

**The effect of conducting workplace Voluntary Counselling  
and Testing (VCT) on-site on VCT uptake**

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requirements for the degree of Master of Philosophy  
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The image shows the crest of Stellenbosch University, which is a shield with various symbols, topped with a crown and surrounded by a red and white banner. The crest is positioned behind the text of the assignment description.

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***Declaration***

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

Signature:

Date:

## Summary

Voluntary counselling and testing (VCT) has only fairly recently been recognised as an important entry point to HIV/AIDS prevention and care interventions e.g. entry point to accessing services available in a workplace HIV/AIDS management programmes, or prerequisite for other services like prevention of mother to child transmission (MTCT) programmes. VCT promotes risk assessment and risk reduction strategies for the individuals that have undergone pre- and post-test counselling. It provides benefits for both those that test HIV positive and those that test negative.

This research study is based on VCT that is provided as part of a comprehensive workplace HIV/AIDS management programme. The success of VCT has highlighted the need for other care and support services for both the tested and the counsellors. With specific reference to the Alexander Forbes Direct Aids Intervention (DAI) programme, which was specially designed to assist companies manage and mitigate the impact and risk of HIV/AIDS on their workforce, VCT was initially only done off-site i.e. at doctors' rooms or pathology laboratories.

The DAI VCT uptake remained unsatisfactorily low in the first year and six months post-inception of the programme, the need for the VCT strategy modification was acknowledged. VCT-on-site days (on the company premises) were scheduled and implemented at a number of companies that are on the DAI programme. The aim of this research study is to look at the possible advantageous effect of conducting workplace VCT-on-site on VCT uptake and the appropriate design for this investigation is the *Before-After design*.

In the sampling, two experimental (E1, E2) and two control (C1, C2) groups are used to test the null hypothesis. E1 is a total of 600 employees from an IT company, and C1 is a total of about 600 employees from a pharmaceutical company. E2 and C2 both have populations of about 3000 employees. E2 is a cellular network service provider whilst C2 is a financial service company.

VCT-on-site implementation was introduced at E1 and E2. For E1, VCT-on-site was conducted in May, November, December 2003, and March 2004 respectively, with no VCT-on-site conducted at C1. For E2, VCT-on-site was offered on monthly basis from June 2003 to April 2004 excluding January 2004, and none offered at C2. VCT-off-site was available to all groups throughout the entire study period. Data was collected for a period of 12 months viz. from May 2003 to April 2004, in all companies.

The statistical technique used was Chi Square ( $\chi^2$ ) (Shavelson, 1988) for both sets of experimental/control groups of 600 and 3000 respectively. The hypothesis was tested and there was a significant increase in VCT uptake after introducing workplace VCT-on-site. The increase is as a result of the awareness raised through information imparted, the convenience, availability, and accessibility of the VCT services.

The conclusion of the study based on the data presented is that workplace VCT-on-site well planned and properly executed undoubtedly increases the VCT uptake. A hypothesis for future further studies has been developed.

## Opsomming

Vrywillige Voorligting en Toetsing (VVT) (soos tans veskaf word deur Alexander Forbes Direkte Vigs-intervensie Programme) is 'n relatief nuwe benadering to voorkoming en behandeling van MIV/Vigs. Die doelwit van hierdie studie is die bepaling van die doeltreffendheid van VVT by die werksplek. 'n Voor-en na-ontwerp is vir die studie gebruik met 600 werknemers van 'n farmaseutiese groep as eksperimentele groep en 3000 werknemers van 'n sellulêre netwerkverspreider as kontrolegroep.

Die nul-hipotese wat getoets is was die postulaat dat VVT by die werksplek 'n beduidende beter opname van Anti-virale medikasie sou teweegbring. Chi-kwadraat is as ontledingstegniek gebruik.

Resultate dui daarop dat daar 'n beduidende beter opname van Anri-virale medikasie is indien die VVT by die werkplek gedoen word.

Die studie spel die implikasies van hierdie bevinding uit en maak voorstelle vir verdere studies om voort te bou op die belangrike bevindings van hierdie studie

## **Introduction**

Voluntary counselling and testing (VCT) has only fairly recently been recognised as an important entry point to HIV/AIDS prevention and care interventions e.g. entry point to accessing services available in a workplace HIV/AIDS management programmes, or prerequisite for other services like prevention of mother to child transmission (MTCT) programmes. Previously, VCT has been basically used as a diagnostic strategy for symptomatic individuals, pre-operatively, or as a pre-employment test, albeit the latter being against the stipulations of Labour Law. The present context of VCT is based on the individual's wish to know one's his or her HIV status for the purpose of behaviour change or modification (UNAIDS, 2002). VCT strategy may also serve to increase openness and decrease HIV/AIDS stigma as more people get to know their HIV status.

VCT promotes risk assessment and risk reduction strategies for the individuals that have undergone pre- and post-test counselling. It provides benefits for both those that test HIV positive and those that test negative. For HIV negative individuals it alleviates anxiety and increases their awareness to their vulnerability to HIV infection and hence the need for behaviour modification. For HIV positive individuals, it increases the chances of reducing the risk of re-infection, opportunistic infection through prophylactic treatment and overall lifestyle modification. It is a service that can be provided by the government, non-government, community based-organisations and private sector. This research study is based on VCT that is provided as part of a comprehensive workplace HIV/AIDS management programme.

VCT should be made available, accessible and affordable, especially in areas of high HIV prevalence. The success of VCT has highlighted the need for other care and support services for both the tested and the counsellors. Thus the need for a holistic approach where a VCT programme is implemented in conjunction with other services, to make up a comprehensive HIV/AIDS management tool viz. 24hr toll-free medical and counselling help-line, on-going clinical psychological counselling, continued HIV/AIDS awareness and education, post-exposure prophylaxis (e.g. rape),

prevention of MTCT, nutritional supplementation, treatment of sexually transmitted infections (STIs), opportunistic infections prophylaxis, and anti-retroviral treatment (ART).

Challenges have also been highlighted in the process of providing VCT. The need for capacity building among the service providers has been enormous and costly. There has been a need for training of VCT counsellors, laboratory technicians, and health care professionals in counselling and doing the rapid HIV tests. It has been established that most companies that are implementing workplace HIV/AIDS management programmes have VCT as one of the services offered on their programmes. However, in most instances the uptake has not been as satisfactory or as anticipated, when one considers the HIV prevalence established from actuarial projections or prevalence surveys conducted within the workforce.

With specific reference to the Alexander Forbes Direct Aids Intervention (DAI) programme, which was specially designed to assist companies manage and mitigate the impact and risk of HIV/AIDS on their workforce, VCT was initially only done off-site i.e. at doctors' rooms or pathology laboratories. At the time of launching DAI within a company, employees receive a DAI information pack containing the following:

- Covering letter, explaining purpose of and what to do with the each item
- Eligibility card
- Brochure
- Pathology request form
- Letter to the doctor explaining the programmatic process

Employees would then go directly to any laboratory or doctor, where they will get pre-test counselled, sign consent and indemnity, followed by the drawing of a blood sample for the actual HIV test, and sending of the blood specimen off to the laboratory. The laboratory would then send the results to the employee's nominated doctor and to the DAI programme HIV specialists, who then store the information in an encrypted chronic disease management IT database, Therapy Edge. The employee

would then go to his/ her doctor for post-test counselling, which includes disclosure of results. The DAI services namely VCT, HIV/AIDS and awareness and education, the 24hr toll-free help-line, and the clinical HIV/AIDS management are available at no cost to all permanent employees because the DAI client companies bear all costs.

Coupled with the DAI information packs, and as part of the HIV/AIDS awareness and education element of the DAI programme, employees participate in Employee HIV/AIDS education and training sessions. These sessions are usually preceded by HIV/AIDS industrial theatre shows, used as icebreakers at these sessions. For ongoing HIV/AIDS awareness and education, employees also receive a quarterly informative DAI newsletter and have access to an interactive HIV/AIDS e-learning programme, *AIDS Incite*. The latter is offered in two modules, one for managers and one for general employees. The awareness and education is aimed at raising general HIV/AIDS awareness, imparting information, whilst de-stigmatising the disease in the process.

The clinical management that is offered includes clinical HIV/AIDS consultation and treatment by a medical doctor of choice in liaison with the DAI HIV specialists, 24hr toll-free medical and counselling help-line, clinical psychological counselling, post-accidental exposure prophylaxis, prevention of MTCT treatment, nutritional supplements, opportunistic infections prophylaxis, treatment of STIs, and ART.

Confidentiality of the DAI programme is emphasized at all times and all service providers sign Confidentiality Agreements. All the above services are provided in compliance with medical ethics, HIV Best Practice, and World Health Organization (WHO) and International Labour Office (ILO) guidelines. DAI, an independent and external entity, gives the company a monthly activity and financial report, which is a summary of the DAI service utilization, without disclosing employee names. The programmatic process is communicated to the employees at all times to promote and encourage DAI services uptake whilst also trying to address the fear of workplace discrimination or victimization.

Despite all of the above incentives, the DAI VCT uptake remained unsatisfactorily low in the first year. Six months post-inception of the programme, the need for the

VCT strategy modification was acknowledged. To provide a solution to the low VCT uptake, VCT-on-site days (on the company premises) were scheduled and implemented at a number of companies that are on the DAI programme. The central investigation of this research study is thus the effect of conducting workplace VCT-on-site on VCT uptake. Through this retrospective study, we will also determine workplace VCT uptake in the South African context, as we take into consideration the fact that the South African HIV/AIDS epidemic is multi-faceted and has some uniqueness in its nature e.g. apartheid history that led to migrant labour, socio-economic disparities, gender inequalities, cultural diversities etc., all of which fuel the epidemic.

## **Research Objectives**

The main objective of this research study is to determine the relationship between conducting workplace VCT-on-site, and the VCT uptake. Having established the nature of the relationship, we can predict future VCT uptake, and also explain the previous low uptake as seen with the DAI programme. This research study thus aims to show that the convenience, accessibility and availability of workplace VCT-on-site are important determinants or predictors of the VCT uptake. The research question can thus be phrased as:

*What is the effect of conducting workplace VCT-on-site on the VCT uptake?*

## **Literature Study**

### **Definition of concepts**

#### **Voluntary Counselling and Testing (VCT)**

VCT is a process whereby individuals obtain basic knowledge regarding transmission, prevention and meaning of an HIV test in preparation for providing informed consent to perform confidential testing to determine their HIV status. Through VCT individuals can assess their personal risk for HIV, and develop a risk reduction

strategy (South African National Department of Health VCT Guidelines). It requires individual choice, confidentiality, informed consent, pre-test counselling, testing, post-test counselling, record keeping, effective referral system and an effective counsellor support system.

***VCT-on-site:*** VCT that is conducted on the company premises using an external service provider (not company/workplace clinic)

***VCT-off-site:*** VCT that is conducted off the company premises viz. doctor's rooms, pathology laboratory or any other private/ public health facility.

### **Informed consent**

Informed consent means that the individual has been provided with information, understands what the test is, why it is necessary, the benefits, risks, alternatives and any possible implications of the outcome and based on this agrees to undertake an HIV test, in writing.

### **Counselling process**

Counsellors come from many backgrounds. They may be nurses, doctors, lay counsellors, clinical psychologists, social workers and other health care workers. The actual VCT process consists of pre-test counselling, post-test counselling, and follow up counselling.

The approach to each of these may differ according to client's needs and whether or not it is individual, couple or family counselling. It can also be influenced by the context of the counselling e.g. associated with prevention of MTCT of HIV. In this research study, it is mainly individual counselling that is carried out, and it is in the context of HIV/AIDS management in the workplace.

### Pre-test counselling

This is a pre-requisite to all people intending to know their HIV status. It can be done on individual basis or in a group session. The components of a pre-test include establishing the reason for requesting the test, existing knowledge of HIV/AIDS, misinformation and myths, risk assessment, risk reduction, testing and possible results together with their meanings. It also explores the possible implications of testing in the client's life as well as his/her significant others.

It is important to ensure that the decision to test is based on information about the implications of knowing one's status, the preparation of the employee to receive the results, and exploring coping strategies. On the DAI programme, pre-test counselling is offered at four places viz. on-site during VCT-on-site, doctor's rooms, pathology laboratory, and is also available telephonically on the 24hr toll-free help-line.

### Post-test counselling

When VCT is conducted on-site, this session happens immediately after a Rapid HIV test has been done. Following an Elisa HIV test, where blood is drawn on-site and blood specimen sent to the laboratory, the client is advised to make an appointment with the doctor he/she nominated as the preferred primary health care provider on the DAI pathology request form, that is sent to the laboratory. The laboratory sends the results to the DAI HIV specialists, and to the nominated doctor who will then communicate the information to the client in the post-test counselling session.

The latter session is about informing the client of his/ her results, checking the understanding of the result, providing emotional support accordingly, exploring the client's concerns and needs, discussing risk reduction strategies, exploring disclosure issues and discussing support systems. Depending upon the result, the client may need to be helped with the need for a change in his/her lifestyle, positive living, general adjustments required and possible behaviour change. When VCT-on-site is carried out, DAI clinical psychologists are also available on-site for any further in-depth counselling or support that may be required especially in dealing with a positive result.

### Group counselling

It has been an acceptable practice to do group counselling sessions in areas where there is insufficient number of counsellors. However, such counselling should be preceded by group education in order to provide clients with basic HIV/AIDS information. A maximum of six people can be counselled as a group. The counselling process should be similar to individual counselling, including all the aspects of pre-test counselling. Clients involved in a group counselling should be allowed an opportunity for individual counselling as well. Confidentiality should be always maintained even in a group context. Following VCT, post-test counselling should be done individually.

Couple counselling is another approach and helps counsellors to support discordant couples, offers an opportunity for the couples to plan for the future, and enhances faithfulness among partners.

### DAI Pre- VCT Information sessions

These are employee information sessions that are conducted prior to the actual VCT-on-site. The main objectives for carrying out these sessions are to:

- Motivate employees to take a test by showing them the importance of knowing one's status
- Explain what the pre- and post-test counselling entails, and the importance thereof.
- Explain the testing process and testing options
- Highlight the confidentiality of the programme
- Use the opportunity to promote the overall utilization of DAI services

### Testing process

Following pre-test counselling, the client signs a consent and indemnity form, before the actual testing happens. Through DAI, HIV testing may happen off-site, at any

pathology laboratory or doctor of choice or can also be conducted on-site, which is the main focus of our research study. With VCT-on-site, clients have two testing options:

- **Rapid test** - a finger prick HIV test, after which a client is informed of the HIV result immediately. Working in accordance with the WHO and the Southern African HIV Clinicians Society protocols to minimize the risk of incorrect results, if the first test is negative, the employee is given the result. If it is positive, a confirmatory test using a second kit from a different manufacturer, is carried out immediately before the result is given to the employee. If the two tests disagree or are discordant/indeterminate, blood is drawn and sent to the laboratory for a laboratory based enzyme-linked immunoassay (ELISA) test. The sensitivity and specificity of the rapid HIV test kits have reached very high levels (99.99%) and thus are reliable. Rapid HIV testing takes less than 15 minutes to perform.
- **Elisa test** - a blood sample is drawn and sent to the laboratory, with a fully completed DAI pathology request form, in which a preferred primary care doctor is also nominated. The laboratory will send the result to the nominated doctor, and to the DAI HIV specialists. The client is reminded by the DAI help-line, to make an appointment with the doctor for post-test counselling which will include disclosure of results.

### **The Rationale behind VCT strategy**

It is believed that VCT:

- May lead to behaviour change and thus reduction in HIV transmission. From past research on the efficacy of VCT and on sexual behaviour after HIV counselling and testing, it has been established that VCT reduces unprotected sexual intercourse with primary and non-primary partners among both men and women who go through the VCT process. (VCT Efficacy Study Group, 2000)
- Has also been found to be a highly cost-effective preventive intervention comparable to other proven preventive strategies e.g. enhanced sexually

transmitted infections (STI) services and universal provision of nevirapine to pregnant mothers in high prevalence settings.

- Give an opportunity to the infected to access medical treatment viz. prophylaxis for opportunistic infections and antiretroviral therapy, that can reduce vertical transmission
- Open opportunities for the infected and affected to access needed ongoing psychological counselling, support and care
- May contribute towards reducing HIV/AIDS stigma by declaring HIV as an accepted routine procedure whilst treating aspects of confidentiality very seriously.

### **VCT uptake**

With respect to DAI, VCT uptake refers to the percentage or total number of employees in a company who have undergone VCT through DAI. Therefore VCT uptake (as a percentage) is calculated as:

$$\frac{\text{Total number of employees tested}}{\text{Total number of employees in a company}} \times 100$$

In workplace programmes such as DAI, VCT is the entry point to accessing all other available DAI services and it is therefore the cost-driver of the programme. It is only when DAI has been able to identify and manage the infected population in a company, that the benefits for implementing the DAI programme become apparent.

Once registered on the programme, employees have access to comprehensive HIV/AIDS management. Productive lives can therefore be extended as the programme aims to keep the HIV positive employees as healthy and productive for as long as possible.

## **Barriers to VCT uptake**

Jonathan Mann, a former director of WHO Global Programme stated that, “The social aspects of HIV/AIDS would be the most difficult to handle worldwide”, and consequently stressed the need for major inputs of social and behavioural sciences to be included in the medical model that dominate HIV/AIDS research and practices.

Most managers are reasonable beings that systematically process and strategically use all information available to them when they plan their behaviour and thus, expect employees to think in the same way. This type of thinking is described as, “*The Theory of Reasoned Action and Planned Behaviour*” (Fishbein and Ajzen). This theory has not held true in the HIV/AIDS epidemic especially with regard to freely available workplace VCT services, as shown by low VCT uptake. People do not behave as expected, seem not to comprehensively process information that they have been given, and thus do not plan their behaviour accordingly.

Problems relating to facilities, services, or to psychosocial obstacles that negatively impact on the people’s willingness to participate in VCT programmes or may relate to the efficacy of such programmes have been identified as barriers. These include fear of breaches of confidentiality, social ostracism (including prejudiced behaviour by health care personnel), disclosing their HIV status to sex partners and inability to handle the psychological turmoil of an HIV positive test result, as well as feelings of fatalism or mental anguish and a lack of incentives for knowing one’s HIV status (Arthur et al 2000).

In the South African context, past inequalities that created enormous distrust between employers and labour have compounded the barrier problem for workplace VCT programmes. Mixed media messages e.g. government previously giving the impression that anti-retroviral drugs are poisons or the president saying HIV does not cause AIDS, have further contributed to the suspicions, fear, confusion and mistrust.

Employers need to appreciate that for their workforce to change unsafe behaviour and access VCT, the education leading to the required changes and desired VCT uptake needs to include the understanding and inclusion of workforce:

- Intentions
- Beliefs
- Attitudes
- Subjective norms (what is socially acceptable normal behaviour to that individual or group).
- Self-efficacy (belief in their ability to change)

## **Research Problem**

Generally, research problems originate from one of the four sources viz. everyday life, practical issues, past research or theory. With DAI, VCT is the entry point to accessing all the available DAI services. Following the low VCT uptake with VCT-off-site, it was only practical that the effect of conducting VCT-on-site on the actual VCT uptake be established using a scientific approach. The research problem for this study is:

***“What is the effect of conducting workplace VCT-on-site on VCT uptake?”***

This statement conforms to the Kerlinger definition and meets the criteria of a good research problem. It contains two variables viz. VCT-on-site and VCT uptake. The variables express a relation, and the problem is stated in a question form. The statement also implies possibilities of empirical testing because before and after workplace VCT-on-site, VCT uptake can be measured through the DAI VCT data collected from May 2003 to April 2004. The above research problem is specific, without any vagueness.

## Research Hypothesis

Hypotheses represent the best predictions of the relation that exists among the variables and must be stated so that it is capable of being either refuted or confirmed. Often the hypothesis to be tested is a function of literature review of past research. However, this study emanates from a practical issue viz. what the effect of conducting VCT-on-site would be on VCT uptake.

*Scientific hypothesis:* Conducting workplace VCT-on-site has an effect on VCT uptake.

*Null hypothesis:* Conducting workplace VCT-on-site has no effect on VCT uptake.

## Research Methodology

### Research design.

As the aim of this study is to research the effect of VCT-on-site as an intervention, on VCT uptake, the appropriate design for this investigation is the *Before-After design*. It is a true experimental design, in which the treatment effect is assessed by comparing the difference between the experimental and control groups pre- and post-intervention scores. This design adequately tests the (null) hypothesis and controls extraneous variables.

### Sampling

Due to the availability of the DAI companies` data, and to clearly show how strong the relationship between VCT-on-site and VCT uptake, two experimental and two control groups were used to test the null hypothesis. The first experimental group (E1) is a total of 600 employees from an IT company, and the first control group (C1) is a total of about 600 employees from a pharmaceutical company.

The second experimental and control groups both have populations of about 3000 employees. The second experimental group (E2) is a cellular network service provider whilst the second control group (C2) is a financial service company.

The demographic factors such as race, age, income and geographic location, level of education, are comparable in both sets. Uniform DAI HIV/AIDS awareness, education and training strategies are implemented at all four companies. Randomization was not necessary in this study as we were using entire workforces or full population as either an experimental or control group. VCT is by law conducted on voluntary basis and employees should never be made to feel that they are being coerced into participating by the employer. Thus legislated that they sign an informed consent form.

### **Data Gathering**

In this study, data was gathered from the workplace VCT conducted off-site and on-site through the DAI programme. The data gathered shows the VCT uptake prior to VCT-on-site and VCT uptake with VCT-on-site.

From May 2002, VCT on the DAI programme was carried out off-site, for all the DAI client companies. In response to low VCT uptake, VCT-on-site implementation was introduced at the two experimental groups E1 and E2. For E1, VCT-on-site was conducted in May, November, December 2003, and March 2004 respectively, with no VCT-on-site conducted at C1.

For E2, VCT-on-site was offered on monthly basis from June 2003 to April 2004 excluding January 2004, and none offered at C2. VCT-off-site was available to all groups throughout the entire study period. Data was collected for a period of 12 months viz. from May 2003 to April 2004, in all companies.

Data collected included the number of employees tested, number of employees who tested positive/negative, and whether rapid HIV or ELISA testing was used. Data collected was captured onto the Therapy Edge database. For data analysis to establish

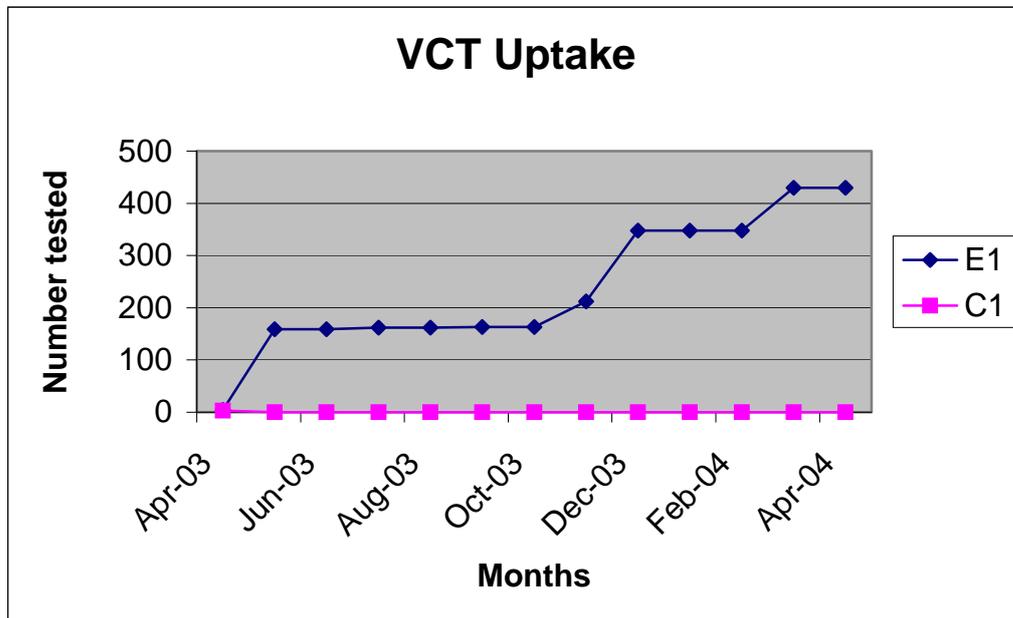
the actual relationship between VCT-on-site and VCT uptake, we downloaded the data from the database.

## Results

**Table 1**

	<b>Experimental (E) 1 VCT uptake</b>	<b>Control (C) 1 VCT uptake</b>
<i>Pre –VCT-on-site</i>	<b>4</b>	<b>3</b>
May 2003	155	0
June 2003	0	0
July 2003	3	0
August 2003	0	0
September 2003	1	0
October 2003	0	0
November 2003	49	0
December 2003	136	0
January 2004	0	0
February 2004	0	0
March 2004	82	0
April 2004	0	0
<i>Post VCT-on-site</i>	<b>430</b> = 421 tested on-site + 9 tested off-site	<b>3</b> = 3 tested off-site

**Graph 1**



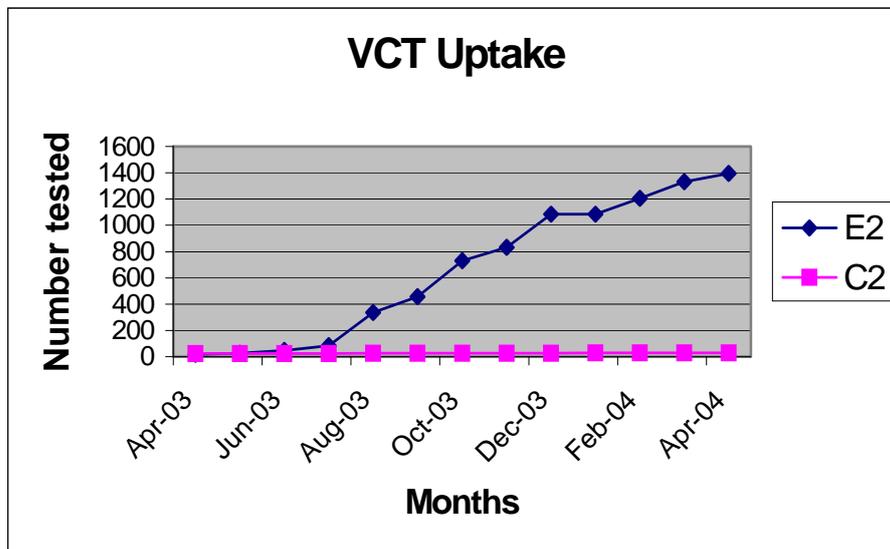
**“Before and after” procedure;**

	Pre VCT-on-site VCT uptake	Treatment	Post VCT-on-site VCT uptake	Difference
<b>E1</b>	4	<b>VCT-on-site</b>	430	426
<b>C1</b>	3	None	3	0

**Table 2**

	<b>Experimental (E) 2 VCT uptake</b>	<b>Control (C) 2 VCT uptake</b>
<b><i>Pre VCT-on-site</i></b>	<b>18</b>	<b>23</b>
May 2003	9	0
June 2003	21	0
July 2003	37	0
August 2003	252	2
September 2003	121	2
October 2003	272	0
November 2003	103	0
December 2003	251	0
January 2004	0	1
February 2004	122	0
March 2004	127	0
April 2004	63	0
<b><i>Post VCT-on-site</i></b>	<b>1396</b> = 1377 tested on-site + 19 tested off-site	<b>28</b> = 28 tested off-site

**Graph 2**



**“Before and after” procedure:**

	Pre VCT-on-site VCT uptake	Treatment	Post VCT-on-site VCT uptake	Difference
<b>E2</b>	18	<b>VCT-on-site</b>	1396	1378
<b>C2</b>	23	None	28	5

**Statistical data analysis**

In spite of the evident rejection of the null hypothesis, the decision to reject it must be confirmed using statistical analysis methods. Inference is made on the basis of the sample data about the populations of interest. The statistical technique used was Chi Square ( $\chi^2$ ) (Shavelson, 1988). Chi Square was used for both sets of experimental/control groups of 600 and 3000 respectively. In the first analysis

(N=600 pairs) a significant  $\chi^2$  ( $\chi^2_{(598, 2)} = 19.50, p < .01$ ) was found. The second analysis (N=3000 pairs) also yielded a significant  $\chi^2$  ( $\chi^2_{(2998, 2)} = 8.53, p < .01$ ).

The null hypothesis is rejected in both experiments. In both instances there was a significant increase in VCT-uptake after introducing workplace VCT-on-site. From the above retrospective study, the null hypothesis is undoubtedly refuted. Conducting workplace VCT-on-site has an effect on VCT uptake. The actual effect of VCT-on-site above is a significant increase in VCT uptake as a result of the awareness raised through information imparted, the convenience, availability, and accessibility of the VCT services, and the sufficient follow up support that is available through DAI. With an increase in the VCT uptake, companies can more accurately quantify the HIV problem, and thus have an opportunity to implement intervention strategies that will optimally manage the HIV risk and impact.

## **Conclusion and Recommendations**

It is important to realize that in spite of the DAI services being comprehensive, holistic and free, as well as being offered in a confidential manner, the convenience, accessibility, and availability thereof, coupled with the DAI pre-VCT information sessions plays, a significant role in the actual VCT uptake. Bringing VCT to the workplace through an external service provider, who is believed to be objective with regard to workplace discrimination and stigmatisation encourages VCT uptake.

With VCT-on-site, less time is spent off work and, the inconvenience of making an appointment and travelling to and from the doctor's rooms or pathology laboratory falls away. The client has an option to have his/her HIV result immediately, thus less suspense and anxiety especially if HIV negative. He/she also needs to be prepared for the unforeseen and undesirable HIV positive result and this together with the necessary support, is all available on-site.

For the employer, identifying the HIV positive employees and having them managed through a comprehensive HIV/AIDS management programme is essential to the mitigation of the impact of HIV/AIDS on the company. Effective and efficient

clinical HIV/AIDS management including ART will undoubtedly extend productive lives. It is apparent that HIV/AIDS management should be looked at as an important strategic business issue, and be embodied in the vision and future company strategic planning.

Based on the data presented in this study, it is apparent that well planned and properly executed VCT-on-site is a useful tool for both employer and employee, in promoting and encouraging VCT uptake. The positive effect VCT-on-site has on the VCT uptake in the DAI context of HIV/AIDS management in the workplace, clearly leads to better management of HIV/AIDS, which in turn mitigates the impact of HIV/AIDS on a company. VCT is instrumental in comprehensively managing HIV/AIDS.

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