FACTORS ASSOCIATED WITH INTENTION TO ENROL
INTO THE HIV TREATMENT PROGRAMME IN AND
AROUND LOBATSE, BOTSWANA

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree

Master of Family Medicine

11th of October 2013
DECLARATION

I, Tonye Benson Taylor declare that this research report is my work. It is being submitted for the degree of the Master of Medicine in the Family Medicine programme of the University of Witswatersrand, Johannesburg. It has not been submitted for any degree or examination at this or any other University.

______________________________ [signature]

This ___11th___ day of ___October___ 2013
DEDICATION

To my wife, Chinasa Amuche Taylor,
and son, Ndochukwu
ABSTRACT

Background: Botswana has one of the highest HIV prevalence rates in the world, with 32% of pregnant women and 24% of adults in the general population living with HIV. Although antiretroviral therapy (ART) or HIV/AIDS treatment is widely available in the public sector in Botswana, not all treatment-eligible patients utilise the services in a timely manner. The study aims to identify the factors associated with the intention of already screened HIV positive/AIDS patients, who met the government criteria, to enrol into the HIV treatment programme in Lobatse, Botswana.

Methods: A Cross-sectional descriptive study was used, conducted at the Infectious Disease Control Clinic, Athlone Hospital, Lobatse over a 6-month period. A questionnaire was administered on systematically sampled participants, who met Botswana National antiretroviral treatment or HIV/AIDS treatment guidelines.

Results: A total of 342 participants were enrolled, mostly female (67.3%) and single (50%). Majority of the participants were age 35-44 years (17%), attained up to primary level education (44%) and were mostly unemployed (54%). A majority (59%) intended to enroll into ART or HIV/AIDS treatment programme due to sickness, while others were motivated by voluntary testing and counseling (24%). The majority of the respondents received post-test counseling (97.3%) and most was motivated to seek ART or HIV/AIDS treatment (88.3%). Only (60%) disclosed their status to their relative. Although most participants (59.6%) were willing to be linked to care and support, most (65.1%) were ignorant of support groups and services available for them.
**Discussion:** Although there is increasing access to ART or HIV/AIDS treatment, most participants still wait until they are sick or have symptoms before they enroll into ART. Supportive post-test counseling and conducive family environment were some of the enabling factors. Distance to health facilities and long queues are barriers to accessing care as well as stigma and discrimination. The most significant reasons for not continuing with the treatment were health facilities being far from place of residence and queuing for a long time to see a doctor and or collect medications.

**Conclusion:** Sickness, public education, supportive family environment and effective post-test counseling were found to be significant motivators for intention to enroll into ART. Perceived barriers to accessing treatment include distance and time spent in the health facilities. Interventions are required to reduce stigma, bring health facilities nearer to the people, and increase efficiency in health facilities and increase access and utilization of the care and support groups.
ACKNOWLEDGEMENTS

I am grateful to Dr Victoria Jideani for her assistance with statistical analysis and Dr Anthony Ogwu for his support and encouragement. My gratitude also goes to my supervisor Professor Ian Couper for his patience, guidance and encouragement throughout the writing of this report. My gratitude goes to the Ministry of Health, Botswana for permission to carry out this research and the administration and staff at Athlone Hospital, Lobatse.
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CHAPTER 1

1.0 INTRODUCTION
HIV / AIDS have exerted a significant burden worldwide and a growing public health concern worldwide. In 2012, an estimated 33 million worldwide were estimated to be living with HIV/AIDS [UNAIDS]. According to the UNAIDS an estimated 2.6 million [2.3 million–2.8 million] people became newly infected with HIV in 2010, nearly 20% fewer than the 3.1 million [2.9 million–3.4 million] people infected in 1999. The Eastern and Southern Africa remains the epicentre of the HIV epidemic with the seven hyper-epidemic countries in the world with HIV prevalence rates over 15 percent (among 15 to 49 year olds).

HIV treatment and prevention measures seem to be turning the tide on the epidemic. UNAIDS reported that HIV incidence has fallen by more than 25% between 2001 and 2009 for more than 33 countries and most these countries being in sub-Saharan Africa. Recently, it was reported that over 1.2 million people are receiving ART and an overall decline in the death rates.

Botswana was one of the first African countries to provide ART freely to qualifying citizens in the public sector and it estimated that over 85% of those who need treatment are accessing it, albeit with huge financial burden and pressure to the health system. It was reported [personal comm.], that despite the success of the program, many qualifying individuals present to the health facilities very late, putting additional burden on the overstretched heath care system and worsening the prognosis of the disease. A number of barriers are cited in literature as barriers to accessing ART. These include health system-level barriers (shortage of resources, inadequate human resources), patient level factors
[stigma, disclosure] and population-level barriers (for instance, knowledge of ARVs or HIV/AIDS drugs and ART, behavioural disinhibition, etc.). To our knowledge, there is limited structured insight into factors that facilitate intention to enrol into ART or HIV/AIDS treatment programmes or those barriers that prevent access to ART. The objective of this study was to identify the factors associated with the intention of already HIV positive qualifying adults, to enrol into the HIV treatment programme in Lobatse, Southern Botswana.

1.1 Statement of the problem
Despite the increased availability of anti-retroviral drugs that can fight HIV, the epidemic continues to grow. It is increasingly recognised that voluntary counselling and testing play a critical role in HIV prevention, early diagnosis of HIV infection as well as timely therapeutic or prophylactic intervention. Although testing for infection, a precondition for receiving antiretroviral medication has improved, offering a test without concomitant access to health facilities and availability of anti-retroviral cannot improve one’s health. Late enrolment and initiation of anti-retroviral drugs is also known to give a worse prognosis of the disease.

Failure to use ARV therapy increases vulnerability to a host of disabling and potentially life threatening opportunistic illnesses such as respiratory ailments, bacterial and fungal infections, neurological disorders and cancers. People who are not enrolled in the treatment programme will therefore be prone to such illnesses, especially Tuberculosis infection, which are the major causes of death in people living with HIV. Antiretroviral therapy significantly enables people who are considered medically eligible for treatment to live longer and healthier lives.
The increasing incidence of mortality rates of professionals means that skills in the workforce necessary for economic development are lost forever. Loss of parents has led to a growing population of orphans who are living in poor households and are less likely to be enrolled in school⁷.

In the absence of HIV treatment a third of the babies born to HIV positive mothers will become infected during pregnancy and delivery or through breastfeeding⁸⁹. Failure to use antiretroviral treatment can also increase the rate of transmission. Antiretroviral therapy or HIV/AIDS treatment helps reduce a person’s viral load which reduces the likelihood that he/she will transmit the virus to someone else.

Since the start of the HIV/AIDS treatment programme in Botswana, some problems concerning operational issues, human resources, facilities, reluctance of individuals to go for screening and to enrol into the HIV/AIDS treatment programme, among others have arisen. This has prevented the treatment programme from fully taking off.

1.2 Relevance of the study
No study has been conducted to identify these factors. This study therefore intends to bridge the gap by exploring the factors associated with intention to enrol into the HIV/AIDS or ARV treatment programme in Lobatse. It is hoped that such information will be useful for programme implementation and full participation of the screened HIV/AIDS individuals who qualify for the “Masa” treatment programme.

The study will highlight areas that may need to be strengthened and improved in the HIV/AIDS treatment programme to make it user-friendly and more accessible and acceptable to the community as a whole.
1.3 Objectives of the study

1.3.1 Main objective
To identify the factors associated with the intention of already screened HIV positive/AIDS patients, who meet the government criteria, to enrol into the HIV/AIDS or the ART treatment programme in Lobatse.

1.3.2 Specific Objectives of the study

The specific objectives will be:

1. To describe the socio-economic and demographic features of the HIV-positive/AIDS patients who are screened and found to qualify to be enrolled into the HIV treatment programme of the Botswana government in Lobatse;
2. To identify factors that motivated the HIV-positive people to come forward to be screened and investigated;
3. To determine the type of family and social support available to the HIV/AIDS patients in the community;
4. To understand the initial reaction of the affected people when they discovered they were HIV positive or had AIDS and the role of counselling and
5. To determine the reasons why infected people enrol into the HIV/AIDS treatment programme.
CHAPTER 2

2.0 BACKGROUND AND LITERATURE REVIEW

2.1 Introduction
This chapter provides a review of the pertinent literature and background of the study. The chapter provides a review of the global HIV epidemic, the local epidemic in Botswana and the background of the ART programme. It also discusses some barriers for accessing ART.

2.2 HIV infection globally
The Joint United Nations Programme on AIDS (UNAIDS) report on the global AIDS epidemic 2010 showed an estimate of 33.3 million people currently living with HIV/AIDS globally. Of these, 30.8 million were adults, 15.9 million, women and 2.5 million, children <15 years. An estimated 2.6 million people became newly infected with HIV in 2009, of which 2.2 million were adult and 370,000 children < 15 years. Total deaths in 2009 were 1.8 million, 1.6 million adult and 260,000 children <15 years.

Sub-Saharan Africa was the most affected region with 22.5 million adults and children living with HIV and 1.8 million newly infected adults and children in 2009. 1.3 million Adult and children died due to AIDS in 2009.

2.3 HIV Epidemic in Botswana and the ART Programme
Botswana, situated in sub-Saharan Africa, is a land-locked country of about 1.6 million people, but has one of the highest prevalence rates of HIV infection. The national prevalence rate among adults 15-49 was 23% (range 22.5%-24.5%) in 2007. Prevalence has been declining slightly in urban areas and has been roughly constant in rural areas. The annual number of new infections among adults (15+) was 18,000 (12,000-26,000), the incidence rate, 2.4% and the estimated annual number of new child infections, about 890
in 2007\textsuperscript{10}. The age-adjusted district HIV prevalence for Lobatse was 17.9\% (females) and 14.4\% (males), while the HIV prevalence was 16.3\% in 2008 (BAIS III, 2008)\textsuperscript{11}.

According to estimates, around 300,000 adults of Botswana populace are living with HIV and by 2011, the life expectancy at birth will be around 53 years\textsuperscript{7} instead of dropping to as low as 29 years if the HIV/AIDS epidemic was left unchecked\textsuperscript{12}. Because of this, the government, with the help of international agencies like UNAIDS, United State government, and especially Bill and Mellinda Gates Foundation in 2000, instituted a prevention programme for mother-child transmission (PMTCT). This was followed by free screening, investigations and treatment programme for its citizens in the Public health sector. A National HIV/AIDS treatment guideline was formulated in January 2001 and revised in 2008 and in 2012, taking into consideration current available knowledge and research findings. This antiretroviral (ARV) programme, called “Masa”, meaning “new dawn”\textsuperscript{13} was rolled out in phases while capacity was being built in terms of manpower training, infrastructure, facilities and acquisition of the necessary ARV drugs, starting with a pilot project in Gaborone, the capital of the country.

Criteria for enrolment into the programme were as follows\textsuperscript{14}:

- CD4 cells/mm\textsuperscript{3} < 200, revised in 2008 to ≤ 250 and in 2012 to ≤ 350
- AIDS defining illness/diseases or WHO clinical stage 3 or 4 for all adults and adolescents

By May 2004, 27,699 people were enrolled into the Masa ARV or HIV/AIDS treatment programme of the government and of these, 17,387 were already on ARVs and 1,353 of the enrolled died after their enrolment\textsuperscript{15}. By the end of September 2010, 127,631 people (61.4\% females) were on antiretroviral in the public health sector while 16,029 patients
were outsourced through the public-private partnership to Private Practitioners for management\textsuperscript{16}.

In the private sector, big corporations such as Debswana, De Beers, banks and Botswana Meat Commission, started similar programmes for their employees and their spouses before the initiation of the government programme. Patients on ARV or HIV/AIDS treatment in the Private sector (Debswana, Botswana Medical Aid (Bomaid) and Associated Fund Administrators (AFA) were estimated at 6 700 in 2004\textsuperscript{17} but by the end of September 2010, it had increased to 13256 people giving a combined total (in both public and private health sector) of 156,916 patients which amounted to 93.8\% of 167245 adults and children in need of anti-retroviral therapy at the end of September 2010\textsuperscript{16} according to the government estimation and using the National guideline available as of then.

The administration of antiretroviral treatment has also been decentralized to the local clinics, within reach of the patients. Rolling out and scaling up of ARV treatment in Botswana is commendable especially with the government, international agencies and community playing a very active part.

HIV/AIDS marks a severe developmental crisis not only in Botswana, but also in the sub-Saharan region and its impact is already threatening the African society. Providing adequate and affordable treatment and care to the people living with HIV/AIDS presents two of the biggest challenges facing humanity today. Botswana is one of the 19 African nations that had established a National AIDS Council. This is personally chaired by the President, to take charge of the HIV/AIDS scourge because epidemic is still steeped in
stigma, discrimination, fear and denial and this has hampered the collection of data to fully assess the exact magnitude of the problem\textsuperscript{18}.

Factors that have fuelled the spread of HIV/AIDS in Botswana were identified in Botswana’s National Strategic Framework for HIV/AIDS 2003-2009\textsuperscript{19} as

1. Stigma and denial
2. Socio-cultural determinants such as gender inequality, the tolerance of male sexual networking and the abuse of alcohol
3. Socio-economic determinants. The relative income disparity which have resulted in people exploiting situations of the inequality to force the vulnerable groups into high-risk situations
4. Demographic mobility and rapid urbanization leading to breakdown of the traditional mechanisms for controlling social and sexual behaviour.

2.4 Barriers to accessing antiretroviral treatment
Posse et al.\textsuperscript{20} provided a systematic review of the barriers to accessing ART. The barriers most frequently cited at the population level were: lack of information about antiretroviral therapy (ART), perceived high costs for ART and stigma. At the system level, the most frequent barriers at the health system level included long distance from home to the health facility, lack of co-ordination across services, including support groups and limited involvement of the community in the programme planning process. At the individual level, stigma and discrimination still continues to be major problem.

Discrimination attributed largely to fear and ignorance of HIV and AIDS, religious taboos and bias, socio-cultural and political forces together with pre-existing prejudices against people who are most commonly associated with the epidemics, have prevented the open
discussion and effective education about HIV infection/AIDS, safer sex, and the need for tolerance\textsuperscript{21,22,23,24,25,26,27}. This also fuels the stigmatisation, fear, and reluctance of people in coming forward to be treated for HIV/AIDS.

A study in Swaziland\textsuperscript{3} recently documented four themes regarding barriers to ART or HIV/AIDS treatment initiation among those who were eligible. These included facility challenges, lack of knowledge about ART, anxiety around commitment for a lifelong treatment and issues related to stigma and disclosure.

Kayigamba et al\textsuperscript{28} in their study in Rwanda found that many patients do not enrol timely into HIV care and treatment after HIV diagnosis and the need to improvement linkage to care and treatment after HIV diagnosis to harness the full potential of ART or HIV/AIDS treatment. The issue of late HIV care enrolment in sub-Saharan Africa was also observed by Hoffman\textsuperscript{29} whose study noticed that risk of late enrolment is higher for men than women, non-pregnant women compared with pregnant women and older patients and in busy clinics with more than 700 patients. Her results also showed that in communities with higher HIV knowledge and where HIV testing coverage was better, people enrolled earlier.

The Health Belief Model (HBM) gives a useful insight to some of the issues raised above. It proposes that people will respond best to messages about health promotion or disease prevention when the following conditions exist and the person believes they are real. 1) Perceived severity: the belief that a health problem is serious 2) Perceived threat: the belief that one is susceptible to the problem 3) Perceived benefit: the belief that changing one’s behaviour will reduce the threat 4) Perceived barriers: a perception of the obstacles to changing one’s behaviour and 5) Self efficacy: the belief that one has the ability to change one’s behaviour\textsuperscript{30}. The aspect of the Health Belief Model that the person accepts or rejects plays an important role in his or her health behaviour and response to health programmes.
and knowing these can be used in designing appropriate interventions\textsuperscript{31}. Janz and Becker\textsuperscript{32} study provided substantial empirical support for the HBM. “Perceived barriers” proved to be the most powerful of the HBM dimensions across various study designs and behaviours. It also showed that while both were important, “perceived susceptibility” was a stronger contributor to understanding preventive-health behaviours (PHB) than sick-role behaviours (SRB) while reverse was true for “perceived benefits”.

The Health Belief Model and findings from some of the studies above were used as a theoretical framework for this research\textsuperscript{33}.

In sub-Saharan Africa, the HIV/AIDS epidemic is compounded by lack of trained health workers to effectively deliver ARVs\textsuperscript{34}. To minimize the human resources limitation, the government of Botswana embarked on Public-Private Partnership as an option for expanding access to the treatment of HIV/AIDS\textsuperscript{35,36}. The cooperation reduced the immediate need of recruiting medically qualified staff into the public sector while making use of the available facilities of the private medical practitioners and scaling up access and uptake. HIV-related training programme for health personnel was also developed to support the government roll out of ARV treatment\textsuperscript{37}. This is compulsory for all health personnel involved in HIV/AIDS treatment and management in the country.
CHAPTER 3

3.0 METHODOLOGY

This chapter describes the methods used to collect the data. The research design is discussed in terms of methods, sampling technique, sample size, research setting, research population, data collection procedures, and ethical considerations pertaining to both phases of this study.

3.1 Study design
A Cross-sectional descriptive study was used which was conducted at Infectious Disease Control Clinic, (IDCC), Athlone Hospital, Lobatse over a six month period.

3.2 Study population
This involved all screened HIV positive/AIDS patients who met the government criteria for enrolment into the “Masa” treatment programme at the time of the study and were available at the site of study.

3.3 Study Setting
Lobatse, with a population of about 31000, is situated about 72 kilometres from Gaborone, the capital. It was the old capital, and is one of the oldest towns in the country. It has six private clinics. There are 13 districts and 2 reference Hospitals in Botswana. Athlone hospital in Lobatse is the one of the district hospitals in the south of the country and takes care of six clinics, two of which are ARV providing site clinics where screening for HIV/AIDS takes place. Athlone Hospital is the site treatment centre and the already
screened HIV positive patients who meet the government criteria are referred there for treatment. It is a 175-bed secondary health facility with a complement of seven medical doctors, 115 nurses and other Para-medical staff. It has a centre for prevention of mother-child transmission (PMTCT) and an Infectious Diseases Control Clinic, (IDCC) responsible for investigating and treating patients with HIV/AIDS infection. Its catchment population is about 50,000-70,000, which includes Lobatse and its environs.

3.4 Sample Size and Sampling Methodology
According to Krejcie and Morgan,\textsuperscript{38} to obtain a 95% certainty in a population of about 22,000 using the HIV prevalence rate (females) in 2003, which was 32.4% for Lobatse, we estimated sample size with finite population correction using the following formula:

$$n_0 = \frac{Z^2 \cdot \alpha^2 \cdot P \cdot (1 - P)}{d^2}$$

where $n_0$ is the sample size without considering finite population correction factor, where $Z = 1.96$, $P = 0.324$ and $d = 0.05$ (5% percent level of error);

The sample size $n_0$ was estimated as 337.

Applying the finite population correction factor, the actual sample size ($n$) was calculated using the formula:

$$n = \frac{n_0 \cdot N} {(n_0 + (N - 1))} = 332;$$

where $n_0 = 337$ and $N = 22,000$ (estimated HIV prevalent cases in the target population or catchment area). The minimum required sample size to be used for this study was 332.

Systematic sampling was used: every third patient at the sites of the study, who met the HIV/AIDS treatment criteria of the government, on the particular day and time were selected. If declined, the next patient was sampled. They were excused out of the queue to ensure privacy to available empty consulting rooms but their position in the queue was maintained, with permission from other patients. The sample size from the site of study
reflected the population of qualified patients attending the Clinic in a proportional way to ensure that the sample truly represents the population.

3.5 Inclusion criteria
- Consenting patients over 18 years of age were included in the study.
- These were patients who already knew their status, had been pre- and post-test counselled and were now being assessed for entry into the treatment programme.

3.6 Exclusion criteria
- Patients who were mentally incapable of participating or refused to participate
- Patients under 18 years old were also excluded.

3.7 Pilot Studies and Data collection
The study used a questionnaire as instrument to collect data. The questionnaire was designed to answer the research questions and a pilot study was conducted and instrument was revised after discussions with the staff and also input from the patients [not subsequently included] to increase the validity.

3.7.1 Content Validity
Polit and Beck\textsuperscript{39} noted that content validity of an instrument is the degree to which an instrument has an appropriate sample of items for the construct to be measured. Burns and Grove\textsuperscript{40} pointed out that content validity is the extent to which the method of measurement includes all the major elements relevant to the construct being measured. The concept of content validity is relevant in the development of both cognitive and effective measures.
Only content validity was conducted to assess relevance, clarity, simplicity and ambiguity. Three Setswana speaking health workers also evaluated the instrument, proof read and harmonised with the intended questions to answer the study objectives.

3.7.2 Training of Research Assistants
Five Research assistants, who were knowledgeable with research, could read and write in the local language (Setswana) and English were trained to assist with the data collection. They were taught to fully reflect the wordings or opinion of the respondents without being suggestive or trying to explain what the respondent meant. If the answer is not very clear, the respondent was allowed to explain using their own words which were then written down in the questionnaire.

3.8 Statistical analysis
Data from the questionnaires were analysed using SPSS (2007) and were tabulated as percentages, bar and pie charts where appropriate. Relationships between categorical variables were determined using cross-tabulation. Chi-square or Fishers’ exact tests (where appropriate) was used to determine significance of the association. Confidence intervals of proportions were calculated using the binomial exact methods. The comparison of proportions was done using the Z-test for comparison of proportions. P-values less than 0.05 were considered statistically significant.

3.9 Ethical Considerations
Ethical approval was obtained from Botswana Ministry of Health Ethics Committee and from the University of Witwatersrand. Respondents were fully informed that participation in the study was voluntary and that they can withdraw from the study at any time.
An informed consent form was administered [see Appendix]. All questionnaires did not contain any personal identifying information and the consents were kept under locked cabinets.

The researcher was not involved in the care of the patients. Access to the respondents was by permission from the Ministry of Health, Botswana.

3.10 Funding and Disclosure
The study was funded by the researcher. The researcher declares that there no conflict of interest in the conducted research and feedback of the data was submitted to the Ministry Health as per condition of the approval. Patients who participated in the study were blinded to the investigator and were not being treated or attended to by the researcher.
CHAPTER 4

4.0 RESULTS

4.1 Demographic Characteristics of Respondents

A total of 342 participants were recruited into the study. Table 1 details the demographic characteristics of the respondents. More females (67.3%) participated in the study and most of the participants were single (50%). The biggest age range group of the participants were within the age group 35-44(17%). The mean age was 38.4 years [standard deviation (SD) = 10.7]. Most of the respondents attended primary school (44.1%), (See Figure 1). Forty-five percent (45%) of the participants were employed, mostly in the private sector (41%) and government/parastatal (35%) occupying mostly unskilled labour positions or performing types of work requiring unskilled labour (See Table 2). The unskilled workers engaged in car washing, cleaning, cooking, labouring, or working as housemaids while semi-skilled workers were those having office skills like typists, cashiers, sales assistants and receptionists.
Table 1: Demographic characteristics of the participants (N=342)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percent</th>
<th>valid percent (Non-missing)</th>
</tr>
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<tr>
<td>Female</td>
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<td>-</td>
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<tr>
<td><strong>Marital status</strong></td>
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</tr>
<tr>
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<tr>
<td>Married</td>
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<td>Widowed</td>
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<tr>
<td>No response</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
</tr>
<tr>
<td><strong>Employed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>186</td>
<td>54.4</td>
<td>54.4</td>
</tr>
<tr>
<td>Yes</td>
<td>156</td>
<td>45.6</td>
<td>45.6</td>
</tr>
</tbody>
</table>

Figure 1: Distribution of the participants by education level (N=342).
Figure 2: Distribution of the participants by employers (N=342)

Table 2: Distribution of the participants work types (N=156)

<table>
<thead>
<tr>
<th>Gender</th>
<th>% Female</th>
<th>% Male</th>
<th>[Percentage from total]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artisan</td>
<td>3.5</td>
<td>26.7</td>
<td>13.7</td>
</tr>
<tr>
<td>Semi-skilled</td>
<td>33.8</td>
<td>18.0</td>
<td>26.9</td>
</tr>
<tr>
<td>Unskilled</td>
<td>45.2</td>
<td>41.8</td>
<td>43.7</td>
</tr>
<tr>
<td>Self employed</td>
<td>12.8</td>
<td>6.0</td>
<td>9.8</td>
</tr>
<tr>
<td>No response</td>
<td>4.7</td>
<td>7.5</td>
<td>5.9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

4.2 Relationship between Gender, Employment and Employer of the Participants

More females (61.9%) were unemployed compared to males (39.1%). More males (41.8%) were employed with the government/parastatals as opposed to females (29.6%).

The relationship between gender and marital status is detailed in Figure 4. There was a significant relationship between gender and employment ($X^2 = 15.6; p < 0.001$). Most of the females were single (54%) as opposed to males (40.9%) while more males (22.7%) were married compared to females (14.6%).
Figure 3: Relationship between gender and employment of the participants
4.3 Screening Details of Participants

Figures 5 and 6 detail respectively the year and month the participants went for screening. 50% of the participants had known their status since 2004. Although January and June months had higher proportions of tested participants, there does not appear to be any trend [by visual inspection, figure 6].

Figure 5: The year the participants went for screening
Figure 6: The month the participants went for screening

Figure 7 details where the participants went for screening. Significant differences (p < 0.05) were observed in the proportion of participants with respect to the facility used for screening. A significant proportion of participants (80.2%; [95%CI 75.8 – 84]) (Figure 8) used the government facilities. All the participants in 1984, 1994 – 1997 and 2007 tested at the government facilities.

There was no relationship between place of tests and gender (Figure 9) [$X^2 = 0.308; p = 0.958$].

Figure 7: Participants’ choice of screening facility
Figure 8: Relationship between year tested and where tested

Figure 9: Relationship between where tested and gender
4.4 Reasons for Testing For HIV/AIDS

Figure 10 details the reasons why the participants went for screening. Most of the participants went for screening because of sickness (58.9%) and voluntary testing (24.1%). Figure 11 shows the distribution of the other reasons specified by the participants. The relationship between reasons for testing and gender is outlined in Figure 12. Sickness remained the most common reason in females (54.5%) and males (68.5%). PMCTC was a reason in 14.4% of females. Some participants (4.2%) selected the other reasons option and they were asked to specify.

Figure 10: Reasons why participants went for screening (N=342)
Figure 11: Breakdown of other reasons why participants went for screening (N=342)

Figure 12: Relationship between reasons for testing and gender
4.5 Post-Test Counselling for Participants

Most of the participants (97.3%) received post-test counseling. Of these, 72.8% received counseling from a nurse, 12.5% from a doctor and 14.7% received counseling from others such as counsellors, social workers, family members and Tebelopele workers.

Table 3 details whether the participants were given an opportunity to ask questions during the post-test counselling. Most participants (88.3%) indicated they were given such an opportunity. Among those, 98.0% were satisfied with the answers, and 98.0% found the counselling helpful. The reasons given by the participants for the usefulness of the counselling are detailed in Table 4. 31.3% (females) and 25.0% (males) representing 29.2% of the participants accepted their status because of the counselling and subsequently started the ARV treatment (32.1%). Table 5 details the areas where the participants felt a need for further counselling in the light of their positive result. Areas for further counselling had no relationship with gender and included medical information and empowerment. The majority of the participants (62.5%) did not need further counselling.

Table 3: Given opportunity to ask questions

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asked questions (N=342)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>302</td>
<td>88.3</td>
</tr>
<tr>
<td>No</td>
<td>34</td>
<td>9.9</td>
</tr>
<tr>
<td>No response</td>
<td>6</td>
<td>1.8</td>
</tr>
<tr>
<td>Answered satisfactorily (N=302)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>296</td>
<td>98.0</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>No response</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>Helpful Counselling? (N=302)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>296</td>
<td>98.0</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>No response</td>
<td>5</td>
<td>1.7</td>
</tr>
</tbody>
</table>
Table 4: Reasons why the counseling was personally helpful

<table>
<thead>
<tr>
<th>Reasons why counseling was helpful</th>
<th>% Female</th>
<th>% Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Started ARV treatment</td>
<td>31.3</td>
<td>33.7</td>
<td>32.1</td>
</tr>
<tr>
<td>Accepted my status</td>
<td>31.3</td>
<td>25.0</td>
<td>29.2</td>
</tr>
<tr>
<td>Improved health</td>
<td>10.7</td>
<td>17.3</td>
<td>12.9</td>
</tr>
<tr>
<td>Behavioural change</td>
<td>12.1</td>
<td>6.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Enlightened</td>
<td>6.1</td>
<td>6.7</td>
<td>6.3</td>
</tr>
<tr>
<td>Encouraged</td>
<td>2.8</td>
<td>2.9</td>
<td>2.8</td>
</tr>
<tr>
<td>Delivered HIV negative children</td>
<td>1.4</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Tested (further screening)</td>
<td>0.9</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Sickness</td>
<td>0.5</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>2.8</td>
<td>7.7</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5: Areas more counseling is needed

<table>
<thead>
<tr>
<th>Counseling area</th>
<th>% Female</th>
<th>% Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowerment</td>
<td>1.3</td>
<td>2.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Medical information &amp; enlightenment</td>
<td>8.4</td>
<td>9.1</td>
<td>8.7</td>
</tr>
<tr>
<td>Satisfied</td>
<td>60.6</td>
<td>66.4</td>
<td>62.5</td>
</tr>
<tr>
<td>No response</td>
<td>29.6</td>
<td>21.8</td>
<td>27.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

4.6 Disclosure of HIV Status

Table 6 shows the persons to whom the participants disclosed their HIV status. The majority of participants (60.4%) informed their relatives while 18.3% informed their partner/spouse.

Table 6: Whom participants informed about their HIV status

<table>
<thead>
<tr>
<th>Gender</th>
<th>% Female</th>
<th>% Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relatives</td>
<td>62.6</td>
<td>55.7</td>
<td>60.4</td>
</tr>
<tr>
<td>Husband/wife</td>
<td>7.7</td>
<td>17.0</td>
<td>10.7</td>
</tr>
<tr>
<td>Partner</td>
<td>5.9</td>
<td>11.3</td>
<td>7.6</td>
</tr>
<tr>
<td>Parents</td>
<td>3.2</td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Others</td>
<td>17.6</td>
<td>11.3</td>
<td>15.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
4.7 Motivation for Doing Further HIV-Associated Investigations

Table 7 details the factor that motivated participants to go for further HIV associated medical investigations. Public enlightenment and information from printing and broadcasting media, (46.7%) and sickness and related effects (23.5%) were the major reasons. Other reasons were death of many friends/relatives and desire to be empowered to encourage and educate others.

The majority of the participants (65.1%) were ignorant of any group or organisation involved in HIV/AIDS patients. Figure 13 details the desire of the majority of participants (59.6%) to be linked up to a group involved in the care of HIV/AIDS patients.
4.8 Factors That Encouraged the Participants To Enrol In The ART Programme

Table 8 details the factors that encouraged the participants to enrol in ARV (Anti-retroviral) treatment. The major reasons that motivated the participants to enrol were persistent ill health (87.4%), encouragement by husband/wife/partners/relatives (87.3%), fear of losing job or dying (75.0%) and public education/awareness of HIV/AIDS (49.2%).

Table 7: Motivated for further investigations

<table>
<thead>
<tr>
<th>Motivated by</th>
<th>Gender</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>% Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public enlightenment &amp; information</td>
<td>49.1</td>
<td>41.8</td>
<td>46.7</td>
<td></td>
</tr>
<tr>
<td>Ill-health &amp; related effects</td>
<td>21.2</td>
<td>28.2</td>
<td>23.5</td>
<td></td>
</tr>
<tr>
<td>Death of many friends/relatives</td>
<td>9.7</td>
<td>8.2</td>
<td>9.2</td>
<td></td>
</tr>
<tr>
<td>Counselors</td>
<td>2.2</td>
<td>7.3</td>
<td>3.9</td>
<td></td>
</tr>
<tr>
<td>Educating others</td>
<td>4.4</td>
<td>2.7</td>
<td>3.9</td>
<td></td>
</tr>
<tr>
<td>Social/psychological factors</td>
<td>1.8</td>
<td>1.8</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Lover</td>
<td>0.4</td>
<td>0.9</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>People</td>
<td>0.9</td>
<td></td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Nothing</td>
<td></td>
<td>0.9</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>7.5</td>
<td>5.5</td>
<td>6.8</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Figure 13: Like to be linked up to groups/organisations involved in the care of HIV/AIDS
Table 8: Ranking of Factors that encouraged the participants to enrol in the ART programme with the most important being no 1

<table>
<thead>
<tr>
<th>Rank in %</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8Total</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouragement by husband/wife/partner/relatives</td>
<td>87.3</td>
<td>10.9</td>
<td>1.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.000*</td>
</tr>
<tr>
<td>Pressure/threat from husband/wife/partner/relatives</td>
<td>54.5</td>
<td>27.3</td>
<td>9.1</td>
<td>9.1</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.107</td>
</tr>
<tr>
<td>Persistent ill health</td>
<td>87.4</td>
<td>11.3</td>
<td>0.6</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.000*</td>
</tr>
<tr>
<td>Fears of losing job/dying</td>
<td>75.0</td>
<td>15.0</td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.000*</td>
</tr>
<tr>
<td>Availability of free antiretroviral drugs/management</td>
<td>30.4</td>
<td>13.0</td>
<td>47.8</td>
<td>8.7</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.032*</td>
</tr>
<tr>
<td>Accessibility of health facilities</td>
<td></td>
<td>20.0</td>
<td>15.0</td>
<td>40.0</td>
<td>20.0</td>
<td>5.0</td>
<td></td>
<td>100</td>
<td>0.165</td>
</tr>
<tr>
<td>Public education/awareness of HIV/AIDS</td>
<td>49.2</td>
<td>15.3</td>
<td>13.6</td>
<td>6.8</td>
<td>13.6</td>
<td>1.7</td>
<td></td>
<td>100</td>
<td>0.000*</td>
</tr>
<tr>
<td>The importance and effects of treatment</td>
<td>49.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>3.6</td>
<td>16.4</td>
<td>3.6</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Death of friends/relatives/etc because of HIV/AIDS</td>
<td>41.2</td>
<td>8.8</td>
<td>11.8</td>
<td>2.9</td>
<td>8.8</td>
<td>8.8</td>
<td>14.7</td>
<td>2.9</td>
<td>100</td>
</tr>
</tbody>
</table>

*N/B This table takes into cognisance that many factors may be in interplay at the same time to encourage the participants and that this may also be different from person to person.
4.9 Reasons That May Prevent Participant from Treatment Continuation

The ranking of reasons that may prevent participants from continuing with the treatment is detailed in Table 9. The most ranked reasons by the participants were health facilities being too far away from their residence and spending a long time in the queue to see the doctor and collect drugs. General comments of the participants showed that the majority of the participants believed that ARV treatment is very helpful although the administration is slow. They wished the programme would be faster and more efficient to help the people. They were also very grateful to the government for giving them hope in the fight against the deadly disease.
Table 9: Participants ranking of the reasons that may discourage them from continuing with the treatment

<table>
<thead>
<tr>
<th>Reasons to discontinue treatment</th>
<th>Rank</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrimination and stigma associated with HIV/AIDS</td>
<td></td>
<td>80.0</td>
<td>20.0</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.180</td>
</tr>
<tr>
<td>Health facilities being too far away from residence</td>
<td></td>
<td>87.5</td>
<td>12.5</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.003*</td>
</tr>
<tr>
<td>Lack of trust in the health-care system</td>
<td></td>
<td>75.0</td>
<td>25.0</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.317</td>
</tr>
<tr>
<td>Fear that drug regimen may be too difficult or inconveniencing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of associated side effects of the drugs</td>
<td></td>
<td>80.0</td>
<td>20.0</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>0.180</td>
</tr>
<tr>
<td>Religious taboo and bias</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of discovery by husband/wife/partner/parents</td>
<td></td>
<td>50.0</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>1.000</td>
</tr>
<tr>
<td>Spending a long time at the queue to see doctor and collect drugs</td>
<td></td>
<td>63.6</td>
<td>22.7</td>
<td>13.6</td>
<td></td>
<td></td>
<td>100</td>
<td>0.009*</td>
</tr>
<tr>
<td>Believing taking drugs will make health worse</td>
<td></td>
<td>29.4</td>
<td>47.1</td>
<td>17.6</td>
<td>5.9</td>
<td></td>
<td>100</td>
<td>0.098</td>
</tr>
<tr>
<td>Not seeing immediate improvement in your health</td>
<td></td>
<td>7.7</td>
<td>23.1</td>
<td>46.2</td>
<td>15.4</td>
<td>7.7</td>
<td>100</td>
<td>0.158</td>
</tr>
<tr>
<td>Being pressurized to start treatment when not yet fully convinced of the benefits</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*N/B This table takes into cognisance that many factors may interplay at the same time to discourage the participants and that this may also vary from person to person.

1 frequency (Percent) of participants
4.10 Factors Cited As Hindrances for Enrolling Into ART and Associations with Other Variables

Figure 14 shows the bivariate categorisation of the factors listed as hindrances to enrolment into ART. For respondents, the top reasons were stigma and discrimination (57%), fear for being sick from drugs (6.8%) and also not seeing immediate improvement in health of those started on ART. Participants rated disclosure to family and regimen complexity as not important factor in deciding to enroll.

![Factors affecting enrollment to ART](chart)

Figure 14: Factors affecting enrolment into ART

The relation of the top 5 factors and demographic variables was also investigated using cross-tabulations. There was no significant association between discrimination and stigma and gender ($X^2 = 0.636; p = 0.425$), level of education ($X^2 = 2.385; p =$
0.794) and employment status ($X^2 = 2.28; p=0.131$). Having had post-test counseling and reasons for testing were also not associated with rating of discrimination and disclosure as a reason hindering starting ART, (Fisher’s exact test p-value = 0.397; [$X^2 = 2.99, p = 0.810$], respectively).

Table 10a: Association between rating of distance from health facilities as a hindrance and employment status.

<table>
<thead>
<tr>
<th>Employment</th>
<th>Health Facilities too far</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>173</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>153</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>326</td>
</tr>
</tbody>
</table>

Fisher’s exact test p-value = 0.037

Table 10b: Chi-square tests for the association between rating of distance from health facilities as a hindrance and employment status

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig (P-value) (2-sided)</th>
<th>Exact Sig. P-value (P-value)</th>
<th>Exact Sig. P-value (P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>4.883(b)</td>
<td>1</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction(a)</td>
<td>3.813</td>
<td>1</td>
<td>.051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>5.331</td>
<td>1</td>
<td>.021</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fisher's Exact Test</strong></td>
<td></td>
<td></td>
<td><strong>.037</strong></td>
<td>.023</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.869</td>
<td>1</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>342</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed only for a 2x2 table
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.30.
Post test counseling and rating of “no improvement after ART” as a hindrance to enrollment to ART were tending towards significant (Fishers’ exact p-value = 0.07).
CHAPTER 5.0

5.0 DISCUSSION, CONCLUSIONS AND LIMITATIONS

5.1 Discussion

The study examined factors associated with intention to enroll in the ART program in Lobatse. Factors of interest included any factor occurring at the population level or health system level that restricts patients’ initiation into ART or HIV/AIDS (ARV) treatment. These factors may relate to factors that together determine the health-seeking behavior of the individual and be pre-disposing in nature.

The study population was composed of mostly female participants which may partly be due to higher health seeking behaviour commonly found among female, a trend reflected in the ART enrolment in whole of Botswana. This pattern has also been seen in voluntary counseling and testing (VCT) Centers outside the clinic settings in Botswana. This gender distribution towards women is consistent with other related epidemiological studies. The recent Botswana–AIDS Impact Survey III, a household based population survey also found higher testing rates among women. The improvements in access to HIV testing among women attending Ante-natal care (ANC) may also be as an important entry point for these women into HIV care and support services. In Southern Africa, there is also a drive to encourage women attending ANC to be tested for HIV in an effort to reduce vertical HIV transmission. Such a drive could contribute to the high access of women to HIV care services, especially in Botswana where there is free and effective access to PMCTC programmes. Several studies have reported that women access HIV care earlier than men in the United State.
HIV in Botswana and developing countries is and continues to be female dominant (i.e. affects more females than males). This may also be due to factors such as gender inequality, lack of economic empowerment and social and cultural factors that give men the power to make decisions on their sexuality issues\textsuperscript{45,46,47}. These studies showed deeply entrenched gender inequalities and cultural practices in Botswana and Swaziland. They also showed that the legal systems in both countries granted women lesser status than men, restricting property, inheritance and other rights.

For women, lack of socio-cultural and economic empowerment poses a great problem and makes them susceptible to be abused and taken advantage of sexually and economically. Women also lack control over sexual decision making, including whether to use condoms or not.

The analysis in this study revealed that marital status may be an important trend of HIV/AIDS status and gender as most of the participants (50%) were single. This was followed by those cohabiting, the divorced and the widowed while those in marital union were least affected. This was consistent with results found by the 2006 sentinel surveillance survey technical report\textsuperscript{48} and similar to the findings of Shisana et al\textsuperscript{49}.

In the context of understanding enabling factors to enrolling into ART, it may be important to evaluate the deferential decision making process especially that stigma and discrimination was one of the major factor cited as a hindrance in the study.

For respondents, the top reasons were stigma and discrimination (57%), fear for being sick from the side effects of the ARV drugs (6.8%) and also not seeing immediate improvement in
the health of those started on ART. Participants rated disclosure to family and regimen complexity as not important factor in deciding to enroll.

Although the majority of the participants had low educational backgrounds (44.1%), this was not significantly associated with any of the factors listed as a hindrance. However, there was a significant relationship between being employed and rating that distance of health facilities being far is a hindering factor for ART or HIV/AIDS (ARV) treatment initiation. Some studies on adherence to treatment have also highlighted “distance to health facility” as significant predictor to treatment success.

Most of the participants (80.2%) went to the government facility for HIV/AIDS tests but place of testing was not associated with any of the factors listed as hindrance to enrollment to ART. The study showed that significant differences existed in the proportions of participants with respect to the facility used for screening. This may be due to the fact that the Botswana government offers free routine opt-out testing in the Health facilities to all users of different services and the socio-economic status of the participants as most of the participants were unemployed and of lower socio-economic status.

A high proportion (58.9%) went for ART or HIV/AIDS (ARV) treatment enrollment because of sickness. This may also reflect the routine HIV testing automatically offered at the government health facilities and the trend that most voluntary testing and counseling facilities are predominantly visited by individuals who are sick who intend to rule out HIV infection as a cause. Rajaraman and Heymann noticed a similar trend in their study. Presenting for enrollment only when the respondent is sick leads to late initiation of ARV or HIV/AIDS care.
and treatment. Late enrolment was also observed by Kayigamba et al.\textsuperscript{28} and Hoffman\textsuperscript{29} in their studies.

In Botswana, there is a widespread public enlightenment and information campaign and support, which are ongoing for HIV infection and AIDS and a free voluntary counselling and testing system, which was introduced in 2003\textsuperscript{52}. Cockcroft et al.\textsuperscript{52} and Hoffman\textsuperscript{29} in their study also found out that increased public awareness increases the uptake and approval of Routine HIV Testing (RHT) and also assists early enrolment into HIV/AIDS (ARV) treatment programmes.

Almost all participants (97.3%), received post-test counseling, indicated that they were given an opportunity to ask questions (88.3%) and were satisfied with the answers to their questions (98.0%). The results showed that there was an association between counseling and willingness to enroll for HIV/AIDS treatment. This is in agreement with the findings of Steen, and Steen\textsuperscript{53,54}. The participants found counseling helpful as it made them accept their status and 32.1% of them subsequently started the ARV treatment. Others found counseling helpful as it encouraged them and led to behavioral changes. These findings were also seen in the study of Rajaraman et al.\textsuperscript{51} where it was found that HIV testing accompanied by risk reduction counseling can increase condom use, moderate unprotected sexual intercourse and reduce STI prevalence and incidence.

There was no association between the participants’ knowledge of groups/organizations involved in the care of HIV/AIDS and willingness to enrol for HIV. Most (65.1%) of the participants were ignorant of any group involved in the care of HIV/AIDS infected people but 59.6% showed willingness to be linked to these groups. The major reasons given by the
participants willing to be linked up with these groups and organizations were to know more about HIV/AIDS and how to cope, empowerment and ability to educate and encourage others and health improvement. Some of these groups are BONASO (Botswana Network of AIDS Service Organization), BOCAIP (Botswana Christian AIDS Intervention Programme), BONEPWA+ (Botswana Network of People Living with HIV and AIDS), Humana People to People (HPP) and Makgabaneng.

When to enroll for ARV treatment against HIV infection is of major importance. The recent Botswana National HIV/AIDS Treatment guidelines eligibility for HAART\textsuperscript{14} for all adolescents and adults (pregnant or non-pregnant) is either WHO clinical stage 3 or 4, or CD4 cell count \( \leq 350 \text{ cells/ul} \) (previously \(<250 \text{ cells/uL}\)). Patient readiness is also considered a major factor influencing such a decision\textsuperscript{55,56,57,3031}. In this study, the major factors that encouraged participants to enroll for ARV treatment were persistent ill health and encouragement by husband/wife/partner. Other factors include the fear of losing job or dying, public education and enlightenment on HIV/AIDS, importance and benefits of treatment, death of friends and relatives and availability of free drugs.

The most significant reasons for not enrolling with the treatment were health facilities being far from place of residence and spending a long time queuing to see the doctor and to collect drugs. Rating the health facilities being too far was significantly associated with employment status as only 3 of the 156 unemployed respondents saw it as a hindrance, (Fishers’ exact test p-value for them was 0.37). An article by Masole N in the DailyNews echoed these same concerns which were raised up by MPs (Members of Parliament) in the Botswana Parliament when commenting on the Ministry of Health recurrent and development budgets for 2012/13\textsuperscript{58}. These findings were supported by other studies\textsuperscript{59,60,61} which also reported that
hunger and poverty may play contributory roles in discouraging infected individuals from enrolling or continuing their anti-retroviral treatment. The reasons the employed were more affected by the distance to health facilities may be related to loss of pay for the time they were absent from work and fear of job loss.

However the majority of the participants indicated that nothing will stop them from taking their treatment.

There are people who may miss the opportunity of being treated for HIV/AIDS because of limited access to care, delay in the initial identification of HIV/AIDS, or because HIV infection remains undetected. Other formidable barriers that merit attention are the issues of denial and stigma, and working with cultural norms that may not favor risk-reducing practices. Some of the issues above are likely to be tackled as access to ARV treatment is scaled up to meet demands and National goals. Financial but especially human resources in the health sector will be a limiting factor. Kober et al\textsuperscript{62} found this to be true in Malawi, Mozambique, Swaziland and South Africa and there was no truly comprehensive national human resource strategy in place to tackle it in the near future.

5.2 Limitations of the study
The limitations of the study include the relative success of the ART programme in Botswana, in that although the Lobatse catchment area still has a number of people who do not present for treatment early even though they qualify, it is possible that some of the residents get treatment from other towns, as this is allowable in Botswana, especially that the capital city is only about 80kms away. There is also a possible self-reporting bias, as participants may have reported ideal answers given that were recruited within health facilities. The respondents may
also be concerned about true confidentiality and this may affect their responses. The study was restricted to one out of the 13 district hospitals and 2 reference hospitals in the country and so may not be fully reflective for the general populace. The study was carried out in a hospital setting, especially in the HIV clinic and this may bias the findings. The sample size used compared to the nation’s population was too small and prevalence rates varying from place to place means the results cannot be generalized for the whole population.

5.3 Conclusions
The study found the following factors as important for enrolling of participants into ART: stigma and discrimination, fear of being sick from drugs and also not seeing immediate improvement in health of those started on ART or HIV/AIDS treatment. Participants rated disclosure to family and regimen complexity as not important factor in deciding to enroll. Employment and rating of health facilities as too far were significantly associated.

Persistent ill-health, encouragement by husband/wife/partner, fear of losing job or dying and public education and enlightenment on HIV/AIDS were important factors found to have encouraged the participants to enroll for anti-retroviral treatment while health facilities being far from place of residence, spending a long time queuing to see the doctor and or collect their medications, and poverty were found to serve as a discouragement to continue treatment.

5.4 Recommendations
A lot has already being done concerning public enlightenment and information, routine HIV testing and counselling, bringing medical facilities nearer to the patients, availabilities of anti-retroviral, monitoring, follow-up and adherence counselling and destigmatising of the disease
but some areas need to be strengthened and other measures taken to ensure sustenance of the programme. These may include

- Continuous financial commitment by the government and International agencies for the programme to continue to succeed;
- Recruitment of more medical staff, training and equipping other health personnel, especially the nurses, to initiate, dispense and follow up patients on ART or HIV/AIDS treatment to reduce waiting time in the hospital;
- Flexible operating hours for the clinics or a 24-hour clinic in reachable locations especially for people working;
- Setting up of mobile clinics, especially for remote areas dwellers to reduce distance of travelling;
- Designing new HIV/AIDS prevention strategies that will take into consideration localised social relations and value systems, thereby sufficiently engaging the behavioural practices and values of the communities themselves and
- Improving the legal, socio-economic and cultural status of females in the society.

The HIV/AIDS community groups and organization also need to make themselves more visible and accessible.
APPENDIX A1 - English Consent Form

CONSENT FORM

Title of Research Project: FACTORS ASSOCIATED WITH INTENTION TO ENROL INTO THE HIV TREATMENT PROGRAMME IN AND AROUND LOBATSE

Name of Researcher: Dr Tonye B Taylor

I have been informed about the aims and objectives of the proposed study.
I was provided the opportunity to ask questions and given time to think about participating in this study.
I understand fully the aims and objectives of this study

I understand that participation in this Project is voluntary and that I may withdraw from it at any time and without giving reasons.

If I choose not to participate in this study, or to withdraw from it, this will not affect my access to health services and treatment.

I am fully aware that the results of this Project will be used for scientific and educational purposes and may be published. I agree to this, provided my privacy is guaranteed.

I hereby agree to participate in this Project.

............................................................... ............................................
Name of participant Signature of participant

............................................................... ............................................
Place Date

............................................................... ............................................
Signature of Research assistant
APPENDIX A2 – Setswana Consent Form

FOMO YA TUMALANO

SETLHOGO SA TSHEKATSHEKO
DINTLHA TSE DI TSAMAELANANG LE MAIKEMISETSO/MAIKAELELO A GO TSENELELA LENANEO LA GO RITIBATSA MOGARE WA HIV MO LOBATSE LE TIKOLOGO

Leina la yo o dirang tshekatsheko: Ngaka Tonye B Taylor

Ke setse ke boleletswe maikaelelo a tshekatsheko e. Ke neetswe monyeta wa go botsa dipotso le go akanya ka go tsaya karolo mo tshekatshekong e.

Ke thalaganya gore ke nna motsaya karolo mo tshekatshekong e, ka go ithaopa le gore nka tswa nako ngwe le ngwe ke sa neela mabaka.

Go sa ithaopeng go tsaya karolo mo tshekatshekong e, kana go tswa mo go yone ga go kake ga amana le go tsaya melemo ga me mo go ba botsogo.

Ke a thalaganya gore maduo a tshekatsheko e, a tla dirisiwa mo go tsa boranyane le tsa ditshuto fela mme ga a kake a anamisiwa. Ke dumelana le se fela fa sephiri same se ka tshegediwa.

Ke dumalana le go tsaya karolo mo tshekatshekong e

……………………............  …………………………………
Leina la motsaya karolo         Setlanyo sa motsaya karolo

……………………                  …………………..
Lefelo                             Letsatsi
APPENDIX B1 – Participant’s Information Sheet (English)

INFORMATION SHEET

Factors associated with intention to enrol into the HIV/AIDS treatment Programme in and around Lobatse.

Dumelang Rra/Mma,

My name is Dr Tonye B Taylor. As part of the requirement for my Masters in Family Medicine (M.Fam .Med) at the University of Witwatersrand, Johannesburg, I am doing a Research on the above topic.

You are being invited to participate in the study.

The aim of the study is to explore factors associated with the intention to enrol into the HIV/AIDS treatment programme in and around Lobatse.

The Postgraduate Committee and the Human Research Ethics Committees of the above University have approved the proposed research.

Every third person already screened and investigated who qualifies for the government HIV/AIDS treatment programme, at the site of studies, on the days of the study will be selected.

Participation is voluntary so you are free to consent or refuse to answer the questionnaire given to you. There will be no penalty for refusing to participate in the study.

Should you volunteer to participate, you will be requested to answer some questions about yourself, amongst others by a research assistant using a questionnaire. Kindly answer the questions as truthfully as you can. Your name is not required on the questionnaire as it is anonymous. The information you provide will remain confidential.

You can withdraw from the study at any time and you will not be penalised for it. You also do not need to answer any/or all the questions if you choose.

It may take about 30 minutes to fill out the questionnaire.

No compensation will be provided for participant’s time.
The collective findings of this study will be available to the various arms involved in the HIV/AIDS treatment and will be available to you on request. It will not be possible to provide feedback on individual responses as your response will be combined with that of others but the knowledge will be used to improve enrolment into the HIV/AIDS programme in and around Lobatse.

Should you want to know more about the study, or should you have any queries kindly contact me on:
Tel: 5301174
Cell: 72696235
Box 1064, Lobatse.

Thank you for your participation

Signed

Dr Tonye B Taylor

Date
APPENDIX B2 – Participant’s Information Sheet (Setswana)

PAMPIRI YA KITSO

SETLHOGO: DINTHA TSE DI TSAMAELANANG LE MAIKAELLELO/MAIKEMESETSO A GO TSENELELA LENANELO LA GO RITIBATS A MOGARE WA HIV MO LOBATSE LE MO METSANENG E E GAUPI

Dumelang rra/mma
Ke nna Dr Tonye B Taylor. Go dirafatsa lenaneo la me la Digarata tse dikgolwane (MSc.) tsa bongaka jwa lelwapa ko mmadikolo wa witwatersand Johannesburg (M.fam.med) ke tshwanelwa ke go dira tshekatsheko ka ga setlhogo se se fa godimo.

O lalediwa go tsaya karolo mo tshekatshekong e.

Tshekatsheko e, e itebagantse le go batla dintlha tse di tsamaelanang le maikaellelo/maikemetsotse a go tselelela lenanele na go ritibatsa mogare wa HIV/AIDS mo Lobatse le mo tikologong. Bagolwane le bathathelela dithuto ba mmadikolo o o fa godimo ba netefaditse tshekatsheko e.
Motho a le mongwe mo borarong yo o setseng a ithathobetsa mogare e bile a tshwanelwa ke go tshenelela lenanele la ga goromene la go ritibatsa mogare wa HIV/AIDS o tla tlhophiwa mo nakong le mo lefelong le go tla a bong go dirwa tshekatsheko.
Go tsaya karolo mo tshekatshekong e, ga go patelesege, ka jalo o ka tsaya kana o ka se tseye pampiri ya dipotso e o tla bong o e neetswe. Go sa tseyeng karolo ga gago ga go kake ga dira gore o ntshiwe mo lenanelela la go ritibatsa mogare.

Fa o ka dumela go tsaya karolo o tla tshwanelwa ke go araba dipotso dingwe ka ga gago o thusiwa ke yo o thusang mo tshekatshekong. O kopiwa go araba dipotso tsothe ka boammaruri jothe jo o ka bo kgonang. Leina la gago ga le thokege mo pampiring ya dipotso. Kitso nngwe le nngwe ka ga gago e tla tshwarwa ka sephiri.

O lelelesega go tswa mo tshekatshekong e nako nngwe le nngwe.gape ga go tlhokafale gore o arabe dipotso tsothe.

Go ka tsaya metsotse o le masone a mararo ga araba dipotso.

Motsaya karolo ga a kake a atswiwa ka sepe go duedisa nako ya gagwe.

Maduo a a tla a bong a bonwe mo tshekatshekong e, a tla a neelwa makalana othe a a dirisanang le lenaneo la go lwantsha mogare wa HIV. Ga go kake ga kgonagala gore motsaya karolo a neelwe maduo ka ga gagwe ka gore dikarabo tsa gagwe di tla a sobokwa le tsa ba bangwe mme kitso e e tla a bong e bonwe e dirisiwe go tokafatsa go tshenelela lenanele la HIV mo Lobatse le mo mafelong a a gaufi.
Fa o ka batla go itse gole go ntsi ka tshekatsheko e, kana o na le dipotso o ka leletsa mogala wa 5301174

Mogala wa letheka 72696235

Box 1064, Lobatse

O lebogelwa go nna motsaya karolo

Setlanyo .................. Letsatsi: ...........
Dr Tonye B. Taylor
APPENDIX C1 – Questionnaire (English)

QUESTIONNAIRE

Questionnaire (Appendix)

Factors affecting the intention to enrol in the HIV/AIDS treatment programme in and around Lobatse.

A. Demographics

Patient study no  

Age  Sex  

Place of Residence  

Kindly tick the most appropriate

1. What is the last standard passed at school?
   Primary  Junior Secondary  Senior Secondary  Vocational school  Institution  

2. What is your marital status?
   Single  Married  Divorced  Co-habiting  Widowed  

3. Are you employed?
   Yes  No  

4. Please write down the type of work you do  

5. Employer: Government/Para statal  Private  Self  

B. When were you tested for HIV infection/AIDS?  Where were you tested? Please tick the appropriate one. Government facility  Tebelopele  Private facility  

Reasons for HIV testing? Please tick the correct option(s)
   (1) Voluntary (2) sickness (3) partner already tested (4) insurance (5) employment (6) PMTCT (7) others  

C. Did you receive post-test counselling?  Yes  No  

From whom? Doctor  Nurse  others  

If others, please specify  

50
Were you given the opportunity to ask questions? Yes........ No........
Were your questions answered to your satisfaction? Yes........ No........

Was the counselling personally helpful? Yes......... No......

Please explain........................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................

Are there areas you would have wanted to be counselled on in the light of your positive result? Kindly state these
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................

D. Who did you tell about your HIV status?
Husband/wife................. Partner.............. Parents............ Friends............
Relatives............ Others.......... If others, please specify
............................................................................................................................................................
............................................................................................................................................................

What motivated you to go for further investigations after knowing your positive status?
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................

Do you know of any group/organisation involved in the care of HIV positive/AIDS patients? Yes........ No........
Which ones?.................................................................................................................................

Would you like to be linked up to groups/organisations involved in the care of HIV positive/AIDS patients? Yes........ No........

Please explain........................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................

E.
What are the reasons/factors that encouraged you to enrol into the treatment programme? Kindly rank the factors with the most important being number 1

Encouragement and understanding shown by husband/wife/partner/relatives.............
Pressure/ threat from husband/wife/partner/relatives............. Persistent ill

Others,

……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

F. Are there reasons that might prevent/discourage you from continuing in the treatment enrolment programme? Please tick in order of importance by writing numbers beside them with the most important being number 1

Discrimination and Stigma associated with HIV/AIDS. Health facilities being too far away from residence. Lack of trust in the health-care system. Fear that drug regimen may be too difficult or inconveniencing. Fear of associated side effects of the drugs to be taken. Religious taboo and bias. Fear of discovery by husband/wife/partner/parents. Spending a long time at the queue to see doctor and collect drugs. Believing taking drugs will make health worse. Not seeing immediate improvement in your health. being pressurised to start treatment when not yet fully convinced of the benefits.

Others

……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

Are there other comments or contributions you would like to make regarding any of the above items?

……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

Thank you for participating.
APPENDIX C2 – Questionnaire (Setswana)

DIPOTSO

SETHOGO:
DINTLHA TSE DI TSAMAELANANG LE MAIKAELELO KANA MAIKEMESETSO A GO TSENELELA LENANELO LA GO RITIBATSA MOGARE WA HIV/AIDS MO LOBATSE LE MO TIKOLOGONG

A. DEMOGRAPHICS
Nomoro ya molwetse

Dingwaga Bong

Lefelo la bonno

O kopiwa go thopha karabo e e tshwanetseng ka go tshwaa

1. sekolo sa bofelo o se tsena ke sefe?
Poraemari Junior Senior secondary Sekolo sa tiro ya diatla Ithutelo tiro

2. TSA LENYALO
Ke nosi Ke nyetswe/ Ke nyetse Ke tlhadile/Ke tladile Ke nna le mosadi yo ke sa mo nyalang Ke thokafaletswe

3. A o a bereka?
Ee Nyaa

4. O kopiwa go kwala tiro e o e dirang

5. Mohiri : Goromente Mo maphateng a a ikemetseng Ke a ipereka

B. O tlhatlhotsewe mogare wa HIV/AIDS leng

O tlhatlhotsewe ka. Thopha karabo e e lebanyeng

Ko dipateleng tsa ga goromente Tebelopele Mo dingakeng tse di ikemetseng

Neela lebaka la go ithatlhatlhoela mogare.Tshwaya karabo e e leng yone.

C.A o ile wa neelwa dikgakololo fa o sena go tlhathobiwa
Ee…………………… Nyaa……………………

O ne o neelwa dikgakololo ke mang? Ngaka.......... Mooki............Ba bangwe………..
Fa e le gore ke ba bangwe bua gore ke bomang
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

A o ile wa neelwa nako ya go botsa dipotso? Ee........Nyaa…..

A o ile wa itumelela ka fa o arabilweng ka teng? Ee........Nyaa……

A go neelwa dikgakololo go go thusitse? Ee…. Nyaa…
Ithalose………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

A go na le dintha dingwe tse o neng o eleditse go ka bo o gakolotswe ka tsone fa o labile seemo sag ago. Nankola dintlha tse. ............................
……………………………………………………………………………………………………
……………………………………………………………………………………………………

D.O ile wa bolelela mang ka seemo sa gago? Mosadi wame/Monna wame.............Mokapelo wame...............Ditsala ....losika........Bangwe .......
Fae le bangwe ithalose…………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

Ke eng se se ileng sa go gwetha go utlwa tse dints i ka mogare wa HIV fa o sena go itse seemo sa gago?
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

A o itse sethopha /lekalana lengwe le le itebagantseng le go thokomela batho ba ba nang le mogare wa HIV/AIDS?
Ee………Nyaa…….
Fa e le ee, ke sefe/afe……………………………………
A o ka batla go golagangwa le sethopha/lekalana lengwe le le thokomelang balwetsi ba ba nang le mogare wa HIV/AIDS? Ee…….. nnyaa……

Ithalose……………………………………………………………………………………………………………
…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………

E. Ke mabaka kana dintha dife tse di ileng tsa go kgotlhatsa go tsenelela lenaneo la go ritibatsa mogare. O ka supa dintha tse ka go supa ntlha ya bothokwa ka nomoro 1.

Go kgothadiwa le go supa go thaloganya mo go supilweng ke monna wame/mosadi wame………… Mokapelo wame …………… wa losika……………………

Ke pateleditswe ke monna wame/mosadi wame/ yo ke dirisanang le ene……. wa losika............Go lwalela ruri………………Letshogo la go lathegelwa ke tiro…………..go swa/………………..Bolengteng jwa diritibatsi tse di sa rekwung………………..Go bonafala ga mafelo a tsa botsogo………………..Go rutwa ga setshaba ka HIV/AIDS……Bothokwa le maduo a go amogela diritibatsi…………..Go thokafala ga ditsala/masika/le bangwe fela ka ntha ya mogare

Kwala dinthla dingwe tse di dirileng gore o tsenelele lenaneo la go ritibatsa mogare wa HIV…………………………………………
…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………

F. A go na le mabaka mangwe a a ka dirang gore o emise go dirisanya le lenaneo la go ritibatsa mogare wa HIV/AIDS. Supa bothokwa jwa mabaka a gago ka go kwala 1 mo ntheng e e leng bothokwa thata.

Kgetholo le go supiwa ka mongwana………Makalana a ba botsogo a kgakala le kwa ke nnang teng……………………Ga ke tshephe ba botsogo…………………………Letshogo la gore dipilisi di ka se ntsye sentle…………………..Melao ya tumedi…..Letshogo la go bonwa ke monna/mosadi/ yo ke dirisanang le ene/batsadi……….Go tsaya nako e ntsi ke letetse ngaka go tsaya dipilisi………………..Tumelo ya gore dipilisi di ka dira gore seemo sa botsogo se ye ko tlae thata…………..go thoka go bona seemo sa bolwetsi se nna botoka ka bonako………….Ke patikilwe go tsaya dipilisi ke ise ke bone mosula wa teng………….

Kwala dinthla tse dingwe tse di ka dirang gore o seka wa tswelela le lenaneo la go ritibatsa mogare…………………………………………
…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………
A go na le dikakgelo kana sengwe fela se se tsamaelanang le dipotso tse, se o ka batlang go se bua?..........................
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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Dr Tony B Taylor

CLEARANCE CERTIFICATE: M1204107

PROJECT: Factors Associated with Intention to into the
HIV Treatment program in and around Lobatse
previously M604440

INVESTIGATORS: Dr Tony B Taylor.

DEPARTMENT: Department of Family Medicine

DATE CONSIDERED: Ad hoc

DECISION OF THE COMMITTEE: Renewal Approved

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon
application.

DATE: 2012/05/25

CHAIRPERSON: (Professor PE Cleaton-Jones)

DEPARTMENT OF INVESTIGATORS:
To be completed in duplicate and ONE COPY returned to the Secretary at Room 10004, 10th Floor,
Senate House, University.
I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned
research and I/we guarantee to ensure compliance with these conditions. Should any departure to be
contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the
Committee. I agree to a completion of a yearly progress report.

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES...