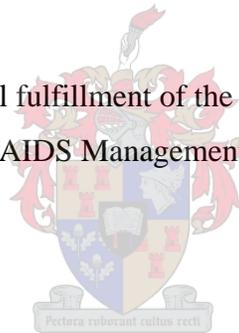


**The impact of the introduction of antiretroviral therapy on
the increase of voluntary counseling and testing at the
Sedibeng District public health facilities**

MOTSWALEDI JACOB MAKHUTLE

Assignment presented in partial fulfillment of the requirements for the degree of
Masters of Philosophy (HIV/AIDS Management) at Stellenbosch University



Study Leader: Professor J. Augustyn

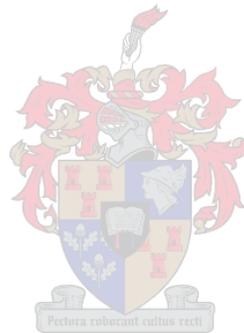
December 2005

Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my own originality and that I have not previously in its entirety or in part submitted it at any university for a degree

Signed:

Date:



SUMMARY

While there is ongoing biomedical engineering, there are also socio-behavioral studies conducted throughout the world in an endeavor to find the best practice models in the mitigation of this scourge.

There is a growing realization by the South Africa that VCT is essential in both the prevention and treatment of HIV/AIDS. This programme is meant to be voluntary and confidential where client's preparedness to deal with fear, discrimination, and stigma is crucial. However, VCT is a complex programme which at the most tik and needs added resources such as human resources, financial resources, and infrastructure corrections.

The introduction of ART is aimed at adding the impetus in the management of HIV/AIDS. ART is a programme that does not only focuses on drugs, but on other issues relating to HIV/AIDS such as preparedness, adherence, counselling, CD4 and viral load count etc.

This research has used an ex post facto method using both qualitative and quantitative methods to collect data. Interviews were conveniently selected and one-to-one interviews with 100 participants i.e. 50 HIV positive people in one group and 50 HIV positive people in the other group.

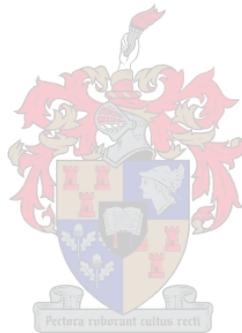
Sampling base was selected from 26 sites that provide VCT and a random convenient sampling of clients between 14-55 age groups that went through the routine procedures and tested for HIV in three (3) Community Health Centers was conducted.

Two sets of data collection tools were used for quantitative and qualitative measurements. For quantitative measurement, VCT data from facilities pre and post the introduction of ART. This data was used to compare significance of the relationship using the t-test.

For qualitative measurement, a formal structured questionnaire with open-ended questions to determine the knowledge, attitudes and practices of the participants in relation to HIV/AIDS, ART, VCT and sexual practices was used to gather data. The researcher used trained counsellors who work in those facilities to interview participants.

The major finding of the research show that there is a relationship between ART and VCT and that even though there is high level of knowledge of HIV/AIDS, people are still engaged in unprotected sex.

Discrimination and fear of rejection by the family are still the major barriers to counselling and testing.



OPSOMMING

Die doel van die studie was om die opname van antivirale middels te vergelyk met vrywillige toetsing en voorligting. Die hipotese wat getoets is was dat 'n beduidend groter aantal werknemers hulle sal aanmeld vir vrywillige voorligting en toetsing indien antivirale medikasie gratis deur die onderneming verskaf word. 'n Steekproef van 50 MIV positiewe en 50 MIV negatiewe proefpersone is in die studie gebruik. Resultate dui daarop dat die beskikbaarstelling van antivirale middels deur die onderneming 'n beduidend-groter aantal werknemers laat aanmeld het vir vrywillige voorligting en toetsing.

Die implikasies van hierdie bevinding word uitgespel en protokolle word voorgestel vir ondernemings ten opsigte van die interaksie tussen vrywillige voorligting en toetsing en die beskikbaarstelling van anti-retrovirale middels.

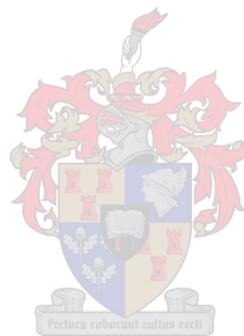


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DEFINITION OF TERMS

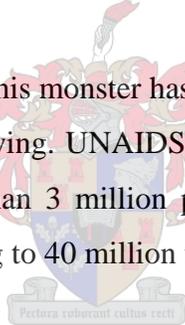
- **AIDS** : Acquired Immuno-deficiency Syndrome
- **ART** : Antiretroviral Therapy
- **ARV** : Antiretroviral Drugs
- **CBO** : Community Based Organisation
- **HAART** : Highly Active Antiretroviral Therapy
- **HIV** : Human Immuno-deficiency Virus
- **HST** : Health Systems Trust
- **NGO** : Non-Governmental Organisation
- **PHC** : Primary Health Care
- **PMTCT** : Prevention of Mother to Child Transmission
- **STATS SA** : Statistics South Africa
- **STI** : Sexually Transmitted Infections
- **TAC** : Treatment Action Campaign
- **UNAIDS** : United Nations Aids
- **VCT** : Voluntary Counselling and Testing
- **WHO** : World Health Organisation

1. INTRODUCTION

When HIV/AIDS first became known in the early eighties, it was seen as a far fetched disease where everyone proclaimed that it was not a problem. It was during the early nineties when the disease began to cause serious havoc in the lives of not only the infected but also the affected families and their communities that there was a shift towards it becoming a socio-economic problem, which later gained a momentum also as an ethical issue

It was not long into the nineties that many governments realized that this scourge could not be handled by states or governments alone; rather there was a great need for concerted, integrated and coordinated efforts from all stakeholders, including businesses and other groups such as NGOs, CBOs and civil society.

It is approximately thirty years that this monster has been living with us and the number of the HIV infections has been growing. UNAIDS (2003) has revealed that the global HIV/AIDS epidemic killed more than 3 million people in 2003 and an estimated 5 million people acquire HIV, bringing to 40 million the number of people living with the virus around the world.



The update further states that in Sub-Saharan Africa, HIV prevalence has remained relatively steady, though generally at a high level. This is supported by the South African Annual HIV antenatal survey which has shown a statistically insignificant increase in HIV prevalence for 2003 (National HIV and syphilis antenatal seroprevalence in South Africa: 2003).

This illustrates the seriousness of the threat HIV/AIDS poses to the world, particularly South Africa. In the midst of this scourge, there were ongoing debates amongst scientists, the medical fraternity and other activists regarding the relationship between HIV/AIDS. Proponents felt that there was sufficient evidence to show that HIV causes AIDS, whereas the dissidents were of the opinion that there are other contributing

factors that lead to AIDS. Nevertheless, countries continued to seek ways and means of curbing the spread of HIV and managing the impact of Aids, with Uganda, Tanzania and Botswana in Africa leading the way.

Amongst other important and essential programmes introduced are the VCT and more recently the ART. It was hoped that the introduction of these programmes would assist people infected with HIV to if to cope with the HIV/AIDS environment

2. BACKGROUND OF THE AREA

The research took place in Sedibeng District Council. The District comprises of three local municipalities i.e. Emfuleni, Midvaal and Lesedi. The district is situated at the southern side of Gauteng Province, bordering the Free State province at the west, North West province at the south-western side, Mpumalanga province at the east and City of Johannesburg at the north.

According to the 2001 census, the District has 9% of Gauteng population. The District is challenged by a high unemployment rate of 43% (Stats S.A. 2001). Unemployment is predominantly rife in the rural municipalities within the council which are the Midvaal and Lesedi Local Municipalities.

The District has 36 clinics and three hospitals. VCT services have been provided since 2000 and three (3) facilities provide the ART service, with the aim of rolling out to other facilities.

3. PROBLEM STATEMENT AND RESEARCH QUESTION

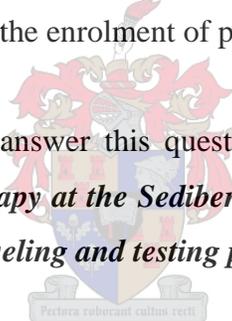
Many countries in the world struggled to come to terms with the fact that HIV/AIDS is a socio-economic problem with ethical implications. However, there is a growing trend to tackle HIV/AIDS using a multisectoral and Intersectoral approach. This trend is

further enhanced by countries that began to introduce programmes that are aimed at prevention, treatment, care and support for the infected individuals and their families.

VCT programme was introduced as an entry point to a continuum of care. However the uptake of the programme is low as people do not utilize this service. The question is why people are not testing? Is it because of the stigma? Is it because there is no cure? Is it because of poor services? Is it because of the attitudes of the health professionals or people themselves or lack of knowledge? All these are questions that may be answered through research.

Now that the government has introduced antiretroviral therapy, which is aimed at adding onto the continuum of care and prolonging the lives of the HIV positive people; there is a need to know the relationship between voluntary counselling and testing and antiretroviral therapy in improving the enrolment of people to VCT.

Therefore the research sought to answer this question: ***“What is the impact of the introduction of antiretroviral therapy at the Sedibeng District public health facilities on the increase in voluntary counseling and testing programme?”***



4. ETHICAL CONSIDERATIONS

The following perceived ethical considerations were observed:

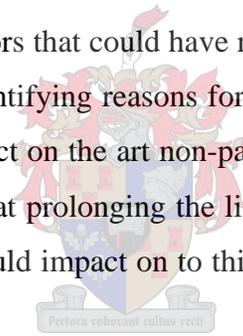
- Permission to conduct this research was sought from authorities within whom the research was going to be conducted.
- The researcher assured the participants of the confidential nature of the research and of their participation
- The participants were informed about the implications of the research
- The researcher explained the importance of their participation and the procedure to be followed to the counsellors who conducted the interviews

5. PURPOSE

The purpose of the research is to investigate the relationship between antiretroviral therapy and voluntary Counselling and testing and contribute to the course of seeking best practices to curb HIV spread and manage the impact of Aids.

6. OBJECTIVES

The objectives of the research are (1) to determine whether the introduction of antiretroviral therapy in the public facilities has improved VCT uptake. This would provide an insight as to the reasons why people do not participate in the VCT programme. (2) To determine whether participants understand the implications of VCT as well as ART. At times the information is not clear to the people hence the reluctance to participate. (3) To identify factors that could have resulted in VCT non-participation. This objective would assist in identifying reasons for people not to come VCT and (4) to identify factors that could impact on the art non-participation. Since the introduction of antiretroviral therapy is aimed at prolonging the lives of those living with the virus, there may be other factors that could impact on to this programme, which this research could identify earlier.



7. LITERATURE REVIEW

7.1. VOLUNTARY COUNSELLING AND TESTING

Previously VCT was a key component of control programmes in industrialized countries, but not a major strategy for developing countries (De Zoysa *et al*, 1995).

HIV voluntary counselling and testing, as an entry point of care, has been shown to have a role in both prevention and care for people infected with HIV. VCT provides people with opportunity to learn and accept their serostatus in a confidential environment, with further counselling and referral for ongoing emotional and medical

care. VCT maybe a relatively cost effective intervention in preventing HIV transmission (UNAIDS 2000).

However, many countries have failed to notice and acknowledge the importance of VCT in prevention and care programmes. There are various reasons for this; a) the complexities of this programme in relation to measurement b) the impact of AIDS shies countries away when they think of their resources c) startup funds as this programme requires some funding and d) slow evidence based influences may contribute to non-participation by countries.

However, in 2000, South Africa introduced VCT and immediately declared that this programme should be seen as an entry point to continuum of care. VCT is seen as directing preventive, treatment, care and support options.

In the same vein Bor *et al* (1993) claim that before the emergence of HIV and AIDS in the early eighties, counselling had been conducted to other various medical and psycho-social problems. The upsurge of HIV/AIDS challenged people's counselling maps. Some counsellors saw the need to undergo specialised training in HIV counselling whilst others opted to take another look at their counselling skills and enhance them.

From an HIV perspective, a systems approach to counselling is viewed as reciprocity of relationships, an example being that if something happens to one member of the family; it will affect the rest of the family, whose response in turn will affect the behavior of an individual. This means that behavior cannot be studied in isolation without taking into consideration the situation in which it occurs (Bor et al: 1992)

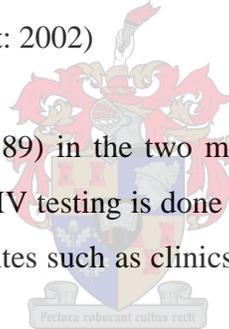
Currently voluntary HIV counseling and testing forms the crux of many HIV care and control initiatives. However, often this approach experiences various problems and barriers i.e. (a) macro factors (political perspectives, economic status and inherent infrastructural deformities), (b) meso factors (coordination) and (c) micro factors (availability of intellectual and financial capital; and psycho-social obstacles) which

inevitably limit the successful implementation and negatively impact on people's willingness to participate in VCT programmes.

Often voluntary counselling and testing is used for diagnostic purposes (Van Dyk and Van Dyk: 2003). The often overlooked fact is that VCT also allows for early access to medical treatment, on-going emotional and social support for those who test positive and guidance and support for those who test negative to remain negative (UNAIDS Technical update, 2000). Even in resources-poor areas where there is no access to antiretroviral drugs, knowledge of HIV status makes it possible for HIV-infected people to benefit from preventive and other social therapies (Mwinga et al:1995).

An assessment study conducted in South African by HST found out that while there were strides made in making the citizens aware of the VCT services, the VCT uptake was still low (Health Systems Trust: 2002)

Over half of the respondents (n=189) in the two municipalities that were part of the study in Mpumalanga knew that HIV testing is done in hospitals, but did not know that HIV testing is also done in other sites such as clinics, private doctors and VCT centers (Fitzgerald M, A.: 2003)



The last statement is supported by the study conducted in Kwazulu-Natal where the focus was on the role played by VCT in people knowing their HIV status. The results showed low uptake of VCT (Ndlovu: 2002), hence TAC proclaimed that by implementing VCT, PMTCT, STIs services and HAART, nearly 3 million Aids deaths could be averted and over 2.5 million HIV infections could be prevented by the year 2015 (TAC:2003)

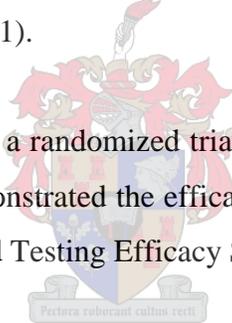
In their study to investigate participants' attitudes towards VCT, the finding showed various reasons why people may resist participation in the VCT programme viz. confidentiality, disclosure and fear of rejection (Van Dyk and Van Dyk 2003)

Their findings are in line with the findings of the study conducted by (Ginwalla *et al.*: 2002) which recorded that participants (mine workers) felt that knowing their HIV status would stigmatise them and subsequently they may lose their jobs.

Participants who tested for HIV in a study conducted by (Kalichma: 2003), held a significantly more positive attitude than those who did not test for HIV, who held significantly greater Aids-related stigma, attributing shame, guilt and social disapproval to people living with HIV and AIDS.

To know one's HIV status without any follow-up support services or treatment can be detrimental to a person's mental and psychological well-being. A feeling of fatalism and depression were reported by participants who believed that there is nothing they could do about HIV/AIDS and this may actually prevent any form of behavior change (Macintyre, Brown and Sosler :2001).

There is also recent evidence from a randomized trial of VCT in individuals in Kenya, Tanzania and Trinidad which demonstrated the efficacy of VCT in promoting behavior change (Voluntary Counselling and Testing Efficacy Study Group: 2000).



7.2. ANTIRETROVIRAL THERAPY

ART has substantially improved the prognosis of HIV infected individuals, resulting in a precipitous drop in AIDS related mortality in affluent countries. In contrast the most heavily burdened developing countries of the world focus their responses on prevention (SAMJ, volume 93:2003)

In South Africa, AIDS is now the major cause of death among young adults. While ART is available to private medical sector, there is little or no ART access in the public sector (SAMJ, volume 93:2003), the statement made before South Africa introduced ART in 2004.

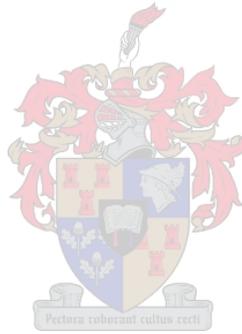
Preliminary analysis of the case study at Khayelitsha of patient's initiation of ARV treatment between April 2001 and late 2002 showed that:

- the mean weight gained by patients was 10kg against the median baseline weight of 57kg;
- the frequency of opportunistic infections had declined dramatically after initiating ARV treatment;
- the incidence rate of TB and oral candidiasis declined by two thirds for both diseases in comparison with same patients the period before initiating ARV treatment;
- after 6 months, 88% of those on ARV treatment had undetectable viral load levels (below 400 copies/ml) and 83% had sustained viral load suppression after 1 year on ARV treatment; and that
- survival at 18 months on treatment was 88% (95% confidence interval 79-80%), and that all deaths were attributed to Aids related illnesses and not treatment complications (WHO:2003)

Therefore the accessibility, availability and the provision of ARV provide motivation for HIV positive people to test and know their status, promote openness, can fuel education initiatives, increase staff morale and help to keep families intact, (WHO : 2003)

South African National Department of Health was reluctant to make antiretroviral therapy (ART) available to public facilities. The Department was also adamant that Prevention of Mother to Child Transmission (PMTCT) programme would not be carried out until further research results on the antiretroviral drug Nevirapine were available. This decision caused an outcry from the Treatment Action Campaign and other activists, medical practitioners, people living with the virus, NGOs that deal with HIV/AIDS and the media.

This decision was also premised on the fact that prices for drugs were high and that they could not be afforded by the ordinary citizens who are infected. This would mean that the Government spending would sky-rocket, not only by the prices of drugs but also by other logistics such as human resources i.e. the employment and training of volunteers to assist nurses; the training of professionals and non-professionals; and infrastructure upgrading to accommodate an increased number of clients visiting the service points.



8. HYPOTHESIS

Hypothesis as defined by (Christensen: 2004) means the best predicted or a tentative solution to a problem. (Nachmias: 1990) concurs with Christensen by proclaiming that hypotheses are tentative answers to the problem but further elaborates by noting that a hypothesis is expressed in the relationship between independent and dependent variables.

While the function of the hypothesis is to guide a scientific inquiry, it critically also provides direction to the research design; the data collection and analysis; and interpretation of data. They further enunciate the relationship of theory and real world by stating that hypothesis are the vehicles through which theories are linked to real-world situations (Polit & Hunger: 1987)

According to (Polit & hunger: 1987) workable research hypothesis is that which states the predicted relationship between two or more variables i.e. dependent and independent variables.

(Christensen: 2004) defines the independent variable as the variable that causes the effect whereas the dependent variable is the variable that measures the influence of the independent variable.

It was therefore, based on the problem stated earlier that hypothesis was developed as, ***“The introduction of antiretroviral therapy at Sedibeng District public health facilities will improve voluntary counselling and testing “***

In the hypothesis above, “ART” is the independent variable (cause), whereas the “improvement of VCT” was the dependent variable (effect)

9. RESEARCH METHODOLOGY

9.1. RESEARCH DESIGN

(LoBiondo-Wood and Haber: 1990) state that the purpose of the research design is to provide a scheme for answering specific research questions whereas (Christensen: 2004) describes a research design as the outline, plan, or strategy used to investigate the research problem.

Simply stated, a research design is the set of logical steps taken by the researcher to answer the questions or hypothesis. It forms the recipe for the study and determines the methods used by the researcher to obtain subject, collect data, analyse and interpret data.

(Christensen: 2004) further acknowledges that the choice of a relevant research design is dependent on the following three important criteria. (1) The design must test the hypothesis advanced. (2) Extraneous variables (variables that confound the relationship between the variable and the independent variables) must be controlled so that the experimenter can attribute the observed effects to the independent variable and (3) that the design must be easy to generalize the results.

This research has used an ex post facto method using both qualitative and quantitative methods to collect data. Interviews were conveniently selected and one-to-one interviews with 100 participants i.e. 50 HIV positive in one group and 50 HIV positive in the other group were conducted.

9.2. SAMPLING

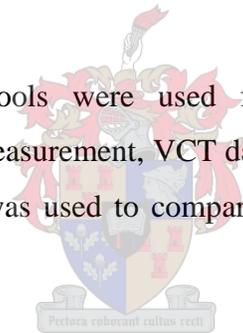
(Christensen: 2004) defines sample as any number of individuals less than the population. (Polit & hunger: 1987) proclaim that sample consist of a subset of the units that compose the population.

Sampling base was selected from 26 sites that provide VCT and a random convenient sampling of clients between 14-55 age groups that went through the routine procedures and tested for HIV in three (3) Community Health Centers was conducted. (The National HIV and syphilis antenatal sero-prevalence survey in South Africa 2003) has shown that these are the most infected categories with age 14-25 being the most infected.

There was no particular criterion used except that the participants had to have consented for HIV counselling and testing and gave permission to be interviewed for the purpose of this research. The research focused on 50 HIV negative clients and 50 HIV positive clients from all the facilities identified.

9.3. DATA COLLECTION

Two sets of data collection tools were used for quantitative and qualitative measurements. For quantitative measurement, VCT data from facilities pre and post the introduction of ART. This data was used to compare significance of the relationship using the t-test.



For qualitative measurement, a formal structured questionnaire with open-ended questions to determine the Knowledge, attitudes and practices of the participants in relation to HIV/AIDS, ART, VCT and sexual practices was used to gather data. The researcher used trained counsellors who work in those facilities to interview participants. The questionnaire was standard to all the participants i.e. HIV positive and HIV negative groups.

The researcher acknowledged that interview, as it a tool for gathering data, has limitations, the commonest been low responses rates, interviewer bias and incomplete questionnaires. This was alleviated by conducting discussions with the counsellors who conducted interviews.

9.4. DATA ANALYSIS

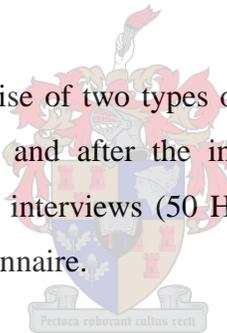
Data obtained from participants was cleaned and analysed using the Microsoft excel spreadsheet.

10. LIMITATIONS OF THE RESEARCH

Since this was a rapid assessment, in-depth analysis was focused on some of the VCT sites. Due to the establishment of new VCT and ART sites, it was difficult to include them, thus making the findings of this research be generalised prudently. However, there are lessons that could be learnt from this study for future planning.

11. RESULTS AND DISCUSSION

The results of this research comprise of two types of findings (1) the qualitative data (VCT data from facilities before and after the introduction of ART) and (2) the quantitative data obtained through interviews (50 HIV positive and 50 HIV negative participants) using a formal questionnaire.



11.1 QUANTITATIVE RESULTS

11.1.1. BIOGRAPHICAL INFORMATION

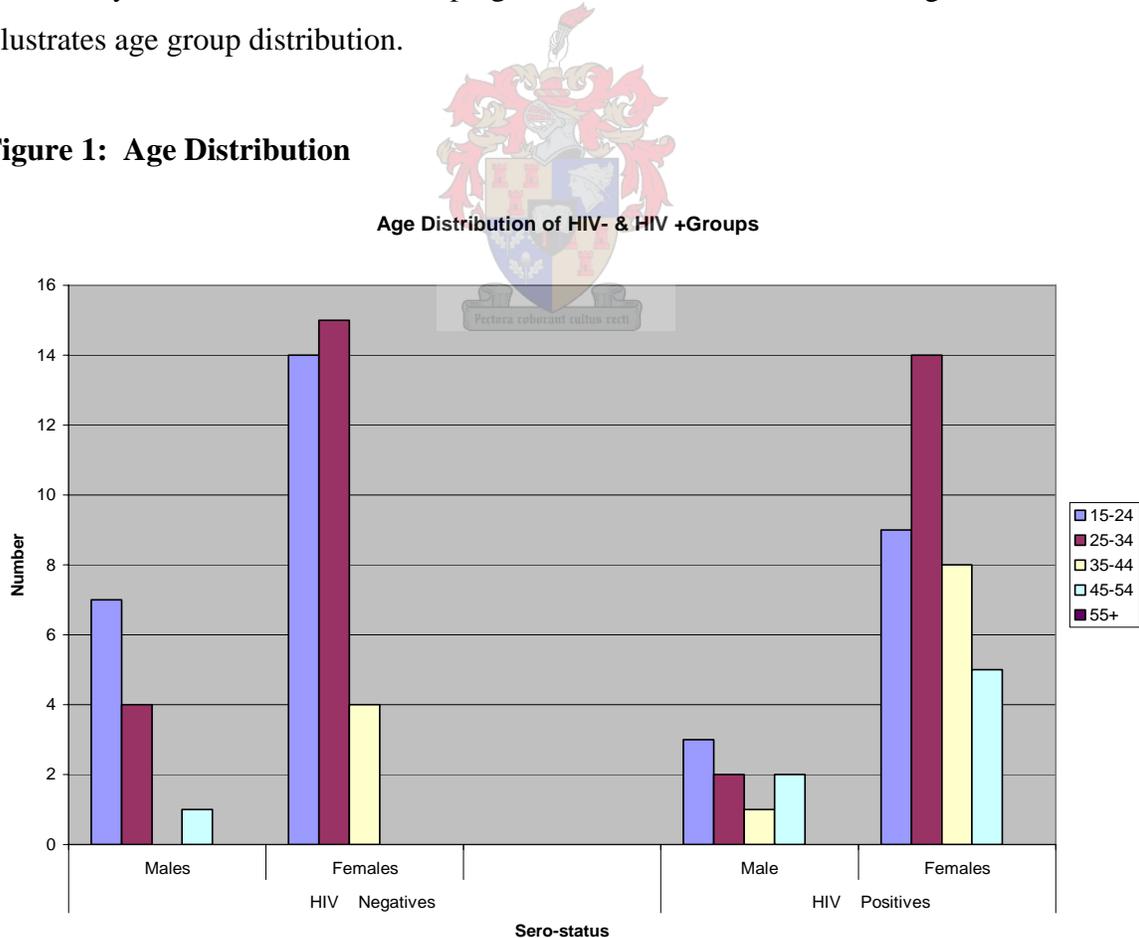
Of all the participants in the research, females were more than males with 80% (40) females in the HIV positive group and 68% (34) females in the HIV negative group.

Botswana study also reported that more females than males are utilizing their VCT service points (Cairns: 2004). This is further asserted by the assessment conducted by Health Systems Trust in their study to assess national public sector VCT sites whereby most of the clients were single females (Health Systems Trust: 2002).

It has been noticed that more often than not females seek medical advises or participate in studies. It could also be argued that non-participation of males might be caused by the fact that they are working, though their non-visits to public health facilities might signal maintenance of their confidentiality regarding their health. Whatever their decision, their health inevitably impacts on to their partners' lives and health, hence there is a need to intensify men forums where issues of sexuality and health could be discussed.

The majority of participants were between 15 and 35 years of age with females between 25 and 35 years (HIV positive group) constituting 47.5%. Therefore, it could be argued that people between 15-35 years of age are at the sexual exploratory phase. This phase is highly competitive because of peer group pressure which often leads to vulnerability to sexually transmitted infections, pregnancies and HIV infections. Figure 1 below illustrates age group distribution.

Figure 1: Age Distribution



Most of the participants were single 70%, 26% married and 4% were either divorced or widowed. The research also shows that 71% of the participants were unemployed with 60% of those being females from the HIV positive group and 82% females' unemployment rate in the HIV negative group. Based on the above findings, it could be argued that being single provides room for promiscuity or that being single renders one to vulnerability and susceptibility to infections.

11.1.2. VCT data before and after the introduction of ART

The 2003 and 2004 data have been submitted to a t-test for significance of differences. A significant difference has been found between VCT uptake before and after the introduction of ARTs ($t(24) = 3.14, p < 0.01$). These results prove beyond reasonable doubt that the introduction of ARTs plays a crucial role in VCT uptake.

11.2 Qualitative results

Knowledge, Attitudes and Practices

In order to determine knowledge, attitudes and practices of participants, most questions could be answered in terms of “Yes”, “No” or “Don't know”. Other questions were assessed on a five-point scale using strongly agree, agree, don't know, disagree and strongly disagree; and excellent, good, fair, don't know or poor.

11.2.1. Knowledge

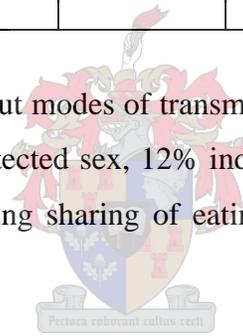
Based on the above, there is high level of awareness of HIV/AIDS amongst the participants. Eighty percent of the respondents know about VCT as shown in table 1 below. This can be attributed to the intensified programmes aimed at social mobilisation, communication, prevention and education from the government (Gauteng Aids strategy: 2004)

It is however disturbing to realize that 20% did not know about VCT. This may be due to the fact that the participants are living in rural areas which are normally not sufficiently infiltrated by the interventions or that messages are not relevant to their literacy.

Table 1: Knowledge of VCT

	HIV + (n=50)		HIV - (n=50)		No.	%
	Male (n=10)	Female (n=40)	Male (n=16)	Female (n=34)		
Yes	8 (80%)	29 (72%)	14 (87%)	29 (85%)	80	80%
No	2 (20%)	11 (26%)	2 (13%)	5 (15%)	20	20%
Total					100	100%

When participants were asked about modes of transmission of HIV, 83% indicated that HIV is transmitted through unprotected sex, 12% indicated that is transmitted through infected blood, with only 1% citing sharing of eating utensils, toilet seats and tooth brushes while 4% did not know.

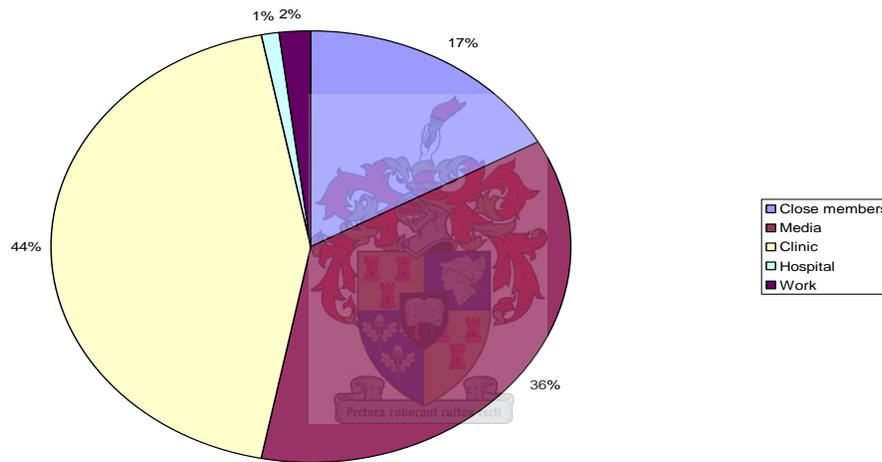


The findings are supported by the study which was conducted by the University of Botswana which aimed at determining knowledge, attitudes and practices of students about HIV and Aids. In their study, the majority of students who participated indicated that they knew about HIV/Aids and how it is transmitted (Ploghoft, M: 2000)

Of all the participants, 40% heard about VCT for the first time from the clinics; 36 (36%) from the media (electronic and print) and 17 (17%) from close members (Friends, parents, boyfriend, girlfriend, husband and wife). Thirty one (62%) participants in the HIV positive group heard about VCT for the first time from the clinics and 22 (44%) participants in the HIV negative group heard about it for the first time from media. This may further denote lack of key stakeholders' participation such as the politicians as there are other countries where there is visible

Political participation, so much so that when such question is posed, many people would confess that they heard about programmes for the first time from their church leaders or political figures, one such country being Uganda. Four years after hearing about HIV and AIDS, President Yoweri Museveni embarked on nationwide tour telling people that avoiding AIDS was a patriotic duty (Avert.org : 2001). Figure 2 below illustrates the comparisons of the responses:

Figure 2: First knowledge of VCT



When asked about the main reasons they came to talk to the counselor, 38 (38%) indicated that they were referred by the clinic sister/doctor and 18% indicated that they just dropped in and 12 (24%) of those were from the HIV negative group as compared to the 6 (12%) from the HIV positive group. Only 1% cited the availability of ART.

From this it could be noted that ART was not the reason for coming for testing, rather medical referrals. However, when testing the responses using the t-test, it is apparent there is a relationship between the introduction of ART and VCT uptake.

People must have the reason to test and know their HIV status. Honest provision of information is crucial so as to attract people to come for ART. If people are educated as to how the ART programme can assist them that could be one way of improving enrolment to the programme.

The study that was conducted in Western Cape where ARV programmes were started in Khayelitsha attests to and can currently be taken as the best practice model for South Africa. Within a year of the initial provision of the programme, 288 adults had enrolled with impressive outcomes viz, improvement of mean weight gain of 10kg, drastic decline in the frequency of opportunistic infections, reduction by two thirds in the incidences of TB and candidiasis, undetectable levels of viral load in 88% of those on treatment and sustained viral load and support programmes such as individual support and peer support (WHO: 2003).

Sixty two percent in overall know about ART of which 62.5% of the female HIV positive group indicated their knowledge and 65% of females from HIV negative group also indicated knowledge. This is shown by table 2 below:

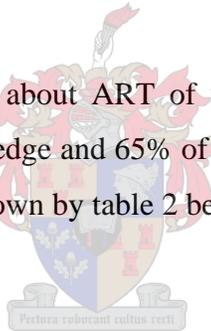


Table 2: Knowledge of ART

	HIV + (n=50)		HIV – (n=50)		No.	%
	Male (n=10)	Female(n=40)	Male (n=16)	Female(n=34)		
Yes	6 (60)	25 (62.5%)	9 (56.25%)	22 (65%)	62	62%
No	4 (40)	15 (37.5%)	7 (43.75%)	12 (35%)	38	38%
Total	10	40	16	34	100	100%

11.2.2. Attitudes

Regarding treatment of HIV/AIDS, 36% from both groups disagree that “ART is a cure for HIV/AIDS” while 21% strongly disagree, 19% agree, 6% strongly agree and 8% don’t know. Of those, 55% females from HIV positive group disagree.

Continuing debates around this issue of HIV/AIDS rob the citizens of accurate information which is detrimental to the country’s socio-economic development. Times have come and gone but there is insufficient and unconvincing consensus on conceptual understanding regarding the cure for HIV/AIDS. Results of whether ART is a cure for HIV/AIDS are detailed below in table 3.

Table 3: ART is a cure for HIV/AIDS

	HIV + (n=50)		HIV – (n=50)	
	Male (n=10)	Female(n=40)	Male (n=16)	Female(n=34)
Strongly agree	0	2 (5%)	1 (6.25%)	13 (38%)
Agree	0	5 (12.5%)	5 (31.25%)	9 (26.5%)
Don’t know	3 (30%)	1 (2, 5%)	1 (6.25%)	3 (9%)
Disagree	7 (70%)	22 (55%)	6 (37.5%)	1 (3%)
Strongly disagree	0	10 (25%)	3 (18.75)	8 (23.5%)

Out of hundred participants 40% disagree with the statement that says” *there is no need to test because there is no cure*” and 32% strongly disagree, whereas 20% agree and 5% strongly agree with only 3% who do not know.

In a study conducted by (Van Dyk & Van Dyk: 2003), it was apparent that people do not see the point of testing because there are no treatment options. Participants also cited depression; despair and death since there are no effective follow-up care and

support services (Van Dyk & Van Dyk: 2003), the finding which was similar to those of (Gaillard: 2000), (Macintyre et al 2001) and (Morar & Ramjee: 2000) in other parts of the African continent.

It is apparent from the findings that since 2003, there have been strides made in that the majority of the participants feel that people should test even if there is no cure for HIV/AIDS. However, ongoing debates around the cost of ART have created a perception that these drugs are expensive; hence there is still a feeling of fatalism and despair regarding people knowing their HIV status. Table 4 below illustrates the results:

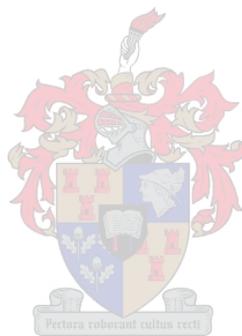
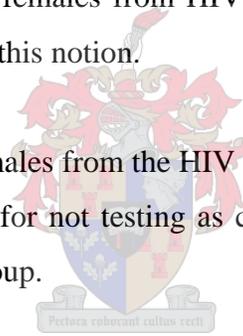


Table 4: There is no need to test because there is no cure

	HIV + (n=50)		HIV – (n=50)	
	Male (n=10)	Female(n=40)	Male (n=16)	Female(n=34)
Strongly agree	0	2 (5%)	2 (12.5%)	1 (3%)
Agree	4 (40%)	8 (20%)	2 (12.5%)	6 (18%)
Don't know	1 (10%)	1 (2.5%)	0	1 (3%)
Disagree	3 (30%)	15 (37.5)	6 (37.5%)	16 (47%)
Strongly disagree	2 (20%)	14 (35%)	6 (37.5%)	10 (29%)

Regarding barriers to VCT, 60% of the participants agree that discrimination is still the main reason for not testing. 55% females from HIV positive group and 70% females from HIV negative group attest to this notion.

Eighty percent males and 40% females from the HIV positive group agree that rejection by family members is the reason for not testing as compared to 40% males and 73% females from the HIV negative group.



This is supported by the findings of a study conducted in Africa whereby despite the fear of medical staff disclosing their status, 68% of the women in stable relationships did not disclose to their partners, fearing the outcome of such move, which amongst others included violence, breaks up of marriages, being neglected, and disowned by their families, loss of security and shelter or even murder (Gaillard: 2000).

It could therefore be noted that VCT is multifaceted, whereby for its effectiveness, prudent threading is crucial. By this it is meant that there should be synergy between the facilities, resources, referrals and social marketing. Politicians should play a crucial role in mobilizing for humanity.

Table 5: The cost of ART should be free

	HIV + (n=50)		HIV – (n=50)	
	Male (n=10)	Female(n=40)	Male (n=16)	Female(n=34)
Strongly agree	2 (20%)	13 (32.5%)	9 (56.25%)	13 (38%)
Agree	6 (60%)	25 (62.5%)	5 (31.25%)	18 (53%)
Don't know	1 (10%)	0	0	0
Disagree	0	0	1 (6.25%)	2 (6%)
Strongly disagree	1 (10%)	2 (5%)	1 (6.25%)	1 (3%)

The majority of participants at 54% agree and 37% strongly agree that the cost of ART be free with 46% HIV positive group and 45% of HIV negative feeling that the cost be free.

HIV/AIDS is a developmental problem and while the scaling of treatment programmes offer renewed opportunities to encourage HIV testing, there is potential for increased risk behaviors as a result of altered perceptions of the seriousness of infection. United Kingdom conducted the largest study in 2000 where 5 882 men in four cities participated. The study analysed beliefs about the treatment and sexual behaviors after the introduction of HAART. The study found out that there were high unprotected sex behaviors, participants being optimistic about the effects of treatment on infectivity and life expectancy (JAIDS: 2003)

Increased rates of sexually transmitted infections in London and San Francisco which is correlated with the increase in unprotected sex with men of unknown HIV status has raised a concern (Chen :2003).

From the above it could be summarised that treatment optimism could cause increase in risk behaviors since people would feel that once they get infection, they will be treated but not realizing that the prevalence would continue to sour.

Table 6: Involvement by companies will help reduce the spread of HIV

	HIV + (n-50)		HIV – (n-50)	
	Male (n-10)	Female(n-40)	Male (n-16)	Female(n-34)
Strongly agree	2 (20%)	11 (27.5%)	0	8 (23%)
Agree	8 (80%)	23 (57.5%)	7 (43.75%)	20 (59%)
Don't know	0	1 (2.5%)	8 (50%)	3 (9%)
Disagree	0	5 (12.5%)	1 (6.25%)	2 (6%)
Strongly disagree	0	0	0	1 (3%)

Table 6 above illustrates that 21% of all the participants agree that companies' involvement in the fight against HIV/AIDS will reduce the spread, which is strongly supported by 58% from both groups which strongly agree that if this can happen, HIV spread would be reduced.

HIV/AIDS is a threat to the workers' rights. Work environment subjects people living with the virus to stigmatisation, discrimination and hostility. The human rights as provided by the Bill of Rights are violated on the simple basis of disclosure of their HIV status.

This scourge also threatens the development in that it has a negative impact on the workforce, business, individual and their families. This is evidenced by the projections made on the life expectancy, population growth and the economy. The most important

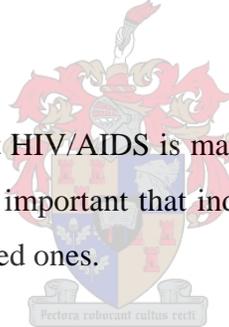
impact is that of the composition of the labour force in terms of age, skill and experience.

AIDS has a profound negative impact on the institutional performance. This is enunciated by the increasing costs due to recruitment, training, placement, health care, absenteeism, early retirement, burial fees and so on.

It is inevitable to note that child labour rates are escalating due to HIV infection and the impact of AIDS. Many companies, upon the loss of employees, resort to child labour.

HIV/AIDS management is not all about drug administration. The employer must better understand how this epidemic will affect their employees, the impact it will have to the company's' cost of production and the benefits of investing in effective and efficient HIV/AIDS programmes.

Employees need to understand that HIV/AIDS is mainly the disease of choice and it is developmental in nature. It is also important that individuals to take the responsibility of his/her health and that of the loved ones.



Debswana, one of the leading mining companies in Botswana, realized between 1996 and 1999 that there were HIV/AIDS related morbidity and mortality among the workforce. There was a significant percentage of ill-health retirements over 40% in 1996 and 75% in 1999 which was HIV/AIDS related. In 1996 their AIDS related deaths was 37.5% and this figure rose to 48.3% in 1999 (UNAIDS: 2002).

This unfortunate situation happened during the time when the company was still learning about new medical advances in the treatment of HIV/AIDS. The company then moved swiftly in conducting company situational analysis which included the audit of the company and determining the cost the company would incur in providing ARV to employees. The results were that ultimately the company provided ARV to its

employees and their families, a move that resulted in a decline of HIV prevalence to 22.6% (2001) from 28.8% (1999) (UNAIDS: 2002)

The above findings concur with the finding regarding confidentiality where 60% of the participants agree that confidentiality is not guaranteed at work; the majority 67% (27) were from the females in HIV positive group. Table 7 below shows the results

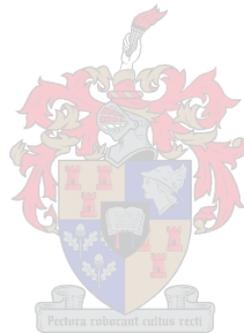


Table 7: Confidentiality is not guaranteed at work

	HIV + (n-50)		HIV – (n-50)	
	Male (n-10)	Female(n-40)	Male (n-16)	Female(n-34)
Strongly agree	1 (10%)	4 (10%)	0	3 (9%)
Agree	5 (50%)	27 (67.5%)	6 (37.5%)	22 (65%)
Don't know	3 (30%)	4 (10%)	0	1 (3%)
Disagree	1 (10%)	3 (7.5%)	5 (31.25%)	5 (15%)
Strongly disagree	0	2 (5%)	5 (31.25%)	3 (9%)

Sixty percent HIV positive males feel that they would not come for HIV testing before the introduction of ART while 47% females from the same group feel that they would still come for testing supported by 79% of the females in the HIV negative group.

Regarding VCT services, participants indicated that VCT services at the private health sector are better than the public sector services. This is attested by the responses generated regarding this question “*VCT services are better at private sectors than at the public sector*”. Table 8 illustrating the results of this question:

Table 8: VCT services are better at the private sector than at the public sector

	HIV + (n-50)		HIV – (n-50)	
	Male (n-10)	Female(n-40)	Male (n-16)	Female(n-34)
Strongly agree	0	4 (10%)	2 (12.5%)	2 (6%)
Agree	8 (80%)	17 (42.5%)	1 (6%)	6 (18%)
Don't know	0	2 (5%)	3 (19%)	10 (29%)
Disagree	1 (10%)	14 (35%)	4 (25%)	8 (23%)
Strongly disagree	1 (10%)	3 (7.5%)	6 (37.5%)	8 (23%)

11.2.3. Practices

To determine whether there is relationship between the knowledge; attitudes; and practices, despite overwhelming positive responses regarding the transmission modes, 15% females from the HIV positive group have more than three sexual partners whereas 77% of all participants indicated one sexual partner.

While 45% of females from HIV positive group disagree that they use condom without exception and 41% females from the HIV negative group also disagreeing, 70% and 56% females from HIV positive and HIV negative groups respectively did not use condoms during the last sexual encounter.

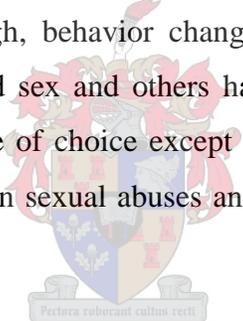
The findings are in line with those of the study that was conducted by University of Botswana where the majority of undergraduate students, upon indicating that they knew about HIV/AIDS and the transmission modes, still engaged in unprotected sex (Ploghoft :2000)

Seventy percent of the females from the HIV positive group don't regret having tested for HIV while 50% males from the HIV positive group regret testing for HIV. On the other hand, the HIV negative individuals feel confident because of their status. Maybe if they also tested positive the whole approach could have been changed.

12. CONCLUSION

The most important finding of this study has been the significant difference between VCT uptake before and after the introduction of ARTs ($t(24) = 3.14, p < 0.01$). This finding has important implications for organisations. The study strongly suggest that VCT must go hand-in hand with the availability of ARVs

In addition, other important findings were that even though people's level of knowledge about HIV/AIDS is relatively high, behavior change is challenge as there are still people who engage in unprotected sex and others have multiple partners. Hence the notion that HIV/AIDS is a disease of choice except for infections that are caused by social ills such as child and women sexual abuses and unintentional infection through blood products.



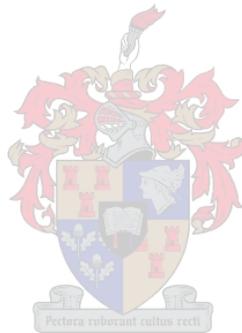
VCT is a complex programme that needs careful integrated approach, planning and execution. This research has shown that psychosocial factors contribute to ineffectiveness of VCT programme viz. fear of the break in confidentiality and discrimination.

Most participants indicated that VCT services are better at the private sector than in the public sector. This may call for a rethink in the manner that counsellors are trained and maybe warrant that the counselling course be conducted at the Institutions of Higher learning, with certificates of competence issued to successful counsellors and the latter subscribing to the recognised health professional bodies so as maintain the code of conduct.

Medical VCT sites should be integrated into the PHC setting while there needs to be intensified efforts in extending to non-medical sites as most people feel comfortable testing in centres that are not linked to health facilities because of fear of disclosure by the nurses. The communities should be educated to reduce stereotypes, prejudices and attitudes towards the HIV infected people.

It is apparent from the findings that where there is ART, people are more likely to come for VCT. Therefore full-scale provision of ART will increase VCT uptake.

On the other hand, while ART prolongs and improve the lives of those people infected with HIV, there should be other measures put in place to alleviate treatment optimism which may defeat the purpose of ART.



13. BIBLIOGRAPHY

Bekker, L., Orrell, C., Reader, L., Matoti, K., Cohen, K., Martel, R., Abdullah, F. & Wood, R. SAMJ, volume 93, 2003. **Antiretroviral therapy in a community clinic-early lesson from a Pilot Project.**

Bor, R., Miller, R., Goldman, E. 1992. **Theory and Practice of HIV Counselling: A Systemic approach.** Dotesios, Trowbridge, Wilts. Great Britain.

Chen, SY et al. 2003. **Unprotected anal intercourse between potentially HIV serodiscordant men who have sex with men.** San Francisco. JAIDS 33:166-170

Christensen, L, 9th Ed. 2004. **Experimental Methodology.** Pearson Education Inc. USA

Department of Health. 2000. **HIV/AIDS/STD strategic plan for HIV/AIDS in South Africa.** Government Printers. Pretoria.

Department of Health. 2003. **Summary report: National HIV and syphilis antenatal seroprevalence survey in South Africa.** Government Printers. Pretoria

Day, J.H., Miyamura, K., Grant, A.D., Leeuw, A., Mumsamy, J., Baggley, R., Churchyard, G.J. 2003. **Attitudes to HIV voluntary counselling and testing among mineworkers in South Africa: Will availability of Antiretroviral Therapy encourage testing.** Taylor & Francis Healthsciences

De Zoysa, I., Phillips, K., Kamenga, M, O'Reily, K et al. 1995. **Role of HIV Counselling and testing in changing risk behavior in developing countries.**

Department of Health. 2003. **National HIV and syphilis antenatal Sero-prevalence in South Africa.** Government Printers. Pretoria.

Fitzgerald M, A., 2003. **Amref Annual report**. The Regal Press Kenya Ltd. Nairobi, Kenya

Gaillard, P., Meilis, R., Mwanyumba, F., Claeys, P., Muigai, E., Mandliya, K., Bwayo, J., & Temmerman, M. 2000. **Consequences of announcing HIV seropositivity to women in an African setting: Lessons for the implementation of HIV Testing and interventions to reduce mother to child transmission**. Paper delivered at the XIIIth International Aids Conference, Durban

Aids Unit. 2004. **Gauteng Aids strategy**

Ginwalla, S.K, Grant, A.D., Day, J.H., Dlova, T.W., Macintyre, S., Baggaley, R. & Churchyard, G.J 2002. **The use of UNAIDS tools to evaluate HIV voluntary counselling and testing services for mineworkers in South Africa**. Aids Care. Taylor & Francis Health Care

Health Systems Trust 2002. **Assessment of all Public Funded VCT sites in order to inform South African National Department of Health about implementation Strategies**.



[Http://www. Avert.org/aidsuganda.htm](http://www.Avert.org/aidsuganda.htm)

Kabore M et al, 2002. **Disclosure of HIV status to partners among patients taking ARV. Experience from Abidjan, Co de 'Ivoire**. XIV International Aids Conference, Abstract WeOrF 1366

Lie, G., Biswalo, P, et al. 1994. **Perceptions of the appropriate HIV/AIDS counsellor in Arusha and Kilimanjaro regions of Tanzania: implications for hospital counselling**. AIDS Care.

LoBiondo-Wood, Haber, J. 1990. **Nursing Research Methods, Critical Appraisal and Utilizations.** Louis. Mosby

Macintyre, K, Brown, L, Sosler, S. 2001. **It's not what you know, but who you knew: Examining the relationship between behavior change and AIDS mortality in South Africa.**

Morar, N.S, Ramjee, G. 2000. **Impact of voluntary HIV counselling and testing among sex workers.** Paper delivered at the XIIIth International Aids Conference, Durban

Mwinda, A., Hops, M., Godfrey-Faussett, P., Quigley, M et al. 1998. **Twice Weekly TB Preventive therapy in HIV Infection in Zambia.** Aids.

Nachmias, C, F., Nachmias, D. 1992. **Research Methods in the Social Sciences.** St. Martins Press. Great Britain.

Ndlovu, L. 2002. **Role of Voluntary Counselling and Testing in Kwazulu-Natal.**

Polit, FD, Hungler, BP. 3rd Ed. 1987. **Nursing Research, Principles and Methods.** St. Louis. Lippincott.

Ploghoft, M. 2000. **HIV/AIDS: Knowledge, Attitudes and Practices among University of Botswana Undergraduate Students.**

Statistics South Africa 2001. **Census 2001.** Government Printers. Pretoria

Treatment Action Campaign. 2003. **Cost and Benefits of Preventing and Treating HIV/AIDS. TAC Fact Sheet Update**

UNAIDS. 2000. **Voluntary Counselling and Testing. UNAIDS Technical Update.** Switzerland, Geneva

UNAIDS.2003. **AIDS epidemic update.** Switzerland, Geneva

Van Dyk, A., Van Dyk, P. (2003). **What is the point of knowing?: Psychosocial Barriers to HIV/AIDS Voluntary Counselling and Testing programmes in South Africa**

Voluntary Counselling and Testing Efficacy Study GROUP (2000). **Efficacy of voluntary HIV-1 counselling in individuals and couples in Kenya, Tanzania & Trinidad.** A randomized trial. Lancet

World Health Organisation. 2003 **Antiretroviral Therapy in Primary Health Care: Experience of Khavelitsha Programme in South Africa.** Switzerland

