study. All data collected were from verbal or written responses by the respondent. However, we were aware that some of the questions may be quite sensitive and emotional, especially for those who may have already had unpleasant consequences as a result of their use of VCT services. The researcher and assistants were alert to such situations. The pre-survey training of the assistants had included that aspect. In such situations where a respondent exhibited any form of distress, the assistants had been instructed to stop the interview. There was only one such occurrence during the survey.

To ensure confidentiality and avoid identifiers, names of respondents were not recorded on any of the documentation, and all completed interview documents were kept securely by the researcher for later discussion with the assistants as necessary.

3.9.3 *Benefits To Participants*

There was no direct benefit to participants; however, some of them said they felt better discussing their worries and issues related to HIV testing.

CHAPTER 4: RESULTS

The total number of respondents included in the survey was 71 out of whom 48% were not willing and 52% were willing to use the VCT services.

Willingness to use VCT is the outcome variable. The expected responses were: “yes”; “no”; “not sure”; and “already tested”. These were slotted into the dichotomous groups. Participants who responded with “yes” and “already tested” were placed into the group reflecting response of those who were “willing to use VCT” while “no” and “not sure” were regarded as reflecting to different degrees, the responses of those who were “not willing to use VCT” and grouped accordingly.

4.1 Responses To Close Ended Questions

Table II shows the socio-demographic characteristics of the study population. It shows the distribution of the respondents according to gender, age, marital status, educational level and religion. Male respondents were 63%, while 62% of the respondents were in the 24-35 years age range. The majority (68%) were single and most were employed (58%)

Table III reflects responses to questions to asses respondents' knowledge of HIV/AIDS. All the respondents reported that they had heard about HIV/AIDS, with 89% saying an HIV infected person may look sick or healthy.

As shown in Table IV, sixty five of the respondents (92%) were aware that HIV status can be checked at VCT centres. The Tebelelopele testing centres (44%) and the primary health care clinics (31%) were the sites where most of the respondents believe VCT services can be accessed, while 20% chose the hospitals as the location for assessing VCT services.

When asked about preferences regarding the location of VCT services, 55% preferred the Tebelelopele testing centres, 24% selected the primary health clinics and 11% the hospitals.

On the issue of confidentiality in VCT Centres 30% claimed this was always maintained at VCT centres as displayed in Table 4.4. Forty three respondents (60.5%) think confidentiality is only sometimes maintained, while 70% said they were worried about confidentiality with HIV test. Among the respondents that were worried about confidentiality, 56% of them were very worried.

Table II: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION

SOCIO-DEMOGRAPHIC	NUMBER	PERCENTAGES
Gender	N = 71	
Male	45	63
Female	26	37
Age (Years)	N = 71	
18-23	9	13
24-29	22	31
30-35	22	31
36-41	9	13
42-47	4	5
47+	5	7
Marital Status	N = 71	
Single	48	68
Married	10	14
Divorced	3	4
Widowed	2	3
Cohabiting	8	11
Educational Level	N = 71	
Primary	9	13
Junior Secondary	34	48
Senior Secondary	19	27
Degree	8	11
No Formal Education	1	1
Religion	N = 71	
Moslem	0	0
Catholic	7	10
Protestant	45	63
Zion C.Church	9	13
Others	10	14
Employment Status	N = 71	
Unemployed	8	11
Home maker	5	7
Employed	41	58
Self employed	2	3
Student	5	7
Others	10	14

Table III: KNOWLEDGE ABOUT HIV/AIDS IN SOWA

VARIABLE	NUMBER	PERCENTAGE
Heard about HIV / AIDS?	N = 71	
YES	71	100
NO	0	0
How does somebody infected with HIV look like?	N = 71	
Always look sick	3	4
May look very healthy	63	89
Do not know	5	7

Table IV: KNOWLEDGE AND ATTITUDE RELATED TO HIV TESTNG AND VCT SERVICES IN SOWA.

VARIABLE		NUMBER	PERCENTAGE
Are you aware that HIV status can be checked at VCT centres?		N = 71	
	Yes	65	91.6
	No	3	4.2
	No answer	3	4.2
Where are VCT centres located?		N = 71	
	Hospitals	14	19.7
	Clinics	22	31
	Tebelopele testing centre	31	43.7
	Others	4	5.6
Would you like to test for HIV?		N =71	
	Yes	22	31
	No	10	14
	Not sure	24	34
Already	Tested	15	21
If you decide to be checked at VCT centres where would you prefer?		N = 71	
	Hospital	8	11.3
	Clinic	17	23.9
	Telelopele testing centre	39	54.9
	Others	7	9.9

Table V: PERCEPTION OF CONFIDENTIALITY IN RELATION TO HIV AND VCT SERVICES IN SOWA

VARIABLE	NUMBER	PERCENTAGE	
	N = 71	N = 71	
Do you think confidentiality is maintained at testing centres?			
Always	21	29.6	
Sometimes	43	60.5	
Never	7	9.9	
Does the issue of confidentiality worry you regarding testing for HIV?	N = 71		
Yes, very much	28	39.4	
Yes, but not much	22	31	
No	21	29.6	

4.1.1 *Perceived Attitude Of Partner Towards VCT Use*

Thirty one respondents (43%) would be worried if their partner knew they had used the voluntary counselling and testing services while 35 % said they would not be worried. 21% said they would tell their partner before taking the HIV test. Only three respondents (4%) said they would not tell their partner the results of the HIV test, while 61% said they would tell their partner irrespective of the outcome and 35% would only tell their partner if the result was negative.

Regarding the expected reaction of their partners on knowing the respondent has had a HIV test, 21% claim their partner would be happy they had taken a HIV test, 16% believe their partner would be unhappy while 14% said their partner would neither be happy or unhappy. Thirty four (47%) were not sure what their partner's reaction would be.

4.1.2 *Percieved Attitude Of Family And Community Towards VCT Use*

When asked about the expected reaction of other members of their family excluding their partners, on realizing the respondent has had a HIV test, 37% believed other members of their family would be happy while 10% claimed they would be unhappy. 14% said it would not make their family happy or unhappy. Twenty eight (39%) were not sure what the reaction of their family would be. As for the expected neighbour/community reaction on discovering the respondent has had a HIV test, 73% of the respondents were not sure of the reactions of their community while 4% said they would be happy, 14% said they would be unhappy and 8% stated they would neither be happy or unhappy.

4.1.3 *Distribution Of Respondents By Willingness To Use VCT And Socio Demographic Variables*

Table VI shows the distribution of respondents in the study by their willingness to use or not use the VCT services and *gender*, *marital status*, *education*, *religion* and *employment status*

Table VI: WILLINGNESS TO USE VCT AND SOCIO-DEMOGRAPHIC VARIABLES (N=71)

VARIABLES	Willing To Use VCT (%)	Not Willing To Use VCT (%)	p-value
GENDER			0.445
Male	44	56	
Female	54	46	
MARITAL STATUS			0.423
Single	48	52	
Married	70	30	
Divorced	33	67	
Widowed	0	100	
Co-habiting	38	62	
EDUCATION			0.119
Primary	44	56	
Junior Secondary	47	53	
Senior Secondary	63	37	
Degree	13	87	
No Formal Education	100	0	
RELIGION			0.128
Moslem	0	0	
Catholics	14	86	
Protestants	56	44	
Jewish	0	0	
ZCC	56	44	
Others	30	70	
EMPLOYEMENT STATUS			0.454
Unemployed	63	37	
Homemaker	80	20	
Employed	44	56	
Self employed	0	100	
Student	40	60	

4.1.4 *Distribution Of Respondents By Willingness To Use VCT And Independent Variables*

Table VII shows the distribution of respondents by the relationship between willingness to use VCT and variables using Chi-square, or on the alternative, Fisher's exact test, when one or more of the cells has an expected frequency of five or less. The relationship between willingness to use/not use VCT, and the variables *(knowledge of HIV infected person*, *knowledge of location of VCT centre* and *confidentiality maintained at VCT centre)* were not statistically significant. However, there was a significant relationship between willingness to use VCT, and *worried about confidentiality at VCT centres* and *preference of VCT centre*. Other variables shown to have a significant relationship with willingness to use the VCT services include, "*worry partner aware participant used VCT", "inform partner results of HIV test", "expected partners reaction on knowing respondent had used VCT", "expected family reaction on knowing respondent had used VCT*" and *"expected community reaction on knowing respondent had used VCT" .*

Table VII: WILLINGNESS TO USE VCT AND INDEPENDENT VARIABLES (N=71)

Variable	Willing to use VCT (%)	Not willing to use VCT (%)	*p*-value
Knowledge of HIV infected person			0.153
Always look sick	33	67	
May look health	51	49	
Not sure	20	80	
Knowledge of location of VCT centre			0.843
Hospital	50	50	
Clinic	45	55	
Tebelopele testing centre	52	48	
Others	25	75	
Preference of VCT Centre			0.008
Hospital	13	87	
Clinic	41	59	
Tebelopele Testing Centre	64	36	
Others	14	86	
Confidentiality maintained at VCT centre			0.462
Always	57	43	
Sometimes	47	53	
Never	29	71	
Worried about confidentiality at VCT centre			<0.0001
Much	11	89	
Not much	73	27	
No	71	29	

Variable	Willing to use VCT (%)	Not willing to use VCT (%)	p-value
Worry partner aware respondent used VCT			<0.0001
Much	0	100	
Not much	25	75	
No	68	32	
Tell partner before test	80	20	
Inform partner results of HIV test			<0.0001
Yes	70	30	
Only when negative	16	84	
No	0	100	
Expected partners reaction on being aware respondent used VCT			0.001
Happy	80	20	
Unhappy	8	82	
Neither(happy or unhappy)	70	30	
Not sure	41	59	
Expected family reaction on being aware respondent used VCT			<0.0001
Happy	81	19	
Unhappy	14	86	
Neither (happy or unhappy)	40	60	
Not sure	29	71	
Expected community reaction on being aware respondent used VCT			<0.0001
Happy	100	0	
Unhappy	10	90	
Neither (happy or unhappy)	83	17	
Not sure	78	52	

4.1.5 *Association Of Willingness To Use VCT And Significant Independent Variables*

Analysis of the association between the independent variables and willingness to use VCT before and after adjusting for socio-demographic variables is shown in Table VIII.

Preference of VCT centre was significantly associated with willingness to use VCT (p = 0.008). The Odds of utilising VCT services at Tebelopele Testing Centre (TTC) was 12.5 times higher than using VCT services at hospitals. Worry about confidentiality at VCT centre was also significantly negatively associated with use of VCT (p<0.0001). Use of VCT was 21 times more among those who were not worried than those who were much worried.

Those who would not worry about their partner being aware they had used VCT services were 6.38 times more likely, and those who would tell partner before test were 12 times more likely to use VCT services than those who were worried. In addition, participants who would inform their partners of the result of their VCT were 12 times more willing to use the VCT services than those who would tell only if the HIV test produces a negative result. *Expected family reaction on being aware respondent used VCT* and e*xpected community reaction on being aware respondent used VCT* were found to be significantly associated with willingness to use the VCT services (p<0.0001). Similarly, *expected partner reaction on being aware respondent used VCT* was also associated with willingness to use VCT (p < 0.001).

Those expecting a happy family reaction to becoming aware respondents utilised VCT were 25 times more willing to use the VCT services as compared to those who were expecting an unhappy reaction. This effect increased to 45 times after adjusting for socio-demographic factors. Respondents who were expecting a happy partner reaction were 44 times more willing to use the VCT services than those who were expecting an unhappy reaction.

Table VIII: WILLINGNESS TO USE VCT VERSUS SIGNIFICANT INDEPENDENT VARIABLES (N=71)

Variable	Willing to use VCT (%)	Not willing to use VCT (%)	Crude Odds Ratio (95 CI)	Adjusted Odds Ratio (95 CI)*
Preference of VCT Centre				
Hospital	13	87	1.00	1.00
Clinic	41	59	4.9(.49-49.2)	4.48(.33-61.34)
Tebelopele Testing Centre	64	36	12.50(1.39-112.26)	13.1(1.16-148.42)`
Others	14	86	1.20(.06-22.94)	.88(.03 - 23.51)
Worried about confidentiality at VCT centre				
Much	11	89	1.00	1.00
Not much	73	27	22.22(4.85 - 101.74)	35.56(5.7 - 221.15)
No	71	29	20.83(4.53 - 95.89)	33.48(5.63 - 199.15)
Worry partner aware respondent used VCT			-	-
Much	0	100		
Not much	25	75	1.00	1.00
No	68	32	6.38(1.71 - 23.76)	7.25(1.69 - 31.14)
Tell partner before test	80	20	12(2.37 - 60.65)	12.42(2.32 - 66.55)
Inform partner results of HIV test				
Yes	70	30	12.11(3.47 - 42.36)	14.96(3.74 - 59.85)
Only when negative	16	84	1.00	1.00
No	0	100		
Expected partners reaction on being aware respondent used VCT				
Happy	80	20	44.00(3.97 - 488.19)	47.02(3.83 - 577.11)
Unhappy	8	82	1.00	1.00
Neither(happy or unhappy)	70	30	25.66(2.21 - 298.50)	25.11(1.90 - 330.98)
Not sure	41	59	7.70(.89 - 66.64)	8.04(.87 - 74.04)
Expected family reaction on being aware respondent used VCT				
Happy	81	19	25.20(2.45 -259.23)	45.13(3.28 - 620.72)
Unhappy	14	86	1.00	1.00
Neither(happy or unhappy)	40	60	4.00(.34 - 47.11)	6.59(.41 - 105.67)
Not sure	29	71	2.4(.25 - 23.24)	3.21(.28 - 36.60)
Expected community reaction on being aware respondent used VCT				
Happy	100	0	-	-
Unhappy	10	90	1.00	1.00
Neither(happy or unhappy)	83	17	45.00(2.29 - 885.60)	98.58(3.48 - 2794.52)
Not sure	78	52	8.33(.98 - 70.57)	12.56(1.33 - 118.66)

Key to Table VIII:

* Adjusted odds ratio column after adjusting for socio-demographic variables.

4.2 Responses To Open Ended Questions Related To VCT Sites

Respondents were asked the following questions related to VCT sites:

"Why would you prefer this location?"

"What would make you not want to use the VCT services?"

"What would encourage you to use the VCT services?"

Analysis of responses to the open ended questions revealed the following issues and themes.

Most of the respondents said confidentiality issues were the most important factors discouraging them from utilising the VCT. This view was not attributed to any particular demographic group as it was expressed by respondents from different groups. Other factors expressed by respondents included the availability of "*caring workers*", "*faster services*", "*more matured VCT worker*", and "*qualified nurses and doctors to do the testing*".

4.2.1 *Confidentiality At VCT Centres*.

Most of the 55% of the respondents that chose the Tebelelopele testing centres as their preferred location for VCT services (Figure 1), presented issues related to confidentiality as the reason for their choice. "*They do not know me", ".....they do not talk about your results", ".....there is no discrimination" ".....there is confidentiality*".

They explained their preference of Tebelopele testing centres over the government hospitals and clinics. *"At clinics and hospitals, employees discuss other people's status".*

One young man said *"Because I have not heard of confidentiality breach with the centres. I cannot say the same for government clinics and hospitals."*

Another claimed he preferred these centres because they have *'specially trained staff '*. Some preferred them because the staff are "*usually strangers and do not live in the same community"* with them. This was further emphasised in one of the responses, *"testers are strangers and do not know me".*

One of the female respondents mentioned that "*care must be taken to have an exit far from the entrance to avoid other people reading a recently tested person's facial expression on coming out of the VCT room".*

4.2.*2 Response Time For HIV Results*

Apart from issues of confidentiality, some mentioned the speed of response as a reason for choosing Tebelopele testing centres. As a respondent put it, *"...my friend said he got his HIV results immediately when he tested with them. I don't want to wait with my heart beating fast while waiting for my results".*

4.2.3 *Accessibility Of Clinic*

For 24% of the respondents that chose the local clinic (Figure 2) as their preferred site for VCT, most of the reasons given were related to accessibility. Some of the reasons were, "……..*close to where I live, so I do not have to look for money for transport*", *"It is the health facility closest to me", clinics are usually not very far", "....easily accessible all over the country"*

4.2.4 *Resources At VCT Sites*

Respondents that chose the hospital as their preferred location for VCT services had reasons related to their perception of a higher level of resources at hospitals. Comments included, "*Hospitals have qualified doctors and personnel. I need to be sure of my result", ".....these ladies at these other centres may not even be nurses".*

4.2.5 *Reliability And Confidentiality At Non Public HIV Testing Sites*

The 10% of the respondents that did not prefer hospitals, clinics or Tebelelopele VCT (Figure 2) mostly preferred private clinics for reasons of confidentiality and reliability. One respondent said she would choose private doctors because "*They do the test themselves and inform you of the results in their office. Just you and him".*

Another said *"These are qualified doctors and you are paying for the services. They will be very careful, professional and reliable. This test is too important for me to go to anybody"*

Two respondents who were not in any of the above groups claimed they would test themselves with one responding with "*....that way I will know for sure that nobody knows except me"*

4.2.6 *Gifts And Free ARV Drugs As Incentives For Testing*

Another respondent was of the opinion that giving out gifts with testing would encourage him and others to utilise the VCT readily.

"If you know there is something to take away when you test, you are more likely to take the trouble of going for a test, especially if you think you are negative and there was no reason to go to the centres to test"

Some of the respondents mentioned that maintaining the provision of free ARV drugs by the government would encourage utilisation of VCT services.

"If these drugs remain free and available, many will test knowing there is medicine to make you better. If the drugs are stopped, one may ask themselves why they should bother, as they would most likely be worse from the worry of having a disease and not able to take treatment".

"If there was no treatment I would not have gone for testing. Knowing your status with no medicine to help you is a death sentence. It would be better I do not know. Really, our government is trying for us and should maintain these drugs for more people to test".

4.3 Responses To Open Ended Questions Related To Reaction To Testing Positive For HIV

Respondents were asked questions in relation to reaction of their partners, family and neighbour/community to the respondent testing positive for the HIV test.

4.3.1 *Partner's Reaction To Positive HIV Test After VCT*

To the question “How do you think your partner would react if he/she knows you are HIV positive?” the responses were varied.

*S*ome of the respondents said they were not sure of the reaction of their partners on knowing the respondent was HIV positive.

"I am not sure of what she would do. It will be a big thing. She may say she will support me if I ask her but you can never know until it becomes a reality",

More claimed their partners would be quite unhappy and disappointed,

"Aah! He will definitely send me away. I do not think he will be able to handle it or live with me"

One young female respondent said,

“He would end the relationship. I will do the same if I was in his shoes. ”

Another young man said,

“*She will be mad at me, thinking I was unfaithful*”.

A few claimed their partner would accept the result and support them.

"My partner will be very sad and disappointed but will support me. We have children together. I do not think I will suffer from neglect"

4.3.2 *Family Reaction To Positive HIV Test After VCT*

Apart from the partners, the reaction of other members of their family to a positive HIV test was explored. The respondents were asked to respond to the question “How do you think your family would react if they know you are HIV positive?” Most of the respondents were of the opinion that though their families would be unhappy about their HIV positive status, they would still be supportive. A few were not sure of the reaction of their family but none reported the fear of abandonment by their families.

One of the young male respondents said, *"Eish! They would be very sad. They would not be happy at all, but they will not let me suffer just like that*".

4.3.3 *Community Reaction To Positive HIV Test After VCT*

On the other hand most of the respondents to the question "How do you think your community would react if they know you are HIV positive?" were either not sure of the reaction of their community or believed their reaction would not be supportive. Some of the comments of the respondents regarding the reaction of their community on knowing the respondent tested positive to a HIV test included, *"They may think I have many partners," ".....may treat me in a special way which I don't want","....might start saying bad things about me behind my back."*

CHAPTER 5: DISCUSSION

The main objective of this study was to analyse factors that may influence the utilisation of voluntary counselling and HIV testing (VCT) among residents of the mining community of Sowa.

5.1 Sociodemographic Variables

Among the study participants, 63% were male. The higher number of male participants was expected as Sowa is a mining community with higher proportion of males as compared to females[119]. Fifty four percent of female respondents were willing to use the VCT services as compared to forty four percent of male participants. However, this difference was not statistically significant (p=0.445). This is in contrast with other studies in Botswana which have shown a significant relationship between gender and willingness to test for HIV[63, 64]. Fako found that among students in Botswana, girls/young women were more willing to test for HIV infection (56.8%) than boys/young men, while Rajaraman and Heyman in 2004 data analysis indicated that females in rural and urban areas of Botswana were more likely to have taken an HIV test[63,64]. It was suggested that this gender difference may be attributed to the health-care seeking behavior of men in Botswana[63]. They are less likely to attend clinics for routine care or as companions to sick adults or children[63].

In this study, here was a higher percentage of willingness to use VCT among married respondents (70%), as compared to these who were single (48%). However, this difference cannot be accepted as they were not statistically significant (p=0.423). It should also be noted that married respondents formed only 14% of the total number of respondents. Earlier studies in Botswana and Uganda had shown a significant relationship between married women and willingness to test for HIV[61, 63]. Rajaraman and Heyman had found in their study that though marital status was not significant for HIV testing in their 2002 sample, it was found to have a significant effect in the urban 2004 BAIS II sample, with married and co habiting women more likely to test than single women. It may be suggested that

the stability in a relationship may influence people towards using VCT. However, this influential relationship on VCT by marriage is not supported by other studies in and outside Botswana [65, 73].

There were no differences between willingness to test and level of education. The Sowa community may not reflect the educational distribution of a rural or semi-urban part of Botswana, as 68% of the respondents were either employed, self employed or students. Previous studies done regarding the influence of education on VCT had shown contrasting results in Botswana[63, 65]. Differences in outcomes regarding educational influence on VCT were also seen outside Botswana[38, 61,66,72,73].

Previous studies done in Botswana have demonstrated the positive influence of employment, monthly income, and higher socio-economic status on willingness to test for HIV[63, 64]. This study did not reveal such differences. It should be noted that Sowa is a relatively small town with easily accessible VCT centres. The mine authority is the major employer and it has put in place systems to assist all levels of mineworkers access VCT services. These facilities and programmes are readily available to all, irrespective of their level of employment.

5.2 Influence Of VCT Centres, Services, Personnel And Knowledge Of HIV On Utilisation Of VCT

Awareness of how an infected person may present was not a significant influencing factor in the use of VCT, though respondents who believe an HIV infected person always looks sick had a higher percentage (67%) of those not willing to test as compared to those who believe they may look healthy (49%). However, 89% of the respondents said an HIV infected person might look very healthy. This awareness may be attributed to the HIV education campaign by the Botswana government and the mine authority in Sowa. This campaign, as observed by the author, involves the use of different means of communication such as billboards, radio, television, pamphlets, community meetings and special HIV days in the community. Knowledge of sites where individuals may access VCT services was not significant, but preference of VCT site was a statistically significant influencing factor in the decision to have VCT.

In this study, the Tebelopele Testing Centre and the Primary Health Care Clinic were the most preferred VCT sites, being preferred by about 55% and 24% of the respondents respectively.

Among the respondents that chose the Tebelopele Testing Centre as their preferred site for accessing VCT, 64% were willing to use VCT, while only 13% of the respondents that chose the hospitals as their preferred sites were willing to use VCT services and 41% of respondents choosing the clinic were willing to use VCT. In Sowa town, VCT services are readily available at the clinic. The Tebelopele testing centre is a result of collaboration between the governments of Botswana and the United States of America (USA). It is based in Francistown, a larger neighbouring town located 180km from Sowa. The workers and counsellors from TTC travel to Sowa on selected days to provide VCT services to the Sowa community. Since these counsellors are from outside Sowa, based on previous studies it may not be unexpected that most of the residents would prefer to wait for the VCT services from TTC (outside Sowa) instead of using local, public and private health facilities where VCT services are available on a daily basis. In a small community like Sowa, the nurses and health personnel in the clinics are most likely well known to members of the community. This closeness may sometimes act as a barrier to participation in VCT. This suggestion is strengthened by the responses to the open ended questions posed to respondents on why they prefer their choice of location. A number of respondents that selected TTC as their preferred choice gave responses related to confidentiality at VCT centres. Such statement like, "*they don't talk about your results*", "*they don't know me*" all point to the importance of confidentiality related issues, as reasons for choice of VCT centres. This correlates with the findings of Van Dyk and Van DyK, which suggests that 33% of South Africans would prefer to access VCT from clinics where they are not known[109].

The fact that there is readily available VCT service and health personnel at the Sowa clinic may encourage some people to use the VCT service, even though these personnel reside in Sowa. The positive effects associated with a clinic and health personnel are most likely the reasons for their

choice. The encouragement and recommendation by a health worker may be the push needed by an ill person to utilize VCT [84]. In Botswana, majority of those that tested for health reason, even those seriously ill, were found to have taken the step because of prompting by a health worker[84]. It has been shown that issues related to health worker affects utilisation of VCT. Poor quality of interaction between the counsellors and respondents, poor maintenance of confidentiality, and negative attitude of some health workers would reduce VCT acceptability and chance of people returning for their results[104]. On the other hand, positive attitude of health workers increases participation in VCT[105, 106,107,108].

A high proportion of the study respondents (70%) said they worry about issues of confidentiality related to VCT centres. In this study, almost 90% of those that worry much about confidentiality at VCT centres were not willing to use VCT. The impact of the fear of breach of confidentiality or lack of confidence in health services in relation to use of VCT, has been shown in many studies[60, 91,103,109,120]. However, though issues of confidentiality related to health workers negatively affect utilisation of VCT, discouraging people from using VCT, there is a positive effect from their interaction with health workers as mentioned above, where health workers have influenced ill patients to utilise VCT. The influenced patients express relief that by using VCT they were exposed to informed treatment options establishing the best course of treatment for their condition[84]. However, this positive relationship may be influenced by the availability of free Highly Active Anti-Retroviral Treatment (HAART) for all citizens of Botswana that qualify for treatment. Lack of access to VCT services in developing countries and the unavailability or high cost of Highly Active Anti-Retroviral Treatment (HAART) in many African countries has resulted in low perception of benefits of VCT and consequently reduced utilisation[121]. The influence of HAART on the uptake of HIV testing in Botswana was underlined by Warwick, who showed a fivefold increase in the number of VCT performed once treatment was available locally[113]. Studies have shown that apart from the role of confidentiality, stigma, treatment availability and

human interaction elements in influencing the choice of VCT centres, logistics, lack of financial resources, distance and access to testing centres, transport availability, time and testing procedures may also influence the utilisation of VCT[84,109,122].

Some of the respondents that chose TTC were influenced by the speed of response by the testers towards getting their results, while for those that chose the clinic some took the decision because of the fact that the clinic was close to their residences. In this case, one must note that TTC are based outside Sowa and visit monthly. For those that chose a hospital as their preferred site, some took the decision because they felt they had more qualified personnel and doctors, and wanted to be sure of their results. One said "*Hospitals have qualified doctors and personnel. I need to be sure of my results.*" For such a person a valid result may be more important than other issues related to location or type of VCT centre.

Some respondents believed that provision of gifts or reward will encourage testing especially among those who believe they are negative and have no reason to go through the VCT process. As mentioned earlier, some are motivated to test because of the availability of HAART, knowing that should they test positive, treatment will be available. Some said they would not test if treatment was not available and say the government should maintain the free ARV programme.

It should be noted that in Botswana, testing facilities are relatively widespread and free. Thus, issues linked with access and cost may not be the primary reasons influencing choice of VCT centre or utilisation of VCT[63] but rather those related to confidentiality, stigma and attitude of health personnel.

5.3 Influence Of Confidentiality Stigma, Partner, Family And Community On Utilisation Of VCT

The social and psychological barriers to testing have been reported as more important than the logistical barriers[84]. In this study issues of confidentiality and stigma especially in relation to VCT centres, health personnel and partners had a significant influence on utilisation of VCT[123]. It has been shown in Botswana that lack of male partner support was a key barrier to HIV testing among women

attending antenatal clinic[71]. Domestic violence and even abandonment by male partners are some of the consequences of HIV testing and disclosure[28]. None of the respondents who 'worried much' that their partners' would be aware of their use of VCT were willing to test, and only 25% of those who 'worry but not much' were willing to use VCT services. The effect of their partners reaction on the decision of respondents to use VCT, was further underlined by the fact that 80% of those who expect a happy reaction from their partner on being made aware the respondents had used VCT, were willing to have a test, while only 8% of those whose partners would be unhappy were willing to use VCT services.

The responses to the open-ended questions regarding partner's reaction to the respondent testing positive were varied. Some of the respondents were unable to predict their partner's reaction. Some feared that even if their partners verbally promise support to them, should they test positive to HIV, their partners might abandon them. Some of the respondents were sure their partner would be so unhappy that they would take actions as severe as ending the relationship or sending away the respondents. However, a few were confident their partners would be supportive. Some linked such support to the children they have with their partner.

One of the responses from a female respondent was that her partner would end the relationship if he knew her HIV positive status. She said, "*I would do the same if I was in his shoes*". This reflects the internalized form of stigma, which may be seen when people within the same cultural group as those stigmatising them, ascribe to the same values and norms and thus have the same ideas about the issue, imposing stigmatising beliefs and actions on themselves[124].

The impact of stigma was not restricted to partners alone as a similar relationship was found to exist between utilisation of VCT and expected reaction from family and community. However, other family members' reactions to the positive HIV test were expected to be supportive by the respondents than their partners' reactions. It must be mentioned here that 68% of the respondents were single with

only 14% married and the rest divorced, widowed or cohabiting. It can then be assumed that most of the partners referred to in this study were unmarried partners of the respondents and not husbands or wives. Other family members referred to were the respondents' biological relations. Most felt that their other family members would be unhappy but supportive, with only a few saying they were not sure of what their reactions would be. Interestingly, none of the respondents mentioned abandonment by these family members. This family level of support was demonstrated in one of the responses to a question exploring the expected reaction from their other family members if they (respondent) test positive. The response was, *"...they would not be happy at all, but they would not let me suffer ...*" Fako's finding in Botswana showing the influence of family dynamics on the use of VCT among respondents were similar to those reflected in this study[64].

This study showed that those expecting a happy reaction from their family were more willing (81%) than those expecting an unhappy reaction. Similarly, those expecting a happy community reaction were also more willing (100%) to use VCT than those expecting an unhappy reaction (10%).

Responses to the open ended questions showed that most of the respondents were either not sure of the community reaction or expected a negative community reaction. As one of the respondents said, *"…they might start saying bad things about me behind my back*". These results are in keeping with other findings showing the impact of stigma by the community on utilisation of VCT. Many, because of the negative psychosocial consequences associated with testing positive for HIV/AIDS, are reluctant to go for VCT[86,88]. An extreme consequence of such stigmatising community attitude is illustrated by the tragic case of Gugu Dlamini, a woman from Durban, South Africa, who was stoned to death in 1998 for publicly declaring her HIV-positive status [125,126] . However, such a situation is unlikely in Sowa or Botswana.

5.4 Scientific Rigour Of Study

5.4.1 *Validity /Credibility*

To ensure validity, the questionnaires and findings were presented to an experienced HIV counselor who has a degree in nursing and psychology, and was not involved in the survey. She has many years experience of HIV counselling and management of psycho-social issues in the community. The findings were also presented to one of the participants who had experienced stigma from her partner, and family and was very willing to talk about her experience. They felt the findings were a reflection of what they have experienced and factors affecting the use of VCT.

5.4.2 *Reliability/ Consistency*

It would be difficult to repeat the tests on the participants to confirm reliability and consistency. However, the training of the interviewers focused on recording all statements by the respondents to each of the questions and not to decide which statement was more valuable and recordable. This was to reduce bias. The quantitative aspect was easier as respondents had to choose one answer.

5.4.3 *Generalisability*

The Sowa community is a mining community. Sowa town is a small relatively modern town, it is expected that the findings could be generalised to a certain degree, to other towns in Botswana especially the mining towns. It may however be less generalisable to the very rural villages scattered over Botswana.

5.4.4 *Transferability*

The residents of Sowa who were involved in this study were all Tswana speaking, just like the majority of Batswana. They share psycho-socio-cultural values with others Batswana. The findings should be transferable to other parts of Botswana and southern Africa.

5.5 Limitations Of The Study

The format of data collection using face-to-face interviews may lead to bias in reporting. Issues related to HIV/AIDS are sensitive. This sensitivity and the stigmatization of HIV/AIDS may result in under-reporting of VCT use, while courtesy bias which may be seen with respondents providing answers that

they think the interviewer wants to hear, may result in over reporting of VCT use. Such bias has been noted in literature on the reporting of sexual behavior[127]. Also, the high levels of HIV/AIDS awareness and knowledge and the high public media focus on HIV/AIDS issues may result in respondents giving a response they think is right while their actual behaviour may be different. A related possible limitation is the expected reaction to issues of VCT and HIV/AIDS based on the government campaign against stigma, encouraging care and support by individuals and the community. However, in the Sowa study, participants are responding to questions where they are the possible recipient of care and not the giver of care.

This study was carried out in a single town in Botswana, thus the findings may not show regional differences in HIV/AIDS knowledge and attitudes towards HIV testing and health services. Also, because Sowa is a mining town the demographic characteristics may not fully represent the typical urban or rural community in Botswana. The small sample size due to the relatively smaller population of Sowa town as compared to other towns in Botswana may limit it's reflection of other towns in Botswana. The issue of multiple, easily accessible and readily available centres for VCT uptake was not a factor here. However, these may be important in some very rural areas.

In the analysis and reporting of data, some of the results were expressed as Odds Ratios because logistic regression was used to assess the relationship between the predictor variables and the outcome variable of VCT uptake. Odds Ratios have been reported to overestimate the risk ratio when analysing a common outcome such as VCT uptake[128,129,130].

Analysis of the open ended questions requires qualitative research analysis skills. The researcher is not an expert and is in the process of learning and developing those skills.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

This study assessed factors influencing the use of VCT among residents of Sowa community, using closed and open ended questions.

Statistical analysis of the socio-demographic variables showed no significant relationship between these variables and the utilisation of VCT. Worry about partners' awareness of use of VCT, willingness to inform partner results of the HIV test, type of VCT centre, worry about confidentiality at these centres, expected reaction of partners, family and community were all statistically significant influential factors in the utilisation of VCT. However, the expected community reaction was not as important a predictor of the utilisation of voluntary counseling and HIV testing as that of partner and family.

The study showed that willingness to use VCT is greatest among respondents that chose Tebelopele Testing Centre, do not worry much about confidentiality at VCT centres, tell their partners before using VCT, inform their partners' results of the HIV test, and expect a happy reaction from their partners and family.

The lesson from this study is that maintenance of confidentiality at VCT centres, psycho-social issues and stigma, are all strong and consistent influences on use of VCT. The findings confirmed the influential relationship of stigma and the importance of confidentiality on utilisation of VCT services.

From the findings of this study, some recommendations can be made.

1. Tebelopele Testing Centres (TTC) was the most favoured among respondents. Increased and regular visits to Sowa by TTC should be organised to increase the number of people testing. Such centres should be available to all communities.
2. The clinic and other sites for accessing VCT should have well monitored guidance and policies to ensure strict maintenance of confidentiality and reduction of stigma. This should be continuously evaluated. They should operate in an environment that not only guarantees

confidentiality, but is perceived by the community to do so. This would help in rebuilding trust among potential users of VCT.

3. Health workers are the personnel in these VCT centres, and they interact with the users of VCT. There should be regular, sustained training on issues of confidentiality, stigma prevention and compassion in relation to VCT. There should be a code of conduct and a system in place for monitoring quality of VCT services. Some of the respondents said they would only tell their partner if their HIV results are negative, so the health workers should be trained on building the ability of VCT users to cope and manage positive results.
4. Fear of partners' reactions is a major barrier to VCT use. The counselling session in the VCT programme should be strengthened, and partner involvement using a couple counselling approach, should be emphasized. The aim is that a sense of joint decision and collaborative responsibility regarding use of VCT may help to reduce the expected negative partner reaction. However, for this to work, active promotion and intensive community based efforts must be continuously carried out to improve HIV knowledge, VCT and partner communication and involvement.
5. Expected family and community reaction in relation to respondents' use of VCT significantly affect utilisation of VCT. There should be more community mobilisation towards accepting and desiring VCT with aggressive and ongoing promotion of VCT using all forms of mass media including newspapers, radio and television. Looking at the responses to the segment of the questionnaire on religion, faith based organisations and civil organisations should also be involved in promoting VCT in the community.

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APPENDIX A :INFORMATION SHEET (ENGLISH)

FACTORS INFLUENCING THE UTILISATION OF VOLUNTARY COUNSELLING AND TESTING SERVICES FOR HIV/AIDS IN SOWA, BOTSWANA.

My name is Dr.Patrick Akhiwu.

Thank you for the opportunity to meet with you and for taking time to read this.

As part of my requirement for my Masters degree in Family Medicine of the University of Witwatersrand, Johannesburg, SouthAfrica, I have to conduct a research. I have chosen to carry out a study of factors influencing the utilisation of voluntary counseling and testing services for HIV/AIDS in Botswana.

I would be grateful if you could take time to answer a few questions about the topic. Your participation will help in gaining a greater understanding of the use of voluntary counseling and testing services.

Your assistance will be highly appreciated. However participation in this project is entirely voluntary and you are therefore free to consent to the interview or not. There will not be any penalty or reward for participation or not participating. Should you be willing to participate some questions will be asked of you and recorded . All your responses and answers will be confidential. There will be no link between your identity and your responses. Your rights not to answer any question will be respected throughout the duration of the interview.

If you would like more information about this study do not hesitate to contact me on:

Telephone:- 6214252

Thank you

Dr. Patrick Akhiwu

INFORMATION SHEET IN SETSWANA
DINTLHA TSE DI ROTLOETSANG GO DIRISA DITIRELO TSA BOGAKOLODI LE ITLHATLHOBELO MOGARE MO BOTSWANA.

Leina lame ke Dr. Patrick Akhiwu.

Ke itumelela sebaka se go be ke kopanye le wena le go tsaya sebaka go bala se.ke dira dipatlisiso tse ke ikgolagantse le ba Postgraduate Family Medicine department of the University of Witwaterand, Johanesburg,South Africa. Ke tlhopile go dira dipatlisitso ka dintlha tse di rotloetsang go dirisa ditirelo tsa bogakolodi le itlhatlhobelo mogare mo Botswana.

Ke ka itumela fa o ka tsaya sebaka se go araba dipotso mabapi le patlisiso e. Boikarolo jwa gago bo tla thusa go tlhaloganya thata ka tiriso ya mafelo a itlhatlhobelo mogare (VCT).

Go ikarola ga gago go a lebosega. Go tsenelela patlisiso ga go patelediwe. Ga gona molato ope kana dituelo dipe go tsenelela kana gosa tsenelele patlisiso e. Fa o eletsa go tsenelela o tla a botswa dipotso di bo di ka gatisiwa. Dikarabo tsa gago e tla nna sephiri. Ga gona go nna le sesupo/leina la gago mo dikarabong tsa gago. O nale tetla ya go sa araba potso nngwe yo o bonang go sa tlhokafale gore o e arabe.

Fa o batla go itse thata ka patlisiso e, o ka leletsa mogala o o latelang:

6214252

Ke a leboga

Dr. Patrick Akhiwu

APPENDIX B: CONSENT FORM

FACTORS INFLUENCING THE UTILISATION OF VOLUNTARY COUNSELLING AND TESTING SERVICES FOR HIV/AIDS IN SOWA, BOTSWANA.

PARTICIPATION IN THIS PROJECT IS ENTIRELY VOLUNTARY AND YOU ARE THEREFORE FREE TO CONSENT TO THE INTERVIEW OR NOT.

THERE WILL NOT BE ANY PENALTY OR REWARD FOR PARTICIPATION OR NOT PARTICIPATING.

SHOULD YOU BE WILLING TO PARTICIPATE SOME QUESTIONS WILL BE ASKED OF YOU AND RECORDED . ALL YOUR RESPONSES AND ANSWERS WILL BE CONFIDENTIAL AND THERE WILL BE NO LINK BETWEEN YOUR IDENTITY AND YOUR RESPONSES.

YOUR RIGHT NOT TO ANSWER ANY QUESTION WILL BE RESPECTED THROUGHOUT THE DURATION OF THE INTERVIEW.

I, ……. HAVE READ/ UNDERSTAND THE ABOVE AND HEREBY CONSENT TO TAKE PART IN THE ABOVE NAMED STUDY

SIGNED……

CONSENT FORM IN SETSWANA)

FOROMO YA IKANO

1.Nna ke le …….. ke rurifatsa fa ke badile kgotsa ke baletswe ebile ke tlhaloganya mafoko a a builweng mo tsebeng ya thuto (Appendix B).

2. Ke tlahloseditswe fa go tsaya karolo mo patlisisong e, e le boitlhaopo fela, ebile ke gololesegile go amogela kana go nna kgatlhanong le go tsaya karolo.

3. Ke itse fa go sena katlholo kgotsa katso ya go tlhoka go tsaya karolo kana go tsaya karolo

4. Ke tlhaloseditswe fa ke gololesegile go ikgogela morago nako nngwe le nngwe fa patlisiso entse e tsweletse.

5. Tse tsotlhe di le mo maikutlong a me, ke itlama go tsaya karolo mo patlisisong ee boletsweng e.

Leina :……

Seatla :……..

APPENDIX C

QUESTIONNAIRE

FACTORS INFLUENCING THE UTILISATION OF VOLUNTARY COUNSELLING AND TESTING SERVICES IN SOWA, BOTSWANA.

SECTION A

1) **AGE** ……(Years)
2) **GENDER**: Male…… Female……
3) **MARITAL STATUS**:

a) Single…….. b) Married…….. c) Divorced…… d) Widowed……

e) Cohabiting……..

4) **EDUCATIONAL LEVEL**:

a) Primary……. b) Junior Secondary. ….. c) Sen. Sec……d) Degree…

e) No Formal Education……..

5) **RELIGION:**

a) Moslem……. b) Catholics……. c) Non- Catholic Christians……d)Jewish…..e)ZCC……. f)Others…….

6) **EMPLOYMENT STATUS**:

a) Unemployed…… b) Home maker….. c) Civil Service….

d) Self-employed…..e) Student….. f) Others……

7) **HEARD ABOUT HIV/AIDS**:

a) Yes……. b) No…...

8) **HOW DOES SOMEBODY INFECTED WITH HIV LOOK LIKE**:

a) Always look sick……..

b) May look very healthy……..

c) Do not know

9) AWARE THAT HIV STATUS CAN BE CHECKEDAT VCT CENTRES:

a) Yes…… b) No……. c) No answer……

10) WHERE ARE THE VCT CENTRES LOCATED?

a) Hospitals b) clinics c) Tebelopele testing centre d) others

11) WOULD YOU LIKE TO USE THE VOLUNTARY COUNSELING AND HIV TESTING (VCT) SERVICE:

a) Yes …. b) No…….. c) Not sure……. d) Already tested

12) IF YOU DECIDE TO BE CHECKED AT THE VCT CENTRES WHERE WOULD YOU PREFER:

a) Hospitals b) clinics c) Tebelopele testing centre d) others

13) WHY WOULD YOU PREFER THIS LOCATION ……..

……..

……

……

14) DO YOU THINK CONFIDENTIALITY IS MAINTAINED AT TESTING CENTRES:

a) Always…… b) Sometimes……. c) Never……

15) DOES THE ISSUE OF CONFIDENTIALITY WORRY YOU REGARDING TESTING FOR HIV:

a) Very much…….b) Yes but not much…….c) No……..

16) WOULD IT WORRY YOU IF YOUR PARTNER KNOWS YOU HAVE HAD A HIV TEST?

A) Very much……b) Yes but not much……..c) No……. d) I will tell him/her earlier……

17) WILL YOU TELL YOUR PARTNER YOUR RESULT?

a)Yes- irrespective of status ..b)Yes only if HIV negative…. c)Yes only if HIV positive… d) No

18) HOW DO YOU THINK YOUR PARTNER WILL REACT IF HE/SHE KNOWS YOU HAVE HAD A HIV TEST?

a) Happy …… b) Unhappy…….. c) Neither happy nor unhappy……d) Not sure……

19) HOW DO YOU THINK YOUR PARTNER WILL REACT IF HE/SHE KNOWS YOU ARE HIV POSITIVE

……

……

20) HOW DO YOU THINK MEMBERS OF YOUR FAMILY WILL REACT IF THEY KNOW YOU HAVE HAD A HIV TEST

a) Happy …… b) Unhappy…….. c) Neither happy nor unhappy……d) Not sure…

21) HOW DO YOU THINK MEMBERS OF YOUR FAMILY WILL REACT IF HE/SHE KNOWS YOU ARE HIV POSITIVE

……

……

22) HOW DO YOU THINK YOUR NEIGHBOURS/COMMUNITY WILL REACT IF THEY KNOW YOU HAVE HAD A HIV TEST?

a) Happy …… b) Unhappy…….. c) Neither happy nor unhappy……d) Not sure…

23) HOW DO YOU THINK YOUR NEIGHBOURS/COMMUNITY WILL REACT IF HE/SHE KNOWS YOU ARE HIV POSITIVE

……

……..

24) WHAT WOULD MAKE YOU NOT WANT TO UTILISE THE VCT HIV TEST SERVICES

……

……

……

25) WHAT WOULD ENCOURAGE YOU TO UTILISE THE VCT HIV TEST SERVICES……

……

……

…….

Thank you.

PATLISISO (QUESTIONNAIRE IN SETSWANA)

DINTLHA TSE DI ROTLOETSANG GO DIRISA DITIRELO TSA BOGAKOLODI ITLHATLHOBELO MOGARE MO SOWA, BOTSWANA

KAROLO YA NTLHA

ARABA DIPOTSO TSOTLHE FA GO TSHWANETSENG

1. **Dingwaga ……**

2. **Mong: Monna ( ) Mosadi** ( )

3. **Seemo sa gago**

- Rre/ Mme yo o senang lwapa ( )
- Rre/Mme yo o naleng lwapa ( )
- A o kgaogane le monna kgotsa mosadi? ( )
- A o moswagadi kgotsa motlholagadi ( )
- A o nna le monna kgotsa mosadi kwa ntle ga lenyalo ( )

4.O TSENYE SEKOLO GO EMA FA KAE?

a) Sekolo se se potlana ( ) b) Sekolo se golwane Junior( ) , Senior ( ) c) Degree( ) d) Thuto ga e golelwe ( )

5. TUMELO

a) Moslem ( ) b)Catholics ( ) c) Non-Catholic ( )
d)Chritian ( ) e) Jewish ( ) f)ZCC ( ) g) Tse dingwe ( )

6. TIRO

Ga o dire ( ) Oa dira ( ) O a ipereka ( )A o moithuti ( ) Tse dingwe ( )

7. A O KILE WA UTLWALELA KA BOLWETSI JWA HIV/AIDS:

a) Ee ( ) b) Nnyaa ( )

8. MOTHO YO O NALENG MOGARE WA HIV O LEBEGA JANG

- Olebega a lwala ka nako tsotlhe ( )
- O ka lebega a itekanetse ( )
- Ga o itse ( )

9. A O ITSE GORE O KA ITLHATLHOBELA MOGARE WA HIV KWA MAFELONG A VCT:

Ee ( ) Nnyaa ( ) Ga ke na karabo ( )

10. MAFELO A VCT A BONWA KAE?

- Mo dikokelong……..
- Di kokelana……

- Tebelopele……

11. A O KA BATLA GO DIRISA LENANEO LA GO ITLHATLHOBELA MOGARE WA HIV (VCT) ?
Ee ( ) Nnyaa ( ) Ga kena bosupi ( )Ke setse ke itlhatlhobile ( )

12. FA O BATLA GO ITLHATLHOBA MO MAFELONG A VCT O KA ELETSA GO YA LEFELONG LEFE?
Kokelo ( ) Kokelana ( ) Tebelopele ( ) Gope fela ( )

13. KE ENG FA O TLHOPILE LEFELO LEO?
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14. A O AKANYA GORE BA KGONA GO TSHEGETSA SEPHIRI KWA MAFELONG A ITLHATLHOBELO?
Nako tsotlhe( ) Nako dingwe ( ) Ga ba kgone ( )

15. A KGANG YA GO TSHEGETSA SEPHIRI E A GO TSHWENYA FA O AKANYANA GO ITLHATLHOBELA MOGARE WA HIV?
Thata ( ) Ee mme e seng thata ( ) Nnyaa ( )

16. A GO KA GO TSHWENYA FA MOKAPELO WA GAGO A KA ITSE GORE O ITLHATLHOBETSE MOGARE WA HIV?
Thata ( ) Ee mme e seng thata ( ) Nnyaa ( ) Ke ka mo itsise fa go setse go nale nako( )

17. A O KA BOLELELA MOKAPELO WA GAGO MADUO A GAGO.
Ee go sa kgathalesege gore maduo ke a fe ( )
Ee fa fela ke sena mogare ( )
Ee fa fela ke nale mogare ( )
Nnyaa ( )

18. O SOLOFELA GORE MOKAPELO WA GAGO O KA TSEEGA JANG FA KA ITSE GORE ITLHATLHOBETSE MOGARE WA HIV?
O ka itumela ( )
O ka se itumele ( )
O ka nna mo tsietsing ( )
Ga ke itse ( )

19. O AKANYA GORE MOKAPELO WA GAGO O KA TSAYA KGATO EFE FA A KA ITSE GORE O NALE MOGARE?
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20. O AKANYA GORE BA LOSIKA BA KA TSEEGA JANG FA BA KA ITSE GORE O NALE MOGARE?
Ba ka itumela ( ) B a ka utlwa botlhoko ( ) Ba ka nna mo tsietsing ( ) Ga ke itse ( )

21. O AKANYA GORE BA LOSIKA BA KA TSAYA KGATO EFE FA BA KA UTLWA GORE O NALE MOGARE WA HIV?
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21. O AKANYA GORE BAAGISANYI BA KA TSEEGA JANG FA BA KA ITSE GORE O ITLHATLHOBETSE MOGARE?
Ba ka itumela ( ) Ba ka se itumele ( ) Ba ka tsietsega ( ) Ga ke itse ( )

22. O AKANYA GORE BAAGISANYI BA KA TSAYA KGATO EFE FA BA KA ITSE GORE O NALE MOGARE WA HIV?

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23. KE ENG SE SE KA GO KGANELANG GO DIRISA MAFELO A ITLHATLHOBELO MOGARE (VCT)?

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24. KE ENG SE SE KA GO KGANELANG GO DIRISA MAFELO A ITLHATLHOBELO MOGARE?

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