

**CHALLENGES OF ANTIRETROVIRAL MEDICATION ADHERENCE IN
HIV/AIDS-INFECTED WOMEN IN BOTSWANA**

by

MAGDELINE MABUSE

Submitted in partial fulfilment of the requirements

for the degree of

MASTER OF ARTS

in the subject

HEALTH STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: DR UU ALBERTS

NOVEMBER 2008

Student number: 35538937

DECLARATION

I declare that **CHALLENGES OF ANTIRETROVIRAL MEDICATION ADHERENCE IN HIV/AIDS-INFECTED WOMEN IN BOTSWANA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before any other degree at any other institution.

SIGNATURE
(MAGDELINE MABUSE)

DATE

CHALLENGES OF ANTIRETROVIRAL MEDICATION ADHERENCE IN HIV/AIDS-INFECTED WOMEN IN BOTSWANA

STUDENT NUMBER: 35538937
STUDENT: MAGDELINE MABUSE
DEGREE: MASTER OF ARTS
DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA
SUPERVISOR: DR UU ALBERTS

ABSTRACT

This study using a quantitative, descriptive design with a questionnaire investigated cultural, religious and social factors that might impact on ARV treatment in HIV/AIDS-infected women in Botswana. The study found that the majority never missed any doses, a few missed doses once or twice, and a small minority missed more than three times.

The respondents' perception of cultural influence on treatment of HIV/AIDS in women revealed that the majority (70%) believe culture has an influence on the treatment. Social factors also impacted on ARV adherence. A few of the respondents indicated that side effects and the number of pills prevented ARV medication adherence. The main reason for non-adherence, however, was forgetfulness.

There had been an improvement in the majority of the respondents' health status and quality of life. Maximizing adherence is essential. Providers and patients both have responsibilities in this regard.

Key concepts

ARV medication adherence; cultural, religious and social factors; HIV infected women; Infectious Disease Care Clinic, Princess Marina Hospital in Gaborone.

ACKNOWLEDGEMENTS

Thanks and praise to God, my Creator and Father, for the grace and opportunity to complete this study. There is a Sotho saying, Motho ke motho ka batho babang (a person is a person because of other people). The same can be said of this study and dissertation because I could not have written it without the assistance of those below whose hearts and hands touched my work and me:

- Dr UU Alberts, my supervisor, for all she taught me
- Dr Koleaatamo Malefho, Superintendent of Princess Marina Hospital, for permission to do the study at the hospital
- Dr Bill Wester, Botswana/Harvard Research and Education Project (Tshepo Study), for allowing me to do the pre-test at the clinic
- Cyril Mabuse, my dear and loving husband, for his strength, support, smile and belief in me
- Gladys and Kwame Dadson, and Peter and Mpho Mabuse, my children, for their infectious laughter, love and presence
- All my friends, for their tremendous support, encouragement and sense of humour
- Dr NO Ama, for his friendship and statistical clarity and assistance
- Dr Phillip Mhundwa, for his/her clarity of explanations, suggestions, support and encouragement
- The respondents, for sharing their time, womanliness and experience
- Dr Mbambo-Thata, Unisa librarian, for the invaluable assistance with the literature sources
- Ms Sarah Banks, for patiently and professionally typing the dissertation
- Ms lauma Cooper, for critically and professionally editing the manuscript
- To you all, my sincere thanks and love; God bless you and may people be as caring and helpful to you as you have been to me

CHAPTER 1**Orientation to the study**

1.1	INTRODUCTION	1
1.2	BACKGROUND TO THE PROBLEM.....	1
1.3	STATEMENT OF THE PROBLEM.....	3
1.4	PURPOSE OF THE STUDY	4
1.5	RESEARCH QUESTION	4
1.6	OBJECTIVE	5
1.7	SIGNIFICANCE OF THE STUDY	5
1.8	RESEARCH DESIGN	5
1.9	POPULATION AND SAMPLE.....	5
1.10	DATA COLLECTION	6
1.11	VALIDITY AND RELIABILITY	6
1.12	DATA ANALYSIS.....	6
1.13	ETHICAL CONSIDERATIONS.....	7
1.14	SCOPE AND LIMITATIONS OF THE STUDY	7
1.15	ABBREVIATIONS	8
1.16	DEFINITIONS OF CONCEPTS	8
1.17	OUTLINE OF THE STUDY	9
1.18	CONCLUSION	10

CHAPTER 2**Literature review**

2.1	INTRODUCTION	11
-----	--------------------	----

Table of contents	Page
2.2	SCOPE OF THE LITERATURE REVIEW..... 11
2.3	HUMAN IMMUNODEFICIENCY VIRUS (HIV)..... 12
2.3.1	HIV transmission..... 12
2.3.2	HIV pathophysiology..... 13
2.4	ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)..... 13
2.5	GENERAL OVERVIEW OF HIV PREVALENCE..... 13
2.5.1	HIV/AIDS prevalence according to countries..... 14
2.5.1.1	United States of America (USA)..... 14
2.5.1.2	United Kingdom (UK)..... 15
2.5.1.3	Eastern Europe and the Commonwealth Independent States..... 15
2.5.1.4	Sub-Saharan Africa..... 16
2.5.1.5	Botswana..... 17
2.5.1.6	Tuberculosis/HIV in Botswana..... 18
2.6	GENERAL OVERVIEW OF ARV TREATMENT..... 18
2.6.1	Indicators for initiating ARV treatment..... 19
2.6.2	Impact of and adherence to ARV treatment..... 20
2.6.3	Adherence to ARV treatment..... 20
2.6.4	Factors influencing adherence..... 21
2.6.4.1	Age..... 21
2.6.4.2	Finance..... 21
2.6.4.3	Social and psychosocial factors..... 21
2.6.4.4	Alcohol and drug use..... 22
2.6.4.5	Beliefs and knowledge..... 22
2.7	GLOBAL RESPONSE TO HIV/AIDS..... 22
2.7.1	Initiation of antiretroviral treatment by WHO..... 23
2.7.2	WHO HIV/AIDS Report, 2005..... 24
2.8	ARV TREATMENT IN BOTSWANA..... 24
2.8.1	Botswana National AIDS policy..... 25
2.8.2	Botswana National HIV/AIDS Strategic Framework, 2003-2009..... 25
2.9	CHALLENGES OF HIV/AIDS..... 26
2.9.1	Global challenges..... 26
2.9.2	Challenges in Sub-Saharan Africa..... 26
2.9.3	Challenges in Southern Africa..... 26
2.9.4	Challenges in Botswana..... 27
2.10	CONCLUSION..... 27

CHAPTER 3

Methodology

3.1	INTRODUCTION	28
3.2	RESEARCH PROBLEM.....	28
3.3	RESEARCH OBJECTIVE	29
3.4	RESEARCH DESIGN AND METHODOLOGY	29
3.4.1	Quantitative research.....	29
3.4.2	Descriptive research	30
3.4.3	Explorative research	30
3.5	POPULATION.....	31
3.6	SAMPLE AND SAMPLING	31
3.6.1	Sampling method and criteria	32
3.6.2	Sampling criteria	32
3.7	DATA COLLECTION	32
3.7.1	Data collection instrument.....	32
3.7.2	Format of data collection instrument.....	33
3.7.3	Pre-testing the questionnaire	34
3.7.4	Pre-testing process.....	34
3.7.5	Administration of the instrument.....	34
3.8	DATA QUALITY	35
3.8.1	Validity	35
3.8.1.1	Face validity.....	35
3.8.1.2	Content validity	36
3.8.1.3	Reliability.....	36
3.8.1.4	Criterion related validity.....	36
3.9	ETHICAL CONSIDERATIONS.....	36
3.9.1	The right for self-determination	37
3.9.2	Anonymity	37
3.9.3	Confidentiality	37
3.9.4	Harm to respondents	38
3.9.5	Permission	38
3.9.6	Informed consent	38
3.9.7	The right to decide to participate.....	39
3.9.8	The right to privacy	39

Table of contents		Page
3.10	RESPONSE RATE	39
3.11	DATA ANALYSIS.....	40
3.12	CONCLUSION.....	40

CHAPTER 4

Data analysis

4.1	INTRODUCTION	41
4.1.1	Research question.....	41
4.1.2	Research objective	41
4.1.3	Research design.....	41
4.1.4	Research instrument.....	42
4.1.5	Data analysis and presentation.....	42
4.2	SECTION A: DEMOGRAPHIC DATA.....	42
4.2.1	Item 1: Age distribution	43
4.2.2	Item 2: Marital status.....	43
4.2.3	Item 3: Educational status.....	45
4.2.4	Item 4: Place of residence.....	46
4.2.5	Item 5: Religious affiliation	47
4.3	SECTION B: SOCIO-ECONOMIC STATUS	48
4.3.1	Item 6: Employment status.....	48
4.4	SECTION C: TRADITIONAL/CULTURAL BELIEFS	49
4.4.1	Item 7: Beliefs that positively influence respondent's everyday life.....	49
4.4.2	Item 8: Belief that negatively influence respondent's everyday life.....	50
4.4.3	Item 9: Respondents' first contact when ill.....	51
4.4.4	Item 10: Respondents' reasons for first consulting a traditional healer.....	51
4.4.5	Item 11: Understanding of traditional healers knowledge of HIV/AIDS.....	53
4.4.6	Item 12: Traditional healers' understanding of HIV/AIDS.....	53
4.4.7	Item 13: Cultural/traditional beliefs that interfere with health decisions.....	54

Table of contents		Page
4.5	SECTION D: ARV TREATMENT AND ADHERENCE	55
4.5.1	Item 14: Respondents' understanding of ARV medication.....	55
4.5.2	Item 15: Understanding of adherence to ARV treatment	56
4.5.3	Item 16: Length of time respondents have been on ARV medications	56
4.5.4	Item 17: Health status of respondents since on ARV.....	57
4.5.5	Items 18 and 19: The number of times respondents missed their ARV treatment and reasons for missed treatment	58
4.5.6	Item 21: Recommended ways of ensuring adherence to ARV treatment	59
4.5.7	Items 22 and 23: Support from husband or boyfriend regarding ARV treatment	60
4.5.8	Items 24 and 25: Cultural influences on ARV treatment	61
4.6	SECTION E: SOCIAL AND ECONOMIC FACTORS	63
4.6.1	Item 26: Social/economic factors that causes obstacle to women in ARV medication adherence.....	64
4.6.2	Item 27: Other factors interfering with ARV medication by HIV/AIDS infected women	64
4.6.3	Items 28 and 29: Stigmatisation against women with HIV/AIDS	65
4.6.4	Items 30 and 31: Those who discriminated against respondents because of their HIV status	66
4.7	SECTION F: GENDER AND INEQUALITY	66
4.7.1	Item 32: Perception of gender and inequality on ARV adherence in HIV/AIDS infected women	67
4.7.2	Item 33: Reasons why gender and inequality can affect ARV adherence in HIV/AIDS infected women	68
4.8	SECTION G: PERSONAL EXPERIENCE RELATED TO HIV STATUS	68
4.8.1	Item 34: Reaction on told of HIV status.....	69
4.8.2	Item 35: The first person informed of my HIV/AIDS status after being told by health professional	69
4.9	CONCLUSION	70

Chapter 5

Findings, limitations and recommendations

5.1	INTRODUCTION	71
5.2	RESEARCH PROBLEM.....	71
5.3	RESEARCH QUESTIONS.....	71
5.5	METHODOLOGY.....	71
5.6	DISCUSSION.....	72
5.6.1	Section A: Demographic characteristics of respondents.....	72
5.6.2	Section B: Socio-economic status.....	73
5.6.3	Section C: Traditional and cultural beliefs.....	74
5.6.4	Section D: ARV treatment and adherence	76
5.6.5	Section E: Social and economic factors.....	78
5.6.6	Section F: Gender and inequality.....	79
5.6.7	Section G: Personal experience related to HIV status	80
5.7	CONCLUSIONS.....	81
5.8	LIMITATIONS OF THE STUDY	81
5.9	RECOMMENDATIONS.....	81
5.9.1	Nursing practice/health practice.....	81
5.9.2	Health management.....	82
5.9.3	Health education	82
5.9.4	Health research.....	82
5.10	CONCLUSION	82
	LIST OF SOURCES	84

List of tables		Page
Table 2.1	USA HIV/AIDS prevalence.....	15
Table 2.2	HIV prevalence among pregnant women in Botswana, 1992-2005	18
Table 2.3	Coverage of antiretroviral therapy in poorer countries, December 2002.....	23
Table 2.4	ARV coverage in low and middle income countries: Percent on ARVs (of those who need them) as of December 2007.....	24
Table 4.1	Cultural beliefs that positively influence respondent's everyday life (N=50).....	49
Table 4.2	Respondents' belief that negatively affect decision making at home (N=50)	50
Table 4.3	Respondents' first point of call before consulting medical doctor (N=50).....	52
Table 4.4	Respondents' reasons for consulting traditional healer first when they are ill (N=50).....	52
Table 4.5	Respondents' understanding of traditional healers knowledge of HIV/AIDS (N=50).....	53
Table 4.6	Reasons traditional healers do not understand HIV/AIDS (N=50)	54
Table 4.7	Respondents' cultural/traditional beliefs that interferes with their health seeking decision making (N=50)	54
Table 4.8	Respondents' understanding of ARV medication (N=50).....	56
Table 4.9	Respondents' understanding of adherence to ARV treatment (N=50)	56
Table 4.10	Length of time respondents have been on ARV medications (N=50)	57
Table 4.11	Health status of respondents since on ARV (N=50).....	57
Table 4.12	Respondents' reasons for missing ARV treatment (N=50)	59
Table 4.13	Respondents' recommended ways of ensuring adherence to ARV treatment (N=50)	60
Table 4.14	Perception of respondent on whether culture has influence on treatment of HIV/AIDS (N=50)	62
Table 4.15	Reasons why respondents think that culture can influence treatment of HIV/AIDS (N=50).....	62
Table 4.16	Social and economic factors that threatens women adherence to ARV medication (N=50)	64
Table 4.17	Other factors interfering with taking ARV medications by HIV/AIDS infected women (N=50).....	65
Table 4.18	Stigmatisation against women with HIV/AIDS (N=50).....	65
Table 4.19	Respondents' experience of stigmatisation (N=50).....	66
Table 4.20	Ever been discriminated because of your HIV status (N=50).....	66
Table 4.21	Discrimination against HIV+ respondents (N=50)	66

List of tables	Page
Table 4.22 Respondents' perception on whether gender and inequality can affect ARV adherence in HIV/AIDS affected women (N=50)	67
Table 4.23 Respondents' reasons why gender and inequality can affect ARV adherence in HIV/AIDS affected women (N=50).....	68
Table 4.24 Person informed of my HIV/AIDS status after being told by health professional (N=50).....	70

List of figures	Page
Figure 1.1 HIV prevalence among pregnant women in Botswana between 1992 and 2005.....	17
Figure 4.1 Age of respondents (N=50).....	43
Figure 4.2 Marital status of respondents (N=50).....	44
Figure 4.3 Highest level of education attained by respondents (N=50).....	45
Figure 4.4 Place of residence of respondents (N=50).....	46
Figure 4.5 Religious affiliation of respondents (N=50).....	47
Figure 4.6 Employment status of respondents (N=50).....	48
Figure 4.7 The number of times respondents missed their ARV treatment (N=50).....	58
Figure 4.8 Pie chart showing the extent of support from husband or boyfriend regarding ARV treatment (N=50).....	61

List of annexures

- Annexure 1 Request to conduct research at Princess Marina Hospital
- Annexure 2 Permission from the Ministry of Health, Botswana
Permission from the Hospital Superintendent, Princess Marina Hospital, Botswana
- Annexure 3 Ministry of Health: Application for Approval of Human Research
- Annexure 4 Ministry of Health: Consent form
Participants: Consent form
- Annexure 5 Questionnaire

CHAPTER 1

Orientation to the study

1.1 INTRODUCTION

Antiretroviral medication adherence refers to taking medication on schedule in the right doses and in the right way (Jones 2005:1). Furthermore, Human Immunodeficiency Virus (HIV) medication adherence means 100% compliance with prescribed doses each day. However, medication adherence of up to 95% is internationally accepted. The main purpose of antiretroviral treatment is to suppress the virus and to maintain the well being of Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) infected people (Jones 2005:1-7).

The effect of antiretroviral medications depends largely on HIV/AIDS-infected people and how they use them. Williams (1997:18-23) points out that adherence to medical and health medications is the dynamic process of human behaviour and how human beings interact with their environment. Health professionals highly recommend complete adherence to antiretroviral treatment. The adherence activity requires a combination effect to assist the patients and to detect any barriers related to adherence. This should be viewed as an urgent matter for purposes of solution to any emerging problems. Chesney, Ickovics, Hetch and Rabkin (1999:5271-5278) emphasise that adherence is a necessity and that non-adherence to HIV medication allows for higher viral load translating to likelihood of progression of AIDS.

1.2 BACKGROUND TO THE PROBLEM

Although antiretroviral (ARV) treatment is meant to contribute to irreversible changes in patients, it is at the same time a challenging commitment (Newman & Rodriguez 2005:7). Challenging in the sense that ARV treatment is a lifelong undertaking and responsibility. There is also a possibility of risky side effects, which may instill fear in the patient resulting in non-adherence. Secondly, internal conflicts and social stresses may cause HIV/AIDS individuals to avoid adhering to prescribed medications. Internal conflicts may emanate from concern over HIV transmission, guilt over previous lifestyles

and personal relationships. Patients may be experiencing social stress, including lack of social support and family concern. Furthermore, cultural and religious beliefs in most African societies are inherent in the lifestyles of the people (Roberts & Mann 2000:377).

ARV treatment is a lifelong and permanent commitment; patients have an obligation and responsibility to adhere to ARV medications. ARV treatment for HIV has become increasingly complex to manage on daily basis due to the new combination of regimen (Jones 1997:29-36). The whole activity is challenging for people living with HIV to integrate the combination of drugs regimen into their life. In many cases, problems of non-adherence surface during the course of lifelong treatment.

Non-adherence refers to failure to comply with drug-taking behaviour as expected. Williams (1997:20) maintains that adherence to medical treatment and health regimen is the outcome of a dynamic process of human behavioural responses. The consequences of failure to adhere to ARV medications are risky and can actually lead to resistance to the virus resulting from incomplete suppression of viral replication (Williams 1997:19-20). Patients who experience drug resistance are exposed to slow recovery from the disease. Van Dyk (2001:14) found that many African communities believe that witchcraft is the cause of HIV transmission. Therefore, some people automatically seek help from a traditional healer who may prescribe traditional medication to fight the illness. Usually the patient is instructed to use only the medications prescribed by the traditional healer. The patient is expected to withhold ARV treatment or any other medication. This action is likely to contribute to non-adherence to ARV medications. Andrews and Boyle (2003:315) found that some African and Western cultures are often in conflict with modern biochemical approaches. These beliefs can possibly affect the drug behaviour of HIV/AIDS-infected people. At the same time, many people believe that AIDS is God's punishment for immorality and sin.

In 2005, the Botswana Ministry of Health (MoH) embarked on a measles immunisation campaign for children aged between 3 and 5 years. The campaign took place in October 2005. Tlale (2005:19) reported that "health professionals met with some resistance from a number of the Bazezuru religious group at Tati Siding Village. The Bazezuru advanced religious beliefs and cultural beliefs as their reasons for refusing" and in another area "women would not allow their children to be immunised without the consent of their husbands". Among the challenges facing compliance with HIV/AIDS

treatment are also religious and cultural beliefs that impact negatively on public health (Podisi 2005:11).

Social and cultural beliefs have a strong influence on the lifestyles of traditional Africans (Heald 2002:4). In Botswana, some traditional healers believe that the Boswagadi (Setswana word for widow or widower) causes AIDS. The healers maintain that culturally a woman whose spouse has died needs to go through proper treatment for “cleansing” if she chooses to have a sexual partner. The traditional treatment includes herbal medications. Therefore, if the woman is already on ARV medication, it means she either has to mix the two treatments or is forced to stop the ARV treatment.

The researcher therefore wished to investigate the cultural, religious and social challenges to ARV medication adherence in HIV/AIDS-infected women in Botswana.

1.3 STATEMENT OF THE PROBLEM

According to UNAIDS (2004:7), there is an estimated 260 000 people in Botswana living with HIV. The total population was 1.6 million. Life expectancy is only 39 years, while it could have been 72 if the AIDS epidemic did not occur (UNAIDS 2004:7).

In response to the devastating HIV/AIDS epidemic, the Botswana government set up an independent body in 2000 known as the National AIDS Coordinating Agency (NACA). The agency was given the responsibility to mobilise and coordinate all HIV/AIDS activities under the chairmanship of Festus Mogae, the President of Botswana. In January 2002, the national ARV treatment programme, called MASA (Setswana for “dawn”), was introduced and the first ARV drugs were provided at Princess Marina Hospital, Gaborone. Two years later MASA had enrolled about 11 000 people in the ARV treatment programme (Mazonde 2004:21). According to the United Nations (UNAIDS/WHO 2006:3), more than 63% of those infected by HIV/AIDS are in Sub-Saharan Africa.

Religious beliefs and cultural factors in some African societies have strong influence on their life styles in terms of treatment of illnesses. There is possibility that the above-mentioned factors can easily interfere with persons understanding of real causes of

illness, their prevention and treatment. This leads to non-adherence to modern medication (Andrews & Boyle 2003:433).

Heald (2002:1) found that some traditional healers in Botswana perceive HIV/AIDS as an old disease evidenced by new virulence because of increasing disrespect for mores and traditional values. They maintain that they can prescribe traditional medication to cure the old disease, which presents with HIV/AIDS symptoms. Furthermore, some so-called 'prophets' and members of Apostolic churches in Botswana believe in healing by prayer and water only, and are often hostile to Western medicine (Heald 2002:4).

The impact of HIV/AIDS on women is of grave concern in the light of the universal role of women in society. Women are the primary caregivers of children and families. In most instances, even after a diagnosis of HIV infection, they continue to serve as caregivers of their children.

Because the failure to adhere to ARV medications can actually lead to resistance to the virus and incomplete suppression of viral replication and therefore impact on the health status of the women.

1.4 PURPOSE OF THE STUDY

The purpose of the study was to investigate and describe religious, cultural and social challenges to ARV medication adherence in HIV/AIDS-infected women in Botswana. The knowledge gained would enable the researcher to make recommendations for practice promoting adherence to ARV medication.

1.5 RESEARCH QUESTION

In order to examine the problem and achieve the purpose of the study, the researcher framed the following question to guide the study:

What are the religious, cultural and social challenges to ARV medication adherence in HIV/AIDS-infected women in Gabarone and the surrounding villages in Botswana?

1.6 OBJECTIVE

To answer the research question, the objective of the study was to

- describe and explore religious, cultural and social factors associated with ARV medication adherence in HIV/AIDS-infected women in Botswana

1.7 SIGNIFICANCE OF THE STUDY

The findings of the study should contribute significantly to the existing knowledge on ARV medication adherence. Moreover, the findings should assist policy makers to review present ARV strategies and interventions. This would enable the development of relevant new interventions to include communities for support if necessary. At international level, the findings should provide valuable information to enhance ARV medication adherence in HIV/AIDS-infected women.

1.8 RESEARCH DESIGN

The research design is a plan or blueprint of how the research will be conducted (Babbie & Mouton 2001:73). For this study, the researcher selected a quantitative design to measure objectively the variables involved and statistically analyse and interpret the data.

In quantitative research, data is collected in a value-free manner and structured methodology is used to facilitate statistical analysis (Saunders, Lewis & Thornhill 2003:83). The researcher selected a quantitative design to focus specifically on the research question, which sought to describe and explore the challenges to antiretroviral medication adherence in HIV/AIDS-infected women.

1.9 POPULATION AND SAMPLE

The target population for this study consisted of HIV/AIDS-infected women who had been on ARV medication treatment for a period of not less than 12 months and who met certain criteria (Chapter 3: p.30). A sample of the population was selected by random sampling to participate in the study. According to De Vos (2002:203), simple random

sampling or probability sampling ensures the chances of every person or sampling unit in the population has the same known probability of being selected.

A sample is a subset of the research population. Data collected from the subset is regarded as the basis for generalisation (Nachamias & Nachamias 1996:179). It is assumed that analysis made from researchers' sampling units will produce results similar to those that would be obtained had the researcher analysed the entire population (Nachamias & Nachamias 1996:183).

1.10 DATA COLLECTION

In this study, data was collected by means of a self-administered questionnaire (see annexure 5). In a questionnaire each person is asked to respond to the same questions in a predetermined order (Saunders et al 2003:280). The researcher developed a structured questionnaire to distribute to the respondents. The respondents were allowed to answer the questions freely but in the briefest possible time (De Vos 2002:175).

1.11 VALIDITY AND RELIABILITY

The quality of a research instrument is determined by its validity and reliability.

Validity is the degree to which an instrument measures what it is intended to measure (Polit & Hungler 1997:308). According to De Vos (2002:166), validity refers to the process whereby the instrument actually measures the concept question and the concept is measured accurately in broad terms.

Reliability is the degree of consistency or dependability with which the instrument measures the attribute it is designed to measure. If the instrument is reliable, the results will be the same each time the test is repeated (Polit & Hungler 1997:308). Reliability refers to "the extent to which independent administration of the same instrument will consistently yield the same results under comparable conditions" (De Vos 2002:168).

1.12 DATA ANALYSIS

As a quantitative approach was used, inferential statistics helped to investigate and describe religious, cultural and social challenges to ARV medication adherence in HIV/AIDS-infected women in Botswana by means of frequencies and percentages (Burns & Grove 2001:409). A statistician analysed the data using the Statistical Package for Social Sciences (SPSS) version 10 program.

1.13 ETHICAL CONSIDERATIONS

Ethics deals with matters of right and wrong. This implies that anyone involved in social scientific research should be aware of agreements shared by researchers and participants about what is proper and improper in the conduct of the research (Babbie & Mouton 2001:470).

Collins English Dictionary (1991:533) defines ethics as “a social, religious, or civil code of behaviour considered correct, esp. that of a particular group, profession, or individual”.

In this study the researcher observed all rights of the respondents and the authorities of Princess Marina Hospital where the study was conducted. The ethical considerations included respect for the respondents’ freedom, the right to self-determination, privacy, autonomy, volunteerism, confidentiality and avoidance of harm.

1.14 SCOPE AND LIMITATIONS OF THE STUDY

The study was conducted at the Infection Disease Care Centre (IDCC) in the Princess Marina Hospital, Gaborone. The respondents were residents of Gaborone and the surrounding villages. The study was limited by time and financial constraints. Moreover, only a small sample was selected as representative of the affected population.

1.15 ABBREVIATIONS

The following abbreviations are used in the study:

AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral
CDC	Central for Disease Control
CSO	Central Statistics Office
DNA	Deoxyribonucleic
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus (the cause of aids)
IDCC	Infection Disease Care Centre
NACA	National AIDS Coordinating Agency
NRTIs	Nucleoside Reverse Transcriptase Inhibitors
NNRTIs	Non-Nucleoside Reverse Transcriptase Inhibitors
MASA (Setswana word)	New Dawn
MoH	Ministry of Health
PI	Protease Inhibitors
RNA	Deoxyribonucleic acid
SPSS	Statistical Package for Social Sciences
UK	United Kingdom
UN	United Nations
UNAIDS	United Nations Programmes on HIV/AIDS
UNICEF	United Nations Children Emergency Fund
UNIGASS	United Nations General Assembly Special Session for Treatment of HIV/AIDS
USA	United States of America

1.16 DEFINITIONS OF CONCEPTS

In this study, the following terms are used as defined below.

- **Adherence:** *Collins English Dictionary* (1991:18) defines adhere as “to follow closely or exactly: adhere to the rules”. Adherence is the practice of following the

rules closely. In this study, adherence refers to strictly following the prescribed medication regimen.

- **Culture:** *Collins English Dictionary* (1991:387) defines culture as “the total of the inherited ideas, beliefs, values and knowledge, which constitute the shared bases of social action; the total range of activities and ideas of a group of people with shared traditions, which are transmitted and reinforced by members of the group. In this study culture refers to the cultural beliefs and actions of the respondents and their community.
- **Religion:** Religion is “belief in, worship of, or obedience to a supernatural power or powers considered to be divine or to have control of human destiny; any formal or institutionalised expression of such belief” (*Collins English Dictionary* 1991:1309). In this study it refers to the religious factors that affect the respondents’ adherence to the prescribed medication regimen.
- **Social:** *Collins English Dictionary* (1991:1465) defines social as “of, relating to, or characteristic of the experience, behaviour, and interaction of persons forming groups” and society as “a system of human organisations generating distinctive cultural patterns and institutions and usually providing protection, security, continuity, and a national identity for its members” (*Collins English Dictionary* 1991:1466). In this study it refers to the social factors in the respondents’ lives that affect their adherence to the prescribed medication regimen.

1.17 OUTLINE OF THE STUDY

Chapter 1 outlines the problem; purpose, objectives and significance of the study; research design and methodology; data collection and data-collection instrument; validity and reliability, and ethical considerations, and defines concepts.

Chapter 2 discusses the literature review.

Chapter 3 describes the research design and methodology.

Chapter 4 covers the data analysis and interpretation.

Chapter 5 presents the findings and makes recommendations.

1.18 CONCLUSION

This chapter provided an overall introduction to the study. The problem, purpose and significance of the study, research design and methodology, including population, sample, data-collection instrument, and ethical considerations were briefly described and concepts defined.

Chapter 2 discusses the literature review undertaken for the study.

CHAPTER 2

Literature review

2.1 INTRODUCTION

The researcher conducted a literature review on the topic of the study. A literature review involves searching, reading and developing a body of knowledge related to the topic for the proposed research study (Brink 1996:76).

The purpose of a literature review is to determine the extent to which the topic under study is covered in the existing knowledge (Babbie & Mouton 2001:561).

2.2 SCOPE OF THE LITERATURE REVIEW

The literature review covered the key concepts and available information relating to the researcher's understanding of the topic. The scope of the literature reviewed was broad enough to allow the researcher to become familiar with the research problem, and narrow enough to include only the most relevant sources (Burns & Grove 2007:136). The literature therefore covered HIV/AIDS, the effects of HIV/AIDS, global measures for HIV/AIDS awareness, and the extent to which HIV/AIDS has affected women in general, specifically focusing on HIV/AIDS treatment and problems experienced by women while on HIV/AIDS treatment.

The UNAIDS/WHO (2003:3) provides data for regions and individual countries, which is an indication of the creation of effective measures for HIV/AIDS awareness throughout the world. However, the continued high rates of HIV/AIDS, particularly in women and children, are of major concern. The proportion of women among infected persons has increased continuously over the years (Shaw & Mahoney 2003:2). The HIV infection is unique in its occurrence and devastating due to its rapid spread and impact on infected persons. Marlink et al (2001b:1) emphasise that in many countries women may be aware of protective measures but, due to lack of autonomy, are prevented from protecting themselves against infection (Shaw & Mahoney 2003:6). AIDS seems to challenge every aspect of a woman's existence, and this can lead to distress.

Regarding women's responses to being diagnosed with the HIV infection, Stevens and Hildebrandt (2006:208) found that "distress resulting from being told that one has HIV infection adversely affects quality of life".

In this study, the researcher explored the extent to which HIV/AIDS has affected women in general, specifically focusing on HIV/AIDS treatment adherence and problems experienced by women while on HIV/AIDS treatment. Women are vulnerable to heterosexual transmission of HIV, and frequently have difficulty in accessing health services or care. Women often carry the burden of caring for their children and family members who may be infected by HIV/AIDS.

2.3 HUMAN IMMUNODEFICIENCY VIRUS (HIV)

The HIV, which belongs to a family of simian immunodeficiency viruses, causes AIDS. It is a retrovirus that possesses a unique characteristic of genetic transcription process. Normally the transcription of genetic material in a cell is deoxyribonucleic (DNA) to deoxyribonucleic acid (RNA) to proteins, but with HIV the process is different in that the virus carries its genetic material (RNA) rather than DNA (Smeltzer & Bare 2004:1521).

HIV consists of a viral core/matrix, which houses viral RNA and is surrounded by an envelope or layer of glycoproteins. For HIV to gain entry into the target cell CD4 T cell membrane, it has to use its projections to empty its viral contents into the host CD4 T cells. The process follows the enzyme reverse transcriptase, which copies the genetic information from RNA into DNA (Smeltzer & Bare 2004:1521).

2.3.1 HIV transmission

HIV transmission into the human body occurs primarily through unprotected sex. The virus enters a person's bloodstream via the body fluids of an infected individual. Examples of body fluids include vaginal fluids or semen. Other means of HIV transmission include needle pricks, and raw areas – both of which are considered easy entry sites for the virus from an infected person (Van Dyk 2001:19).

2.3.2 HIV pathophysiology

Once the HI virus enters the body, it attacks the CD4 T cells, which normally protect the immune system from any infection. HIV begins to destroy more CD4 cells with such remarkable rapidity that it causes the immune system to become weakened and defenseless. As the process continues, more HIV copies are replicated to the extent that the CD4 T cells are captured and forcibly turned into HIV-manufacturing cells (Van Dyk 2001:19).

The body's response to HIV differs according to a number of factors such as the rate of the virus in the bloodstream, the infected person's physical condition prior to HIV infection, and age (particularly in children). However, primary infection is the period from the beginning of virus replication to the development of antibodies when new viruses spread widely throughout the body. With no medical intervention, severe symptoms may occur until the infected person becomes terminally ill and develops AIDS (Smeltzer & Bare 2004:1543).

2.4 ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)

AIDS is a syndrome of various symptoms and clinical pictures caused by the weakening of the immune system as a result of an HIV infection. AIDS is further a syndrome of opportunistic diseases, infections and certain cancers, which has the ability to cause the death of the infected person during the formal stage of the disease (Van Dyk 2001:5).

2.5 GENERAL OVERVIEW OF HIV PREVALENCE

In 1993, an estimated 82 million children had been left orphaned by the HIV epidemic (De Kock, Jones & Jaffe 1993:3). In 1997, the UNAIDS/WHO (cited in Shaw & Mahoney 2003:3) estimated that 40 million persons were living with HIV infection worldwide. Most of these people resided in Sub-Saharan Africa (68%) and South and East Asia (20%), with less than 3% in North America, and less than 2% in Western Europe. An estimated 16,000 persons are infected each day by the HIV virus, of whom more than 40% are women and more than 50% are between 15 and 24 years of age.

In 2001, global statistics reflected an estimated 40 million people living with HIV/AIDS (Johnsen cited in Shaw & Mahoney 2003:2). Of these, 48% were women and 2.7 million were children under 15 years of age. Moreover, in 2001 an estimated five million people, including 800 000 children, were newly infected with HIV. These statistics show HIV as the fourth leading cause of death globally (Shaw & Mahoney 2003:2).

Patterns of HIV transmission differ throughout the world. For example, in Scandinavia and the UK the majority of HIV infection transmissions occur among homosexuals, whereas in Spain and Italy most persons with AIDS were injection drug users (Darkoh 2004:15).

2.5.1 HIV/AIDS prevalence according to countries

2.5.1.1 United States of America (USA)

As HIV/AIDS continued to spread worldwide, the USA found more HIV-infected women than men. Statistics showed that heterosexual contacts dominated as the mode of transmission in young women aged 13 to 25 years.

In 1998, between 120 000 and 160 000 females aged 13 and older were estimated to be living with HIV in the USA (Marlink et al 2001a:2). Two years later the numbers had increased to 450 151 (Shaw & Mahoney 2003:4). In 2001, Shaw and Mahoney (2003:4) estimated that 800 900 people were living with HIV/AIDS. Statistics indicated the rapid spread of HIV/AIDS and increasing deaths (CDC 2000 cited in Shaw & Mahoney 2003:4). While table 2.1 indicates the HIV/AIDS prevalence in the USA, in 2001 (Smeltzer & Bare 2004:1549). These were the states with the largest numbers “the number of people living with AIDS is not evenly distributed throughout the USA, with the largest number of reported AIDS cases during 2001 (see table 2.1).

Table 2.1 USA HIV/AIDS prevalence

STATE	NUMBER OF HIV/AIDS- INFECTED PEOPLE
New York	7 476
Florida	5 138
California	4 315
Texas	2 892
Maryland	1 860

Source: (Smeltzer & Bare 2004:1549)

2.5.1.2 United Kingdom (UK)

Orgel (2004:28) stated that in 2003, the UK Communicable Disease Surveillance Centre (2004:28) reported an estimated 53 000 people living with HIV/AIDS in the UK, of whom 14 330 were unaware of their infection. Furthermore, the number of people thought to have acquired the disease through heterosexual intercourse had risen from 158 in 1999 to 3 421 in 2003 (McAllister 1999:15). McAllister (1999:15) found that immigrants from Sub-Saharan Africa were stigmatised as sources of heterosexual transmission and further that more than two thirds of those infected by HIV/AIDS were female African immigrants and asylum seekers.

According to Orgel (2004:29), HIV was identified in Scotland during the 1970s. In 1983 a sudden massive increase of infection was noticed among young intravenous heroin injectors. Scotland experienced a rapid spread of infection during that period. The heterosexual spread of HIV had begun with infected drug users passing the infection on through unprotected sex to earn money for their addictive behaviour (Orgel 2004:29).

2.5.1.3 Eastern Europe and the Commonwealth Independent States

Eastern Europe and the Commonwealth Independent States are described as one of the hardest hit regions in the world because of their high HIV/AIDS growth rate. It is estimated that 210 000 people contracted the disease in 2004, bringing the total number to 2.1 million in both Eastern Europe and the Commonwealth independent states. The Ukraine reported estimates of 660 000 people living with HIV/AIDS, while Russia estimated a total of 860 000 in the same period (UNAIDS/WHO 2006:43). Furthermore, women in the region are vulnerable and suffer from gender inequality, poor socio-

economic status, stress, stigma and discrimination. Women also run the risk of easily being infected because they are unaware of the HIV/AIDS status of their partners. Problems of poverty, increasing mortality rates, reduced life expectancy and social dislocation exacerbate the situation. In 2006, 41% of new HIV cases in the Ukraine were diagnosed in women of peak reproductive years (UNAIDS/WHO 2006:41).

2.5.1.4 Sub-Saharan Africa

HIV/AIDS spread rapidly in Sub-Saharan Africa, primarily through heterosexual intercourse, and is fuelled by poverty, inequality and migration. The HIV prevalence among pregnant women attending clinics in South Africa increased by 23.5% between 1990 and 2000 (Johnsen cited in Shaw & Mahoney 2003:2).

The HIV/AIDS epidemic is a major health problem in Sub-Saharan Africa, which has become the most affected region in the world. Since the beginning of the epidemic, almost 72% of global deaths from AIDS occurred in Africa (UNAIDS/WHO 2006:10).

In 2000, 70% of the world's HIV/AIDS population were estimated to be living with HIV/AIDS in Sub-Saharan Africa.. The HIV/AIDS epidemic in the Africa region is of grave concern as it targets young persons of reproductive age and adults aged between 20 and 49 years. The rapid deaths of parents due to HIV/AIDS results in a large number of orphans (Piot, Bartos, Ghuys, Walker & Schwartlander 2001:971).

According to the current UNAIDS and WHO statistics of 2007, it was estimated that 22.5 million (20.9 – 24.3 million) people infected with HIV account for 68% of the global total, and live in Sub-Saharan Africa. This region now accounts for almost one third of all new HIV infections and AIDS deaths globally (UNAIDS/WHO 2007:1).

The researcher is of the opinion that urgent African government response to the epidemic is needed to avert the further adverse impact on socio-economic development and to alleviate the poverty in the region.

According to the UNAIDS/WHO (2007:15), the Southern African region, which comprises Botswana, Lesotho, Swaziland and South Africa, has between 20% and 30% levels of infection among pregnant women. In addition, in 2006, 2.8 million people

became infected with HIV in spite of the provision of ARV drugs and 2.1 million deaths occurred worldwide due to HIV/AIDS.

2.5.1.5 Botswana

Botswana had its first experience of HIV/AIDS in 1985 when a Motswana patient was diagnosed HIV positive. Since then HIV/AIDS has become one of the major public health problems affecting all sectors of the population throughout the country (MoH 1998:2). The rapid spread of the disease required prompt and decisive action from the Botswana government to arrest the situation. In 2004, the HIV/AIDS prevalence rate was estimated at 36.5%, the second highest after Swaziland (UNAIDS 2004a:1).

In 2001, President Festus Mogae, addressing the United Nations (UN) Assembly Summit in New York said, “We are threatened with extinction. People are dying in chillingly high numbers. It is a crisis of the first magnitude” (UNAIDS 2004a:1).

Botswana, like other underdeveloped and resource constrained countries, experienced high rates of HIV infection especially among pregnant women attending anti-natal clinics in 2003 (NACA/CSO 2005:29) (see figure 2.1 and table 2.2).

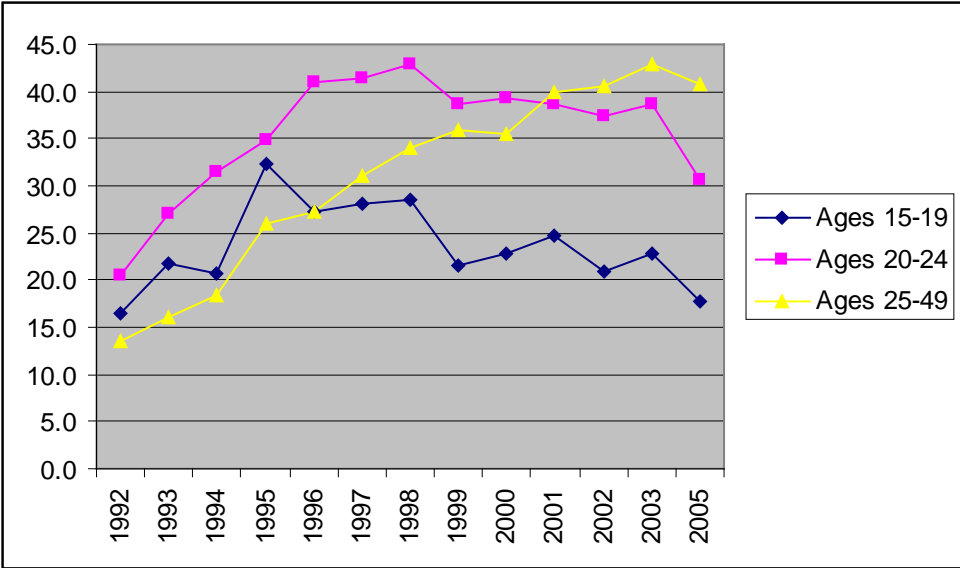


Figure 1.1: HIV prevalence among pregnant women in Botswana between 1992 and 2005

Source: (MoH 2005:29)

Table 2.2 HIV prevalence among pregnant women in Botswana, 1992-2005

AGE	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2005
15-19	6.4	21.8	20.7	32.4	27.2	28.0	28.6	21.5	22.9	24.7	21.0	22.8	17.8
20-24	20.5	27.1	31.5	34.8	40.9	41.4	42.8	38.7	39.4	38.7	37.4	38.6	30.6
25-49	3.6	16.0	18.3	25.9	27.2	31.1	34.0	35.9	35.5	40.0	40.5	42.8	40.7

Source: (MoH 2005:29)

2.5.1.6 Tuberculosis/HIV in Botswana

TB notification rates in Botswana have been observed as the highest in the world and it has consistently increased by 590 cases per 100 000 population members annually (Balosang 2007:12). Another observation associated with TB is that countries with high prevalence rates of HIV, with particular reference to sub-Saharan Africa, show a high prevalence rate of TB cases. It is estimated that approximately 741 000 of new TB patients were co-infected with HIV, with a majority of co-infection cases being observed in sub-Saharan Africa during 2004. TB has become the single leading cause of death in Botswana, with co-infection of TB and HIV rates ranging between 60-86% reported (Balosang 2007:12).

The glaring impact of TB on the Botswana population is worrisome as that it is now responsible for 13% of all adult deaths, and 40% of deaths occurring in HIV positive persons.

2.6 GENERAL OVERVIEW OF ARV TREATMENT

The general view in regard to highly active antiretroviral treatment has been echoed by McAllister (1999:1), reporting that “since 1996, an overwhelming amount of evidence from clinical trials has been published validating the use of HAART for treatment of HIV infection.” Furthermore, suppression of HIV replication resulting in reinstatement of the immune system and reduction of disease progression has also been observed (McAllister 1999:1).

Highly active ARV treatment is a combination of drugs consisting of two nucleoside reverse transcriptase inhibitors (NRTIs) and non-nucleoside reverse transcriptase inhibitors (NNRTIs) and protease inhibitors (PI). ARV treatment is reported to be complete and requires strict commitment, and has provided hope and a long-term survival opportunity to HIV-infected people, resulting in a marked improvement of health and quality of life (Van Dyk 2001:67).

The main emphasis in the management and treatment of HIV/AIDS through the use of ARV drugs is complete adherence in order to delay the onset of AIDS. The purpose of HIV/AIDS treatment is to maintain the immune system as close to normal as possible, preserve the quality of life, and prolong survival by suppression of the HIV infection. Although ARV treatment has been proven effective, the drugs are expensive and are often inconvenient to take, as they may be too many to cope with, usually resulting in significant side effects. Failure to take the drugs properly may lead to inadequate viral load suppression, which eventually results in drug resistance (Deeks & Verberding 1997).

2.6.1 Indicators for initiating ARV treatment

In 2000, the WHO developed ARV treatment standard guidelines to be followed for the treatment of HIV/AIDS worldwide. The guidelines could be revised whenever the need arose and according to the specific country's medical protocol or pharmaceutical regulations. General guidelines stated that patients with symptomatic HIV infection regardless of CD4 count and viral load should receive ARV treatment, as should those with CD4 cell counts below 350 cell/mm³ and viral loads above 30 000 copies/ml (Van Dyk 2001:70).

ARV treatment has restored many critically ill HIV-positive individuals to a level of wellness that could not have been predicted. However, many HIV-positive individuals are psychologically and socially stressed or have other medical problems at the time when they are due to start ARV treatment. These challenges could possibly affect clients' adherence to ARV medication. Clients' readiness to start treatment is therefore of the utmost importance (Newman & Rodriguez 2005:1).

2.6.2 Impact of and adherence to ARV treatment

Although the treatment is complex and has to be taken possibly for a lifetime, Friedland and Williams (1999:561) emphasise that the key factor in the effectiveness of ARV treatment is the willingness and readiness of the patient.

The introduction and initiation of ARV treatment requires adequate preparation in terms of the information provided to the client. Health care providers should be well-equipped and familiar with current information on the effectiveness of the drugs, their side effects, dosages and the importance of adherence to ARV treatment (Friedland & Williams 1999:561).

Prior to prescribing ARV treatment to infected individuals, a review of diagnosis and physical assessment, including laboratory tests, should be done with utmost accuracy to avoid unnecessary and costly mistakes that could cause irreversible changes in patients' life and health (Corless & Nicholas cited in Shaw & Mahoney 2003:38; Van Dyk 2001:71).

2.6.3 Adherence to ARV treatment

Adherence to any therapeutic regime usually requires that the person make one or more lifestyle changes in order to carry out specific activities that promote and maintain health. Adherence to ARV treatment requires that the HIV-positive individual take medication at a near perfect rate of 95% or better, all the time (Newman & Rodriguez 2005:1). McAllister (1999:1) points out that adherence to ARV treatment is a great challenge due to multiple and complex influencing factors, and non-adherence is ubiquitous.

Eldred, Wu, Chaisson and Moore (1997:81-87) emphasise that quality adherence to ARV treatment is an on-going process directly involving the patient. Intervention to encourage adherence to ARV treatment must address issues such as cultural differences, race, gender, sexual orientation and religion. Predictors of adherence to ARV treatment include availability of emotional and practical life support; patients' ability to fit medication into their daily life routine; the understanding that poor adherence leads

to resistance; recognition that taking all doses is important; and feeling comfortable taking medication in front of people (Eldred et al 1997:81-87).

2.6.4 Factors influencing adherence

Among the factors influencing adherence are age, finance, social and psychosocial factors, alcohol and drug use, and beliefs and knowledge.

2.6.4.1 Age

Chesney et al (1999:5272) found that, apart from elderly people, adherence increases in younger people as they grow older.

2.6.4.2 Finance

A lack of finances has a negative impact on adherence because patients with a higher income have less difficulty with adherence to ARV drugs. In a study in Australia on 924 HIV-positive people, more than half of the respondents reported experiencing difficulty in meeting the cost of daily living (Grierson, Barbs, Visser & McDonald 2000:1).

2.6.4.3 Social and psychosocial factors

Addressing HIV medical care needs to be accompanied by assessment of the complete history and picture of an individual's current situation such as shelter, economic stability and family support. HIV is a distressing condition throughout an individual's life and can possibly influence a client's adherence to medication negatively (Corless & Nicholas cited in Shaw & Mahoney 2003:34).

Ickovics and Meisler (1997:385) maintain that depression and anxiety are predictors of non-adherence. Friedland and Williams (1999:560) emphasise that social support is a critical factor observed in patients who were isolated and without family support. Loved ones and friends are less likely to be adherent. Poor social relationships, living alone and lack of support are associated with non-adherence.

Depression, mental illness and anxiety are associated with non-adherence (McAllister 1999:2; Shaw & Mahoney 2003:29). Shaw and Mahoney (2003:29) add that for women, taking care of themselves is not the highest priority when they have the additional care taking responsibility for children and partners or other family members who are also affected by HIV/AIDS.

Podisi (2005) found that most patients view family support as very important to them in compliance with ARV medication. In the study respondents even went on to say “when I visited my mother she encouraged me to take my medication as prescribed by the doctor” (Podisi 2005:199).

2.6.4.4 Alcohol and drug use

Alcohol and drug use are associated with poor medication adherence (Chesney, Ickovics, Hetch & Rabkin 1997:S271; Ickovics & Meister 1997:386). Regarding new ARV treatment challenges and strategies, Chesney, Ickovics, Hetch and Rabkin (2000:172) found that patients admitted taking seventeen drinks of alcohol per month, a habit that could possibly result in poor adherence. Drug and alcohol abuse are the principal factors associated with non-adherence (Chesney et al 2000:171-176).

2.6.4.5 Beliefs and knowledge

Eldred et al (1995:3) found that beliefs and knowledge have an impact on the effectiveness of treatment and illness and are associated with medical adherence. However, people have many different health-related beliefs and practices. For example, some people maintain that disease is caused by an agent entering a person’s body, and therefore can only be removed through supernatural powers. Such people usually reject modern medicine and consequently might not adhere to ARV medication (Chesney et al 2000:24). Increased knowledge about the disease and purposes of treatment has a positive effect on adherence (Kalipeni, Cradock, Oppong & Hosh 2004:63).

2.7 GLOBAL RESPONSE TO HIV/AIDS

Although ARV treatment is effective and valuable, not all HIV/AIDS-infected people have access to ARV drugs. In 2001, the UNAIDS/WHO (2001) launched the United

Nations General Assembly Special Session for Treatment of HIV/AIDS (UNIGASS). The theme for UNIGASS was “3 by 5”, meaning access to ARVs for 3 million people living with HIV/AIDS by the year 2005. The UNIGASS Declaration was signed by 189 member states of the UN Assembly thereby committing themselves to the implementation of the “3 by 5” programme.

2.7.1 Initiation of antiretroviral treatment by WHO

UNAIDS/WHO (2002:1) reported that “currently five to six million people infected by HIV in poorer countries need access to ART. Only 300 000 have this access.” The report states that in Eastern Europe and Central Asia, 7 000 people receive ART (UNAIDS/WHO 2002:2). Some of the reasons for this include that, although there is an estimated 1.2 million currently infected people in this region, the disease is still in the early stages. As a result it does not yet show any symptoms in some people, therefore ART is not needed (UNAIDS/WHO 2002:2).

In view of the continued and escalating numbers of people living with HIV/AIDS, particularly in poorer and developing countries, WHO/UNAIDS (2003:1) set a target that 3 million people with HIV infection in developing countries including those in the process of development would be receiving antiretroviral treatment by the year 2005. WHO (2003:4) stated that the major goal of “3 by 5 ARV Initiative” was “Universal access to antiretroviral treatment drugs for all who need them” (see table 2.3 below).

Table 2.3 Coverage of antiretroviral therapy in poorer countries, December 2002

REGION	NUMBER OF ADULTS ON ART	ESTIMATED NUMBER WHO NEED ART	COVERAGE (%)
Sub-Saharan Africa	50 000	4 100 000	1
Asia	43 000	1 000 000	4
Eastern Europe and Central Asia	7 000	80 000	9
North Africa and Middle East	3 000	9 000	29
Latin America and Caribbean	196 000	370 000	53
All regions	300 000	5 500 000	5

Source: (UNAIDS/WHO 2002:2)

The 2004 WHO ARV Progress Report indicated that “during the second half of 2004, a dramatic progress has been achieved by December in which a milestone of 700 000 HIV infected people were receiving antiretroviral treatment” (Jong-Wook & Piot 2004:2).

Remien, Bastos, Berkman, Terto Jr, Raxach and Parker (2007:740) reported that “Brazil has been recognised as a pioneer among developing nations for its implementation of universal access to AIDS medicines”. According to Remien et al (2004:740), Brazil started distribution of free antiretroviral drugs in 1996, and in 2001 nearly 113 000 people living with HIV/AIDS received antiretroviral treatment from public health facilities (Remien et al 2007:740).

2.7.2 WHO HIV/AIDS Report, 2005

UNAIDS/WHO (2007:3) antiretroviral coverage statistics in low and middle income countries are shown below in table 2.4.

Table 2.4 ARV coverage in low and middle income countries: Percent on ARVs (of those who need them) as of December 2007

Sub-Saharan Africa	30%
Latin America and Caribbean	62%
Europe and Central Asia	17%
North Africa and Middle East	7%
East, South and South-east Asia	25%
Total	31%

Source: (UNAIDS/WHO 2007:3)

2.8 ARV TREATMENT IN BOTSWANA

Following the results of the McKinsey Report on the ART Feasibility Study conducted in 2001, the Botswana Government estimated that 110 000 patients required ART immediately.

The ARV programme was introduced in 2002 in four sites: Gaborone, Francistown, Maun and Serowe. The programme was conducted after intensive training of the programme team in these areas through the Kitso programme, run by the MoH in collaboration with the Botswana Harvard Partnership, WHO and technical teams from

the University of Pennsylvania. Site models and satellite clinics provided the requisite follow up. By 2005, 32 sites had been established as full treatment sites, handling a total of 45 000 patients on ART. By the end of December 2005 there were 50 504 patients on ART in the public sector and 8 318 in the private sector, all treated according to guidelines for ARV treatment (NACA/CSO 2005:3).

A multi-dimensional community mobilisation programme that is run in all districts at community level supports the ARV programme. The programme is technically and managerially directed by the MASA ARV Information, Education and Communication team to promote and monitor the pillars of the ART programme, adherence, family and client education and counselling areas (WHO 2005:1).

The initiation of ARV treatment is based on the Botswana ARV treatment guidelines and eligibility criteria. Patients with CD4 counts of less than 200 and/or AIDS defining illness are eligible for ARV (Mazonde 2005:7).

2.8.1 Botswana National AIDS policy

The rapid spread of HIV/AIDS in Botswana coupled with its damaging effects influenced the government to develop the national AIDS policy as a matter of urgency.

The national AIDS policy was developed to guide all sectors engaged in HIV/AIDS prevention and care, including all government ministries, civil society and private community. In the absence of legislation for AIDS prevention and care, the policy would be used as legal code to be observed during the implementation of AIDS programmes (MOH 1998:1).

2.8.2 Botswana National HIV/AIDS Strategic Framework, 2003-2009

The implementation of HIV/AIDS activities required a well-constructed and specific framework for adequate coverage of HIV/AIDS prevention, care and control. For this reason in 2003, the government embarked on the development of the National Strategic HIV/AIDS Framework. The National Framework is in line with the National Development Plan and acts as a measure to ensure its implementation (NACA 2003:8).

2.9 CHALLENGES OF HIV/AIDS

2.9.1 Global challenges

UNAIDS (2004:8) reported that HIV challenges in Eastern Europe include poverty and inadequate access to ART, presumably due to lack of financial resources resulting in an increased number of sex workers and drug use. The report further indicates that more women in Eastern Europe and Central Asia acquire HIV infection through the use of contaminated equipment when injecting drugs. Another major problem is the continued subordinate status of women and their inability to negotiate for safer sex, along with continued stigma and discrimination (UNICEF/UNAIDS 2003:16).

One of the problems experienced in most countries affected by the HIV epidemic is the large number of orphans, which is increasing continuously due to the deaths of their parents (UNICEF/UNAIDS 2003:16). Another is inadequate coverage of ART drugs, with only 160 000 of the estimated 200 000 people who were eligible in 2005, receiving ART (UNAIDS/WHO 2006:3).

2.9.2 Challenges in Sub-Saharan Africa

In 2004, the UN (2004:7) indicated that the main problems were mother-to-child transmission, and inadequate knowledge of safe sex and HIV transmission, poverty, lack of access to ARV treatment especially in Lesotho, Mali, Senegal and many other developing countries.

2.9.3 Challenges in Southern Africa

The ever-growing numbers of orphans, lack of funding to access ARVs, continued subordinate status of women and their inability to negotiate for safer sex, poverty, stigma and discrimination are the major challenges in Southern Africa (UNICEF/UNAIDS 2003:16).

2.9.4 Challenges in Botswana

In 2004, of the approximately 300 000 people affected by HIV/AIDS in 2002, only 11 000 were enrolled in the MASA ARV programme, which was established by the Botswana Government as a response to the epidemic (Mazonde 2004:21). Further challenges related to ARV treatment included cultural and psychological barriers to HIV testing, the duty of convincing affected people to avoid infecting others, a serious shortage of trained staff particularly in HIV/AIDS work and care, monitoring of side effects and advising patients of drug resistance and the need to adhere to medication (Mazonde 2004:21).

2.10 CONCLUSION

This chapter discussed the literature review on HIV/AIDS, its prevalence and impact, global approaches to the epidemic, ARV treatment, adherence and non-adherence to HIV/AIDS treatment, and problems experienced with HIV/AIDS.

Chapter 3 covers the research design and methodology.

CHAPTER 3

Methodology

3.1 INTRODUCTION

This chapter describes the process of research followed in this study. A description of the study design is made, along with an explanation of how the population is selected. The criteria and method used for their selection are also described. Further, a description is made of the data collection instruments used, its format and its administration, as well as ethical issues involved are discussed.

3.2 RESEARCH PROBLEM

Literature indicates that the use of antiretroviral treatment for treatment of HIV/AIDS has proved to be highly effective and have brought long term hope for people living with the disease. However challenges regarding the usage of ARV treatment have been broadly expressed within some medical fields. For example Van Dyk (2001:70) showed some concerns regarding ARV side effects and the lifelong contract to be taken by people living with HIV/AIDS once they are on ARV treatment.

Other several factors cited in the literature in regard to infected individuals are internal personal conflict such as guilt, knowledge of HIV positive status, lack of support, and relationships which may eventually contribute to non adherence resulting to viral resistance.

Religious beliefs and cultural factors in some African societies have strong influence on their life styles in terms of treatment of illnesses. There is possibility that the above-mentioned factors can easily interfere with persons understanding of real causes of illness, their prevention and treatment. This leads to non-adherence to modern medication (Andrews & Boyle 2003:433).

3.3 RESEARCH OBJECTIVE

To describe and explore challenges of religion, culture and social factors associated with antiretroviral medication in HIV/AIDS infected women in Botswana.

3.4 RESEARCH DESIGN AND METHODOLOGY

A research design is reviewed as a comprehensive plan of study meant to map out necessary directions to be followed during the research process in order to come up with expected and orderly outcomes. It is sometimes referred to as a blueprint for conducting a study. The purpose of research design is to ensure that there is no interference with the validity of the results by maximising the control of factors.

Research design includes clear and organised activities with specific purpose to meet specific needs of the study. As the process of research involves observation and analysis, planning is imperative in order to put in place what will be observed and analysed including the direction to be followed as dictated by the plan to the study.

Research methodology focuses on the research process tools and procedures to be used to answer the research question. In other words, it involves the how and what of the question to address the problems to be investigated (Babbie & Mouton 2001:75).

3.4.1 Quantitative research

Quantitative research is based on the philosophy of positivism as a guiding principle. The term positivism refers to scientific claims that have been identified on the basis of observed evidence in real life (Babbie & Mouton 2001:32). Literature describes quantitative research as descriptive and explorative with real life connotations that provide characteristics of the phenomenon to be studied.

A quantitative approach has been chosen for this study because quantitative research emphasises quantification and measurement of properties. The rationale is to measure the research variables associated with ARV medication adherence using a numerical scale. In line with the ideology of positivism, logical reasoning was applied for structuring sections of the dissertation accordingly, that is following systematically the

research process. Deductive reasoning was employed for the development of items of data collection instruments. A structured data collection instrument was used as a measure for the enhancement of objectivity and to facilitate data analysis.

The study was non-experimental but made use of existing quantitative data to describe and explore the existing phenomenon and further to generate knowledge and discover the relationships between variables.

3.4.2 Descriptive research

Burns and Grove (2007:74) postulate that descriptive research aims at describing and exploring a phenomenon in real life situations, which include characteristics of a particular group of people or situations. The expectation is to discover new meaning, give an overview of what exists, state the frequency of the occurrence of the events and arrange the information in logical order.

3.4.3 Explorative research

Babbie and Mouton (2001:80) describes explorative research as a quantitative study which enables researchers to discover new situations that can be described comprehensively to bring out clarity and meaning related to the phenomenon under study. Explorative researches are valuable because they lead comprehension. An exploratory study gives one the opportunity to examine a new interest when the subject of the study is relatively new and unstudied or when the researcher is interested in developing the methods in a more careful study. It facilitates the satisfaction of one's curiosity and desire for better understanding to test the feasibility of undertaking more extensive study.

In this study the intention was to discover more information regarding adherence to antiretroviral medication so as to make recommendations for further study.

Although a similar study was carried out regarding compliance to antiretroviral treatment in Botswana, no literature was available on challenges of ARV medication adherence in HIV/AIDS infected women. The researcher found the need to investigate the phenomena and document it (Podisi 2005:199).

3.5 POPULATION

The target population for this study comprises of HIV/AIDS infected women who have been on ARV medication treatment for at least 12 months. Eligibility criteria are as follows:

- Women must be receiving ARV treatment at Infectious Disease Care Center (IDCC) in Princess Marina Hospital in Gaborone.
- Infected women 18 years and over.
- Women residing in Gaborone and surrounding villages for example: Tlokweng, Gabane, Kumakwane, Moshopa, Mochudi, Morwa, Mogoditshane, Lentsweletau, Oodi, Kopong, Mmankgodi, Metsimotlhabe, Kanye, Thamaga, and Ramotswa.
- Participant must be able to read and write English or Setswana.

Nachamias and Nochamias (1996:197) define population by referring to it “as the aggregate of all cases that conform to some form of designated set of specifications,” with reference to the study specifications it will be HIV/AIDS infected women residing in Gaborone and the surroundings areas receiving ARV treatment at Infections Disease Care Center and they are 18 years and over as stated earlier. Population is also defined as the totality of persons, events, organisation units with which research problem is concerned. The main forms in the population of this study are its homogeneity in terms of sex and ARV treatment. As the population was large according to previously stated statistics only a sample of the population will be researched.

3.6 SAMPLE AND SAMPLING

In view of time and financial constraints the whole population could not be studied. A sample was selected from the population for the study. A sample is a subset of population to be investigated. Selected subjects were obtained from an accessible population.

3.6.1 Sampling method and criteria

A non-probability method was used in this study. The researcher was aware that according to hospital records and observations, some patients no longer visited the clinic due to various reasons such as death or other unknown reasons. Therefore accurate representativeness would be difficult. Convenience sampling is a non-probability method in that only members of the population that appear for treatment at specific periods are considered and samples taken from them. The method does not give even number of the population under consideration on equal opportunity to be selected into the sample. Convenience samples are inexpensive, accessible and usually less time consuming (Burns & Grove 2007:337). The choice of sampling method was also based on the fact that sample frame was not easily available because the population is too large.

3.6.2 Sampling criteria

Sampling criteria for this study included HIV/AIDS infected women aged 18 years and over with ability to read and write English and Setswana. All subjects should have been on antiretroviral treatment for at least 12 months. All subjects lived in Gaborone and surrounding villages. Sample size consists of fifty (50) HIV/AIDS infected women. The researcher followed strict data protection protocols for purposes of producing accurate and meaningful information.

3.7 DATA COLLECTION

For the success of high quality data collection, the research focused on maintaining a pattern of data collection for each respondent. It is recommended that maintenance of the integrity of the study should be based on viewing data process as whole rather than single elements of data.

3.7.1 Data collection instrument

A self-administered structured questionnaire was used for collection data (see annexure 5). Each respondent was asked the same question in predetermined order. The researcher reassured the respondents that their responses will be treated in confidence.

Self-administered questionnaire was more relevant for this study because of its higher rate of completeness. The researcher was always available to answer and clarify problems during the data collection. Self-administered questionnaire ensures higher responses rate (Babbie & Mouton 2001:258).

3.7.2 Format of data collection instrument

A self-administered questionnaire that represents illustrations operationalisation of specific variables and dimensions was used. The questionnaire composed of short meaningful and relevant questions. Well constructed questions enabled respondents to present their responses within a short time as they were highly motivated. Contingency questions were also included in the questionnaire to allow respondents select questions relevant to them. Contingency questions were helpful to the researcher when series of questions needed to be asked for specific aspect of the research study.

Closed and open-ended questions were used extensively throughout the questionnaire with strict consideration for relevancy. Specific instructions were indicated throughout the questionnaire at appropriate places to ensure the quality of research findings. The researcher presented sequencing of questions in a manner that could not threaten the integrity of the respondents but relevant enough to obtain required information.

The questionnaire was arranged in seven sections for adequate presentation. Sections of the research instrument were as follows:

- Section A: Demographic data
- Section B: Socio-economic status
- Section C: Traditional and cultural beliefs
- Section D: Antiretroviral treatment and adherence
- Section E: Social and economic factors
- Section F: Gender and inequality
- Section G: Personal experience related to HIV status

3.7.3 Pre-testing the questionnaire

A pre-test is carried out to determine in so far as possible whether the instrument is clearly worded and free from major biases and whether it is appropriate for the type of information envisioned. Pre-testing helps to validate the accuracy, correctness and appropriateness of the research instrument for purposes of obtaining meaningful and quality information (Brink 1996:157; De Vos 2002:177).

3.7.4 Pre-testing process

Pre-testing formed an integral part of the study. It is a process to determine the validation of research instrument and to prepare a pathway for the actual study. Loopholes and errors are identified in time and corrected after pre-testing. For this study, pre-testing of the research instrument was completed within 2 weeks before collection of data to give the researcher time to make necessary corrections.

A group of 10 women was used who were not necessarily the representatives of the research population but people to whom the questionnaire is least relevant. The instrument was also translated into Setswana so that those who could not read English would be able to answer the questions. This was also in accordance with the requirement of the Ministry of Health Human Research Unit (see annexure 5).

The researcher conducted the pre-testing of the instrument at Princess Marina Hospital Infections Disease Case Clinic. All the necessary protocols were followed.

3.7.5 Administration of the instrument

Administration of the research instrument followed immediately after pre-testing activity with necessary amendments and selection of respondents. At this stage the researcher distributed the questionnaire to the respondents together with the covering letter attached. The letter reflected introduction of the researcher, the purpose and objective of the study, and how the findings will be treated including reassuring the respondents about anonymity and confidentiality. The researcher was at the background and always available for clarify any queries and to maximise the response rate.

3.8 DATA QUALITY

A well constructed research instrument is the key factor for obtaining results with a high degree of excellence and authenticity. The statement is supported by Brink (1996:167) who maintains that quality assurance of research study can only be realised through instrument validity and reliability. For research findings to be meaningful and reflect reality as accurately as possible, control and reduction of errors should be considered. In this study the researcher conducted pre-testing of the research instrument which enabled the researcher to identify errors and the extent of questions consistency.

3.8.1 Validity

De Vos (2002:166) points out that, in validity the instrument actually measures the concept in question and the concept is measured accurately. Broadly stated validity measures the degree to which the instrument is doing what it is intended to do. Depending on the research question and objectives of the study the researcher uses relevant category of validity for measurement of research instrument. Burns and Grove (2007:365) have a similar view concerning definition of validity. According to above mentioned authors, “validity of an instrument that determines how well the instrument reflects the abstract concept being examined”. To achieve the objective of authenticity the researcher used the process of pre-testing in this study.

3.8.1.1 Face validity

In face validity the actual measurement of an instrument is not the concern but the structuring of an instrument in such a way that it appears relevant to the respondents. A small group of people can be recruited with suitable characteristics and given the questionnaire to complete with a short convenient time to check whether the questions appear to mean anything. In this study a group of 5 medical personnel were given the research instrument and their assessment of the relevance of the questions to the study objective was obtained.

3.8.1.2 Content validity

The researcher used content validity strategy to assess representativeness of sampling adequacy of the content. In this study the researcher discussed the contents of the instrument with the Princess Marina Hospital authorities.

3.8.1.3 Reliability

De Vos (2002:168) states that reliability is a concept that explains whether a particular method applied repeatedly to the same objects would yield the same results. The process is meant to determine the extent of which an independent administration through consistent use of the instrument would yield the same results under same comparable conditions. Credibility and validity of the quality of research instruments depends on what is considered the criteria by the precision reference. The researcher utilised reliability as a yardstick for the measurement of the quality of the research instrument.

3.8.1.4 Criterion related validity

Criterion related validity involves multiple measurements and is established by comparing scores of an instrument with an internal criterion known or believed to measure the concept. One of the conditions is that there must be evidence that the criterion is not only valid but reliable. Brink (1996:169) adds that the two sets of data must be collected from the same group of subjects. In this study this type of validity would be difficult to use in view of the kind of subjects used for the study. Time and costs are possible constraints.

3.9 ETHICAL CONSIDERATIONS

Ethics basically refers to a system or set of moral principles suggested by a group or individuals and accepted to offer rules and behaviour expectations. Ethics imply preferences that influence behaviour in human relations. Quite often ethics go hand in hand with values which deal with issues pertaining to what is right or wrong and what is good and desirable (Babbie & Mouton 2001:470).

Ethical aspects addressed by the researcher included respect for person's freedom, the right for self determination, autonomy, volunteerism, confidentiality and avoidance of harm to subjects, and respect for persons freedom. All subjects were asked to participate by the researcher prior to the study. Subjects were adequately informed about the nature of the study and they were free to withdraw anytime during the period of study.

3.9.1 The right for self-determination

The right for self-determination was fully observed by the researcher and this was demonstrated by requesting the subjects to volunteer to participate in the study at their free will.

3.9.2 Anonymity

Principles of anonymity involved separating subjects from the information they were giving by requesting them not to write their names on any of the papers they handled. All respondents were advised not to disclose their identity. The researcher assured the respondents that all the information regarding the study will be kept nameless (Nachamias & Nachamias 1996:88).

3.9.3 Confidentiality

Confidentiality was considered as the important ethical principle in this study particularly because of the sensitivity of the subject's physical condition. In addressing the issue of confidentiality in this study, subjects were informed that all the information will not be revealed during the process of study. The researcher informed participants during the orientation of the study that it is morally and professionally binding that the act of confidentiality should be observed in the strictest sense. The action was of keeping the information as a secret was fully adhered to. According to Nachamia and Nachamias (1996:83), treating the information of respondents in such a manner that nothing is revealed is regarded as a moral and professional obligation for all researchers.

3.9.4 Harm to respondents

All subjects were assured that they will not be exposed to any physical harm during the study. Respondents were given full protection from any physical exposure or stress by the researcher.

3.9.5 Permission

Literature indicates that the process of gaining access to enter into research site and getting permission to select subjects is viewed as a vital aspect of research. In this study, preparations to seek permission to conduct the study were dealt with well ahead of the date for the commencement of the actual study. Application to get permission for the conduct of research on any human beings in relation to health problems is a requirement by the Human Resource Research Unit of the Ministry of Health (see annexure 3). Permission were granted (see annexure 2). A letter to the Superintendent of Princes Marina Hospital was written and presented to him requesting utilisation of Infectious Disease Care Clinic to conduct this study on selected group of the clinic population (see annexure 1). The awareness of sensitivity of research topic was kept in mind and consideration was taken to highlight the positive aspect of the intended study. Saunders et al (2003:122) support the importance of paying careful attention to sensitive topics when seeking permission for conducting a study.

3.9.6 Informed consent

Informed consent involves a procedure whereby individuals chose whether to participate in a investigation after being informed of what would likely influence their decision. In this study, participants were requested to voluntarily give consent to take part in the study (see annexure 4). Prior to the signing of the consent form the researcher explained a number of things concerning the study to the would be participants. They included information regarding the nature of the research requirements of those taking part, and participants rights such as withdrawing anytime if they so wish to do so without any penalty, how the data would be used including how it will be presented to the relevant audience. The researcher offered accurate and complete information to enable respondents to fully comprehend the investigation for them to make a voluntary and well reasoned decision about their possible participation

(De Vos 2002:65). Following full consultation and discussion concerning the informed consent, all selected would be respondents signed the form, witnessed by the researcher who also signed as a witness.

3.9.7 The right to decide to participate

The right to decide to participate is based on the ethical principle of self determination which is basically participant moral right to make a decision concerning participation in the study. The researcher practiced the expected professional obligation to fully and truthfully informed participants, the purpose of the study, consequences if there were any gains or any possible risks so that participants could make appropriate decisions. Participants given the right to engage in self determination which is regarded as aspect of right-based value implying individuals will to make decisions (Bandman & Bandman 2002:98). The researcher kept the assurance of participants in mind and made a concrete decision to allow participants to experience freedom and willingness to participate in the study. Participants were made aware that they have the right to withdraw at any time from the study.

3.9.8 The right to privacy

The right to privacy is regarded as a personal value which entails the individual's right to decide when, where, to whom and to what extent the person attitudes, beliefs and behaviour could be revealed. In this study the privacy of participants regarding the information and their identity were maintained and safeguarded with absolute care. The researcher acted with the necessary precaution where the privacy of participants was relevant.

3.10 RESPONSE RATE

The response rate is the number of completed questionnaires out of total number of distributed questionnaires. Responses rate for this study was 100% and this is indicated in the report.

3.11 DATA ANALYSIS

The purpose of data analysis is to break down the complete information which might be in the form of quantitative data to such a form that will make it possible for interpretation and deductions based data analysis (Brink 1996:178).

3.12 CONCLUSION

This chapter, detailed information in regard to the methodology followed for the study has been provided. A comprehensive report related to the findings of the study has been produced.

Chapter 4 discusses the data analysis.

CHAPTER 4

Data analysis

4.1 INTRODUCTION

Data was collected from a sample of 50 women on ARV treatment at the Princess Marina Hospital Infectious Disease Care Clinic in Botswana to answer the research question: What are the challenges in religion, culture and social factors on ARV medication adherence on HIV infected women in Gabarone and surrounding villages in Botswana?

The chapter summarises the demographic characteristics of the respondents, their adherence to ARV treatment as well as economic, cultural or traditional beliefs that affect their adherence to ARV treatment including social and educational factors that can affect adherence. Results and conclusions of the analysis will be discussed.

4.1.1 Research question

What are the challenges of religion, culture and social factors on ARV medication adherence on HIV infected women in Gabarone and surrounding villages in Botswana?

4.1.2 Research objective

The research objective was to describe and explore the factors associated with adherence and non adherence to antiretroviral medication in HIV/AIDS infected women in Botswana. Data was collected from the respondents using a structured questionnaire consisting of seven (7) sections.

4.1.3 Research design

A quantitative approach was used to collect data from the respondents to secure accurate information and for purposes of qualification and measurement of properties.

4.1.4 Research instrument

The research instrument used was a self-administered questionnaire aimed to collect relevant information. Closed and open-ended questions enabled respondents to provide informative answers.

Data was collected from the respondents using a structured questionnaire consisting of seven (7) sections. The following are the sections:

Section A: Demographic Data

Section B: Socio-economic status

Section C: Traditional and cultural beliefs

Section D: ARV treatment and adherence

Section E: Social and economic factors

Section F: Gender and inequality

Section G: Personal experience related to HIV Status

4.1.5 Data analysis and presentation

Identified variables were described according to the actual data analysis. For clarity and meaningful presentation of the study, results graphs and pie charts were used.

.

4.2 SECTION A: DEMOGRAPHIC DATA

The demographic characteristics data include age distribution, marital status, educational status, religious affiliation, employment status and place of residence.

4.2.1 Item 1: Age distribution

Figure 1 shows the distribution of the respondents by age. The figure reveals that 32% (n=16) were between 33 and 37 years of age, followed by those 43 years and over at 24% (n=12). With 70% (n=32) of the respondents being above 33 years of age, it is anticipated that they are mature enough to appreciate the importance of ARV treatment to their health and will therefore respond appropriately to the questions of this study.

The fact that 32% (n=16) of respondents were aged between 33 and 37 years implies that this young and productive population may no longer be able to take care of themselves if they later decided not to adhere to ARV treatment.

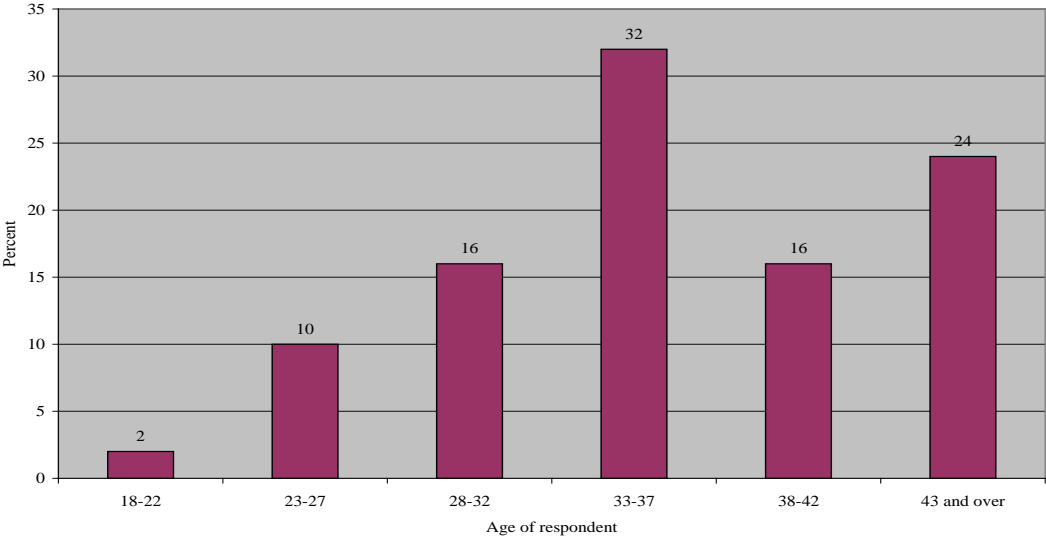


Figure 4.1: Age of respondents (N=50)

In this study results showed that women between the ages of 33 and 37 years were the most affected by HIV/AIDS. The above-mentioned figures could probably be associated with helplessness and powerlessness of women in relation to negotiating for safer sex.

4.2.2 Item 2: Marital status

While 68% (n=34) of the respondents were single, only 20% (n=10) of respondents were married, 8% (n=4) of the respondents cohabiting, and 2% (n=1) of the respondents were divorced or widowed (see figure 4.2).

Of the respondents 68% (n=34) were single, only 20% (n=10) were married, 8% (n=4) cohabiting and 2% (n=1) of the respondents were divorced or widowed (see figure 4.2).

The high percentage of 68% of single women seems to be common in Botswana where many households are headed by single women.

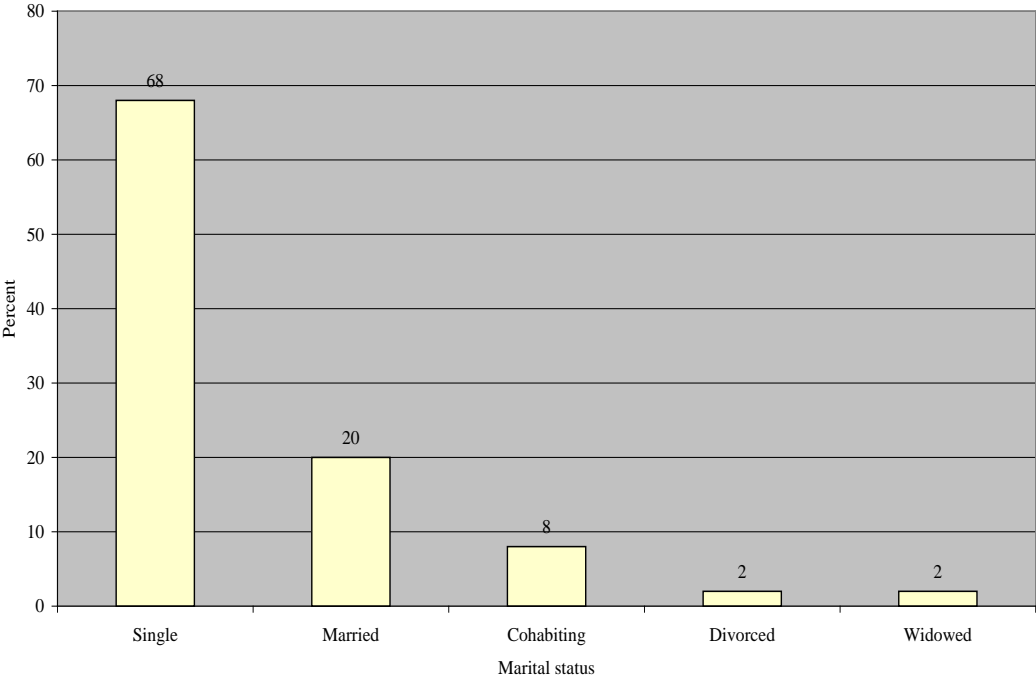


Figure 4.2: Marital status of respondents (N=50)

Sixty eight percent (68% n=34) of respondents were single women as compared to 8% (n=4) for married women. The incidence of a high percentage of single women is a common feature in Botswana. It is important to note that it is difficult to show how this compares with the same incidence in other parts of the country as this was not part of this study.

What has been observed in the Communicable Disease Centre (2003) in the UK is that the number of people who acquired HIV/AIDS through heterosexual intercourse had risen from 158 in 1999 to 341 in 2003. This situation seems to confirm heterosexuality without the use of a condom as one of the causes of the spread of the HIV/AIDS epidemic.

4.2.3 Item 3: Educational status

The percentage of respondents who had secondary, diploma or tertiary level of education was 62% (n=31) (see figure 4.3). Education is an important determinant of women's decision making on issues of health problem as it empowers them to better understand their health problems, take decision on appropriate medical steps and provide them with strong economic base to pay for medications, and the need for adherence to ARV treatment.

The fact that majority of the women had secondary education and above is also indicative of their ability to understand the need for ARV treatment, adhere to medication and understand medication instructions. However, only 10% (n=5) of respondents had no education and 28% (n=14) respondents had primary education. The interest of this group was taken care of by the Setswana translated version of the questionnaire during the study.

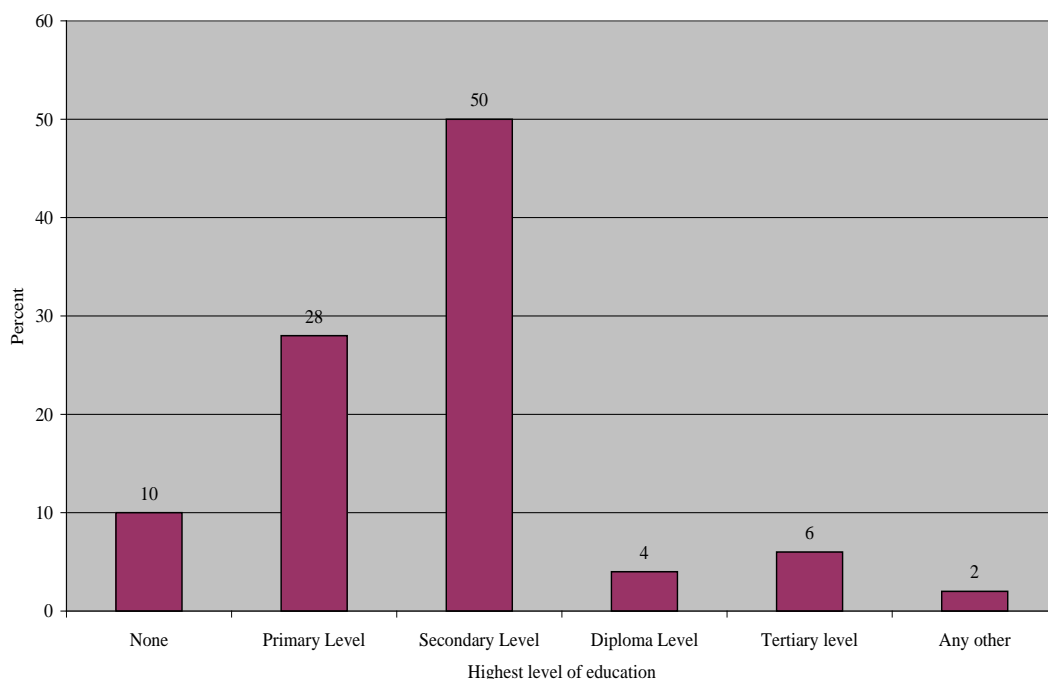


Figure 4.3: Highest level of education attained by respondents (N=50)

Results of the study showed that 62% (n=31) of respondents received a reasonable level of education which might have co-attributed to the high percentage of adherence to ARV (see table 4.9). Van Dyk (2001:113) reported that some black Christians lack understanding of causes of illness. As 38% (n=19) had primary level or no education, this particular group may have difficulty in following the ARV medication adherence.

4.2.4 Item 4: Place of residence

The sample studied showed a reasonable coverage of many areas and districts within Botswana (figure 4.6). The majority of the women at 20% (n=10) were from Gaborone while 12% (n=6), 10% (n=5) and 8% (n=4), respectively, were from Tlokweng, Mogoditshane and Gabane. About 20% (n=10) came from other areas in the country.

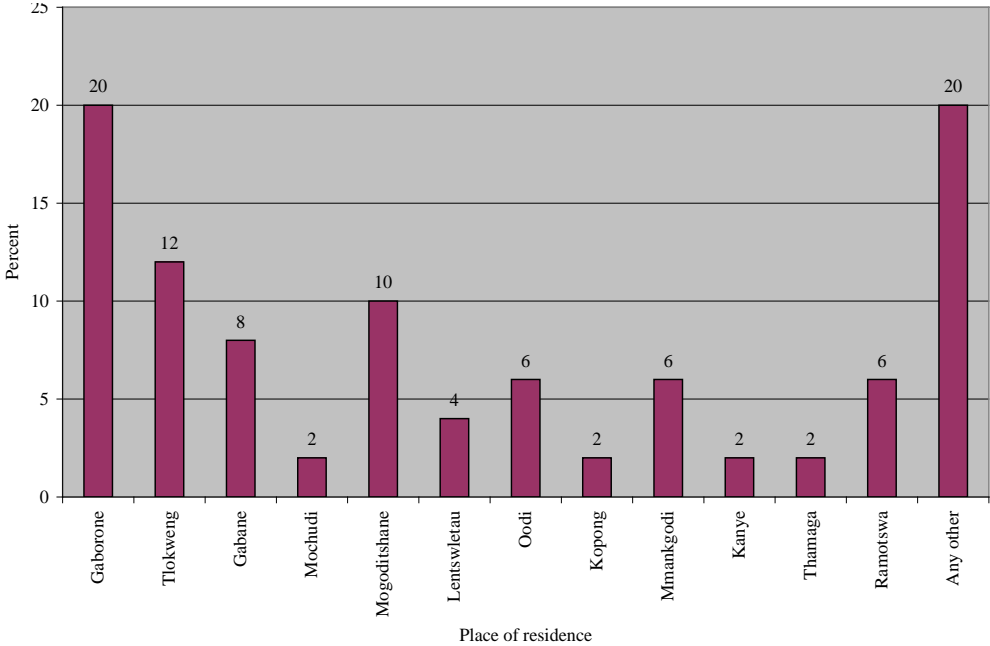


Figure 4.4: Place of residence of respondents (N=50)

Results of this graph show a high percentage of 20% (n=10) of respondents who live in Gaborone, the capital city of Botswana. All Government ministries are located in Gaborone including most industrial areas. People flock to the city in search of employment for their living.

Twenty percent (n=10) of respondents residing in Gaborone seem to compare favorably with the large numbers of people living with HIV who resided in New York in 2001, although these figures included men and women (Smeltzer & Bare 2004:1549). There were 7 476 people living with HIV in New York, 5 138 in Florida, 4 315 in California, 2 892 in Texas and 1 860 in Maryland. One may conclude that areas with larger numbers of infected people were more attractive and suitable for their style of living and personal health conditions.

4.2.5 Item 5: Religious affiliation

Some religious organisations do not use of such contraceptives as condom (Andrews & Boyle 2003:435) as a measure to inhibit the infection of HIV/AIDS and pregnancy. In this study, the 46% (n=23) of the women were Christians, while only 18% (n=9) belonged to other religions and 10% (n=5) had no religious affiliations (see figure 4.4).

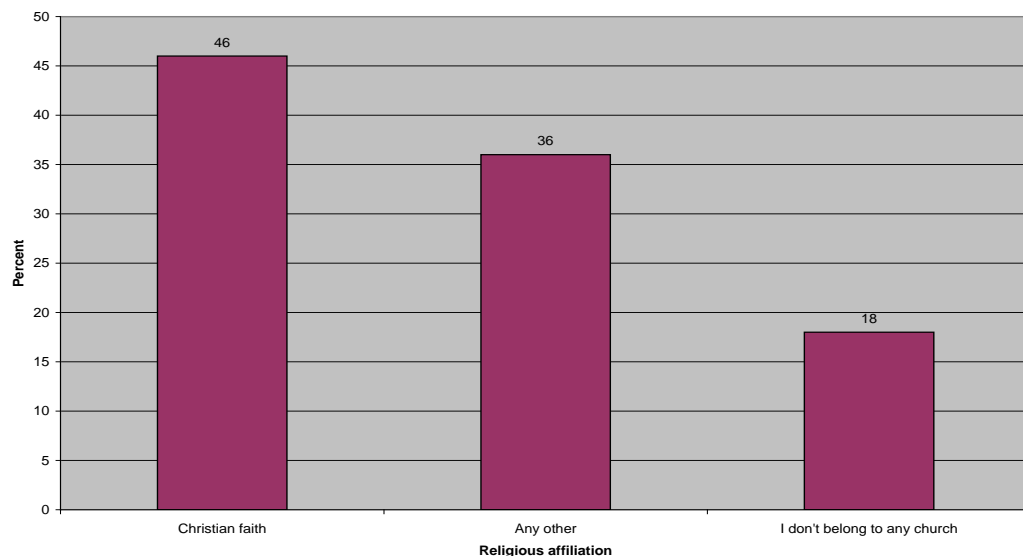


Figure 4.5: Religious affiliation of respondents (N=50)

The study results have shown a 23 (46%) of the respondents representing Christian women. This scenario is most encouraging because studies have shown that conventional Christians the world over believe in modern medicine. In contrast, some African religions, particularly the so called Independent churches in certain parts of Africa, including Botswana, have a belief that healing by prayers and water only is the right approach, as discussed by Heald (2002:4). Such religious beliefs may pose a problem as regards to ARV medication adherence.

4.3 SECTION B: SOCIO-ECONOMIC STATUS

4.3.1 Item 6: Employment status

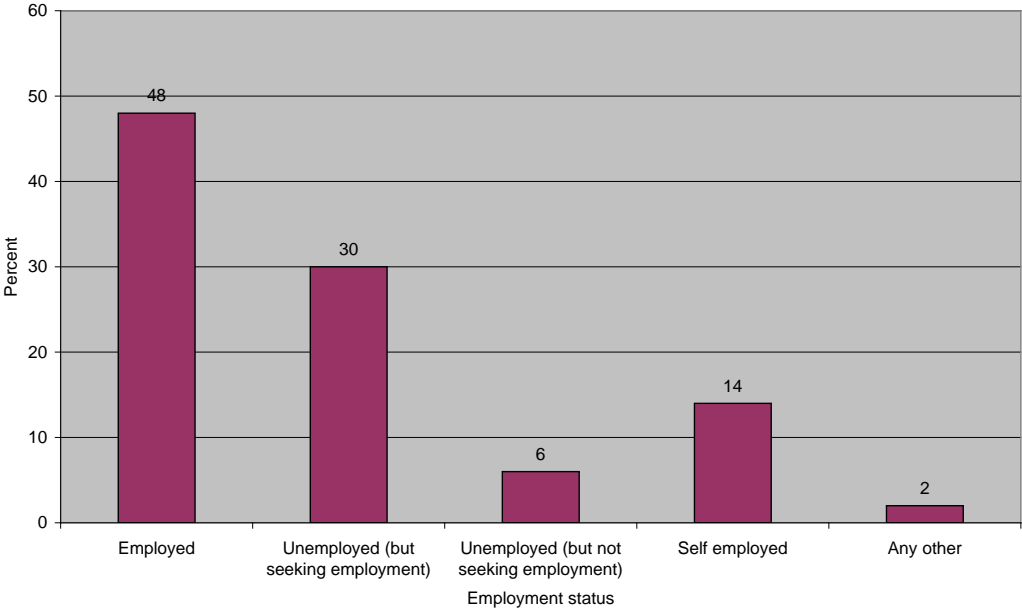


Figure 4.6: Employment status of respondents (N=50)

While majority of the respondents at 54% (n=27) were either employed or self employed, 30% (n=15) of them were unemployed but seeking employment and only 6% (n=3) were unemployed and yet not seeking any employment (figure 4.5). Employment empowers the women economically to take decisions and seek adequate source of treatment when they are sick. Since over 50% (n=25) of them were employed, they are likely, therefore, to be able to finance their movement to the hospitals and clinic, or any other health facilities for treatment.

Working to earn an income serves also as a fulfillment of basic human needs such as self-actualisation. People living with HIV/AIDS are usually encouraged to engage in physical activity without compromising their health status.

Economic power is mostly achieved through regular employment or self employment. If women are engaged in regular jobs that allow them to secure sufficient finances they will not fail to transport themselves to the nearest ARV clinic for their medications supply and the issue of non-adherence may be less experienced. In Botswana (68% n=34) homes are headed by single or unmarried women as shown in figure 4.2. The issue of lack of finances is supported by Grierson et al (2000) in their study report in Australia, in

which respondents indicated that they experienced difficulty in meeting the cost of their living.

4.4 SECTION C: TRADITIONAL/CULTURAL BELIEFS

The cultural/traditional belief data include the cultural/traditional beliefs that influence positively the respondents’ everyday life and second the cultural/traditional beliefs that influence negatively the respondents’ everyday life. The cultural/traditional beliefs that positively influence the respondent’s everyday life are family support during child birth; family support during bereavement, food sharing, and voluntarism. The cultural/traditional beliefs that negatively influence the respondents’ everyday life are denied power over your life, strict rules regarding widows, rules and control concerning family asset and societal acceptance of man as the head of the family.

4.4.1 Item 7: Beliefs that positively influence respondent’s everyday life

In this section the women were asked to indicate some of the cultural/traditional beliefs that affected them positively in their daily lives. Women’s responses shown in table 4.1 revealed that family support during childbirth (32% n=16), family support during bereavement (36%; n=18), food sharing (31% n=15) and voluntarism (31% n=15) were some of the beliefs that positively affected their lives.

Table 4.1 Cultural beliefs that positively influence respondent’s everyday life (N=50)

CULTURAL/TRADITIONAL BELIEF THAT AFFECT POSITIVELY	YES		NO		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
Family support during childbirth	16	32	34	68	50	100
Family support during bereavement	18	36	32	64	50	100
Food sharing	19	38	31	62	50	100
Voluntarism	19	38	31	62	50	100
All of them	29	58	21	42	50	100
Any other	4	8	46	92	50	100

4.4.2 Item 8: Belief that negatively influence respondent's everyday life

The respondents were asked to indicate the traditional or religious beliefs that tended to influence them negatively in their decision making at home. Their responses shown in table 4.2 reveal that denied power over their life (40% n=20) and strict rules regarding widows (40% n=20) after the death of their husbands by in-laws, rules and control over family asset (32% n=16) and societal acceptance of man as the head of the family are the major factors that negatively affect their decision-making in their home.

Results clearly show some of the valued cultures which in most case bring families and friends together through mutual understanding, respect and unity. But oppressive cultural beliefs have negative impact on the lives of women.

Table 4.2 Respondents' belief that negatively affect decision making at home (N=50)

CULTURAL/TRADITIONAL BELIEF THAT AFFECT DECISION-MAKING NEGATIVELY	YES		NO		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
Denied power over your life	20	40	30	60	50	100
Strict rules regarding widows	20	40	30	60.	50	100
Rules and control concerning family asset	16	32	34	68	50	100
Societal acceptance of man as the head of the family	23	46	27	5	50	100
Any other	5	10	45	90	50	100

Positive cultural/traditional beliefs identified by most respondents included family support during childbirth and bereavement, food sharing, and traditional volunteerism (*letsema* – Setswana word) (see figure 4.6). This support system is highly appreciated as it shows an element of good social and inter-relationship and a healthy aspect of people living together in unity. Respondents also identified some negative cultural traditional beliefs which interfere with their personal decision making in the home. Negative cultural practices mentioned were strict rules and regulations for widows following the death of husbands (*boswagadi* – Setswana word). In society, man is viewed as the head of the household and the only person to make decisions and hold control over family assets. Heald (2002:4) identified a similar problem in her study in Botswana. What is more worrying is the fact that during the process of the so called

boswagadi the woman has to take herbal medications prescribed by the traditional healers only. However, this is practiced by certain tribes only.

All individuals should have the right and privilege to make their own decisions in matters that concern their lives and health, except in cases of minors and the mentally retarded. Examples mentioned regarding strict cultural rules and regulations could possibly contribute to non-adherence to ARV treatment.

4.4.3 Item 9: Respondents' first contact when ill

The data on respondents' first point of call before seeing a doctor include the respondents' reasons for consulting traditional healer first when they are ill. Individuals depending on their exposure, knowledge, resource availability seek assistance from various sources when confronted with health problems. Some go the medical doctors, yet others seek the assistance of herbalists, traditional healers or even witch doctors.

4.4.4 Item 10: Respondents' reasons for first consulting a traditional healer

In this study, the women were asked to state whom they consulted first for their health problems before turning to the medical doctors.

The analysed responses showed that majority of women (40% n=20) consulted a traditional healer first before consulting a medical doctor while 10% (n=10) consulted a faith healer first (table 4.3). This result was echoed by Van Dyk (2001:113), when it was stated that 'although many Africans seem to recognise both the immediate and ultimate cause, they would rather consult both traditional healers as well as medical doctors.'

Results endorse some observations regarding some religious sects who prefer to rely on prayer for healing their sick Heald (2002:4).

Table 4.3 Respondents’ first point of call before consulting medical doctor (N=50)

WHOM TO CONSULT FIRST BEFORE A MEDICAL DOCTOR WHEN ILL	YES		NO		NOT APPLICABLE		TOTAL	
	COUNT	%	COUNT	%	COUNT	%	COUNT	%
Consult traditional healer	20	40	27	54	3	6	50	100
Consult faith healer	5	10	41	82	4	8	50	100

Family tradition to consult a religious/traditional healer was the major reasons for consulting traditional healers before medical doctors (see table 4.4).

Table 4.4 Respondents’ reasons for consulting traditional healer first when they are ill (N=50)

REASONS FOR CONSULTING TRADITIONAL HEALER FIRST	YES		NOT APPLICABLE		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
I Strongly believe in traditional healers	0	0	50	100	50	100
Traditional healers know causes of illnesses	0	0	50	100	50	100
Traditional healers can treat most illnesses	0	0	50	100	50	100
It is my family's tradition to consult traditional healers	0	0	50	100	50	100
It is my family's tradition to consult religious healers	12	24	38	76	50	100
Any other (specify)	8	16	42	84	50	100

Some respondents do visit medical clinics for their illnesses, but that takes place after consulting traditional healers first. A similar observation has been made by Van Dyk (2001:100) that “black people consult both traditional healers as well as western health care professionals for the same condition”. At least there is still trust in western medicine, however, treatment of HIV/AIDS is not supposed to be combined with other medication unless prescribed by a physician.

Some faith healers believe in praying for the sick as they do not believe in medical treatment (Heald 2002:4).

The data on traditional healers' knowledge regarding HIV/AIDS include: respondents' understanding of whether traditional healers know what HIV/AIDS and reasons why traditional healers do not understand HIV/AIDS.

4.4.5 Item 11: Understanding of traditional healers knowledge of HIV/AIDS

Of the respondents 98% (n=49) were aware that traditional healers do not understand what HIV/AIDS is, not to mention offering a cure for it (see table 4.5). This is because, the traditional healers think that HIV/AIDS is caused by *boswagadi* (a condition that occurs in widows after husband's death, such cleansing the woman with herbs prescribed by traditional healers) (see table 4.6). Other explanations of HIV/AIDS by the traditional healers are that: HIV/AIDS is as a result of one's sinful nature (10% n=5) and that HIV/AIDS is the same as Tuberculosis (10% n=5).

It is gratifying to realise 98% (n=49) women believe that traditional healers have no knowledge about HIV/AIDS. But it also raises a concern that 20% (n=10) still believe that traditional healers do know what HIV/AIDS is, when in fact their understanding is wrong.

Table 4.5 Respondents' understanding of traditional healers knowledge of HIV/AIDS (N=50)

	YES		NO		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
Traditional healers understand the causes of HIV/AIDS	1	2.0	49	98	50	100

4.4.6 Item 12: Traditional healers' understanding of HIV/AIDS

Of the respondents 98% (n=49) have concluded that traditional healers have no knowledge of HIV/AIDS. This is shown in table 4.6. Traditional healing has been an old African practice and culture in many parts of the continent, but treatment and knowledge of HIV/AIDS is something beyond their understanding and comprehension. In some black communities, there is a belief that AIDS is caused by God's punishment for commitment of sins (Van Dyk 2001:113). In my opinion, a lot of education is needed for

all traditional healers for the very fact that some people consult them before seeing medical doctor.

Table 4.6 Reasons traditional healers do not understand HIV/AIDS (N=50)

TRADITIONAL RULERS' UNDERSTANDING OF HIV/AIDS	RESPONSE	
	COUNT	%
They say HIV/AIDS is caused by boswagadi (a condition that occurs in widows after husband's death)	36	72
HIV/AIDS is caused by committing serious sins	5	10
HIV/AIDS is the same as Tuberculosis	5	10
Any other	2	4
Not stated	1	2
Not applicable	1	2
Total	50	100

4.4.7 Item 13: Cultural/traditional beliefs that interfere with health decisions

With respect to HIV/AIDS, the women were asked which cultural beliefs do influence their health seeking behaviours. Their responses indicate that man's authority and power over a woman's life is the predominant cultural belief that interferes with women's health seeking behaviour (36% n=18). Others include: The man must give his consent before a woman can seek medical advice (32% n=16); the husband decides whether a traditional healer, a medical doctor or a faith healer should be consulted (16% n=8) (see table 4.7).

Table 4.7 Respondents' cultural/traditional beliefs that interferes with their health seeking decision making (N=50)

CULTURAL/TRADITIONAL BELIEFS THAT INTERFERES WITH HEALTH SEEKING DECISION-MAKING	FREQUENCY	PERCENT
In some families the man must give permission for seeking medical advice	16	32
Husband decides whether traditional healer or medical doctor or faith healer should be consulted	8	16
Man's authority and power over woman's life	18	36
Any other	6	12
Not applicable	1	2
Not stated	1	2
Total	50	100

Respondents identified specific factors which interfere with their health seeking behaviour, such as a man's power and authority over a woman's life. Often, men must give consent or permission before a woman can see a medical doctor or traditional healers (see table 4.6). This is a common feature in many African societies where status of women is looked down upon or compromised. A similar incidence related to power and authority over women has been mentioned earlier in this, whereby Bazeduru Women (a religious group in Botswana) were refusing their children to be immunised against measles (Tlale 2005:19). The reason given was that their husbands did not give them permission for the children to be immunised. The situation is very disturbing as this can happen where the women should have to be given permission by the husband to continue with ARV treatment.

4.5 SECTION D: ARV TREATMENT AND ADHERENCE

ARV treatment and adherence data include respondents' understanding of ARV medication; Respondents' understanding of adherence to ARV treatment; length of time respondents have been on ARV medications; health status of respondents since on ARV; reasons for missing ARV treatment; and respondents' recommended ways of ensuring adherence to ARV treatment .

In this section the respondents were asked to indicate their understanding of ARV medication, the length of time they have been on ARV treatment and the state of their health conditions since they have been on ARV treatment. Their responses are summarised below:

4.5.1 Item 14: Respondents' understanding of ARV medication

The 66% (n=33) of woman understood ARV medication to be medication for treating HIV/AIDS, while 8% (n=4) think that it is medication for treating many illnesses (see table 4.8). Adherence to ARV treatment, on the other hand is perceived by 96% (n=48) of the respondents as taking the right number of pills at the right time (see table 4.9).

Results have revealed that most respondents at 66% (n=33) have sufficient knowledge regarding ARV medications. It is also satisfying to observe that 95% (n=48) of respondents understand the meaning of antiretroviral adherence.

4.5.2 Item 15: Understanding of adherence to ARV treatment

Results indicated that 66% (n=33) of respondents have full knowledge of ARV treatment, including how it should be followed. This statement is supported by the MoH AIDS STD Unit (2005) annual report which stated that patient's follow-up and adherence to ARV treatment continued, and percentages rates were 90% (follow-up) and 85% (adherence). The researcher regards the information given by respondents as encouraging although a much higher percentage was anticipated.

Table 4.8 Respondents' understanding of ARV medication (N=50)

YOUR UNDERSTANDING OF ARV MEDICATION	FREQUENCY	PERCENT
Medication for curing HIV/AIDS	2	4
Medication for TB and other illnesses	2	4
Medication for treating HIV/AIDS	33	66
Medication for treating all illnesses	4	8
All of the above	2	4
None of the above	4	8
Any other	3	6
Total	50	100

Table 4.9 Respondents' understanding of adherence to ARV treatment (N=50)

YOUR UNDERSTANDING OF ADHERENCE TO ARV TREATMENT	FREQUENCY	PERCENT
Taking ARV medications whenever you can remember	1	2
Taking the right number of pills at the right time	48	96
Taking ARV medication before going to sleep at night	1	2
Total	50	100

4.5.3 Item 16: Length of time respondents have been on ARV medications

Thirty four percent (n=17) of the respondents have been on ARV medications for over 48 months while 32% (n=16) have been under the medication for a period of between 36 and 47 months (see table 4.10).

Table 4.10 Length of time respondents have been on ARV medications (N=50)

LENGTH OF TIME (MONTHS) ON ARV MEDICATIONS	FREQUENCY	PERCENT
12-23	7	14
24-35	8	16
36-47	16	32
48 and above	17	34
Not stated	1	2
Total	50	100

Data shows that 34% (n=17) of respondents had been on ATV treatment for more than forty eight (48) months. The researcher found little information to compare with the present findings. However, the relationship between the degrees of tolerance to ARV treatment is an important factor as it reflects the level of adherence to medication. Findings reinforce the concept that regular adherence to ART is part of a personal commitment to the medication or treatment (Brigido, Rodriques, Cassels, Oliveira, Rossetti, Menezes & Duarte 2001:592).

4.5.4 Item 17: Health status of respondents since on ARV

When asked about their health conditions since they have been on ARV treatment, 80% (n=40) of the respondents indicated that their conditions have greatly improved, while the health conditions of 14% (n=7) had moderately improved. Only 2% (n=1) said their health conditions were the same as before.

Data shows that there has been an improvement in the quality of life of respondents, evidence by the results of 80% (n=40). These findings are supported by the MoH AIDS STD Unit (2005) annual report which indicates that 86% of patients had undetectable viral load within six months of commencement of their treatment.

Table 4.11 Health status of respondents since on ARV (N=50)

HEALTH STATUS SINCE ON ARV	FREQUENCY	PERCENT	CUMULATIVE PERCENT
Same as before	1	2	2
Slightly improved	2	4	6
Moderately improved	7	14	20
Greatly improved	40	80	100
Total	50	100	

4.5.5 Items 18 and 19: The number of times respondents missed their ARV treatment and reasons for missed treatment

Of the respondents 76% (n=38) have not missed any treatment. Only 4% (n=2) missed more than three treatments.

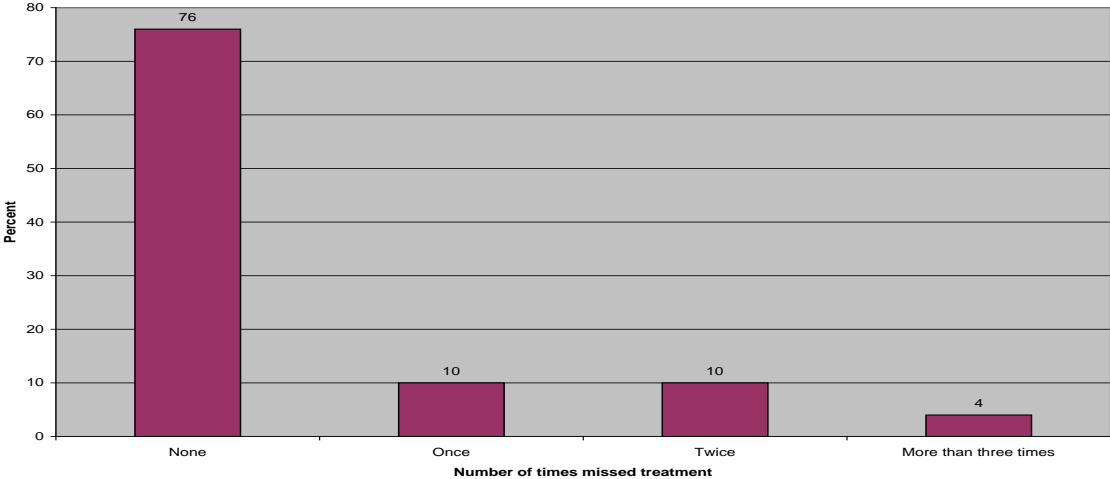


Figure 4.7: The number of times respondents missed their ARV treatment (N=50)

The reasons given by those who missed their medication were forgetfulness (10% n=5), lack of transport money to the hospital and clinic to obtain the drugs (2% n=1) and worries about their HIV/AIDS status (2% n=1) (see table 4.12).

The results regarding missed ARV doses in their study are commendable as only 10% of the respondents missed two or more doses during the last 2 months. The major reason stated was forgetfulness. The study conducted in Brazil to assess the impact of adherence to ARV treatment on men and women showed that 48% and 22% of patients reported forgetfulness and tolerance as the major reasons for non-adherence (Brigido et al 2001:589).

Table 4.12 Respondents' reasons for missing ARV treatment (N=50)

REASON FOR MISSING ARV TREATMENT	YES		NOT STATED		NOT APPLICABLE		TOTAL	
	COUNT	%	COUNT	%	COUNT	%	COUNT	%
I forgot	5	10	5	10	40	80	50	100
Lack of transport money	1	2	5	10	44	88	50	100
Did not understand instruction	0	0	5	10	45	90	50	100
Nobody to remind me	0	0	5	10	45	90	50	100
Worried about my HIV/AIDS status	1	2	5	10	44	88	50	100
Don't want to be seen taking ARV medications by people at work	0	0	5	10	45	90	50	100
Because of cultural belief	0	0	5	10	45	90	50	100
Because of religious beliefs	0	0	5	10	45	90	50	100
Lack of family support	0	0	5	10	45	90	50	100
Recommended by spouse/boyfriend	0	0	5	10	45	90	50	100
Any other (specify)	1	2	5	10	44	88	50	100

4.5.6 Item 21: Recommended ways of ensuring adherence to ARV treatment

When the women were asked to suggest ways of ensuring adherence to ARV treatment, 30% (n=15) of them suggested carrying their medication to where ever they are going as the most important way; yet another 10% (n=5) required that someone reminds them, others needed financial assistance (8% n=4), or required their children or spouses to read instructions for them (6% n=3) (see table 4.13).

Data showed that at least 15% stated that they will carry their medications with them wherever they go but were not specific about how they will solve the problem on non-adherence. However, other respondents will seek assistance from their families and children, Maximising adherence are very necessary. The best strategy entails certain responsibilities for the provider as well as for the person taking ARV treatment. In other words, women can advocates of their own health care. Nevertheless, social support remains a critical factor. Patients who are isolated and who lack emotional support are most likely to be non-adherent (Friedland & Williams 1999:562; Podisi 2005:119).

The results show an impressive figure of 84% (n=42) of respondents who received support from significant others which is an important social and psychological factor in the lives of HIV/AIDS people.

Table 4.13 Respondents' recommended ways of ensuring adherence to ARV treatment (N=50)

ENSURING OF ARV TREATMENT ADHERENCE	FREQUENCY	PERCENT
Get someone to remind me	5	10
Always carry my medications with me	15	30
Look for financial assistance	4	8
My children or husband or other members of the family will read instructions for me	3	6
Any other (specify)	1	2
Not stated	22	44
Total	50	100

4.5.7 Items 22 and 23: Support from husband or boyfriend regarding ARV treatment

The data on support from significant others while on ARV treatment include support from husband or boyfriend regarding ARV treatment.

People living with HIV/AIDS and particularly those on ARV treatment need a lot of support from their spouse, children, family members as well as friends in order to overcome the stigmatisation associated with the disease. The women were asked to indicate the level of support they received from relatives, spouses, work places and communities where they come from, with respect to their ARV treatment.

The responses are shown in figure 4.8 and reveal that majority (84% n=42) received a lot of support while only 6% (n=3) indicated that they did not receive any support. A further 10% (n=5) believed the support they received was not enough.

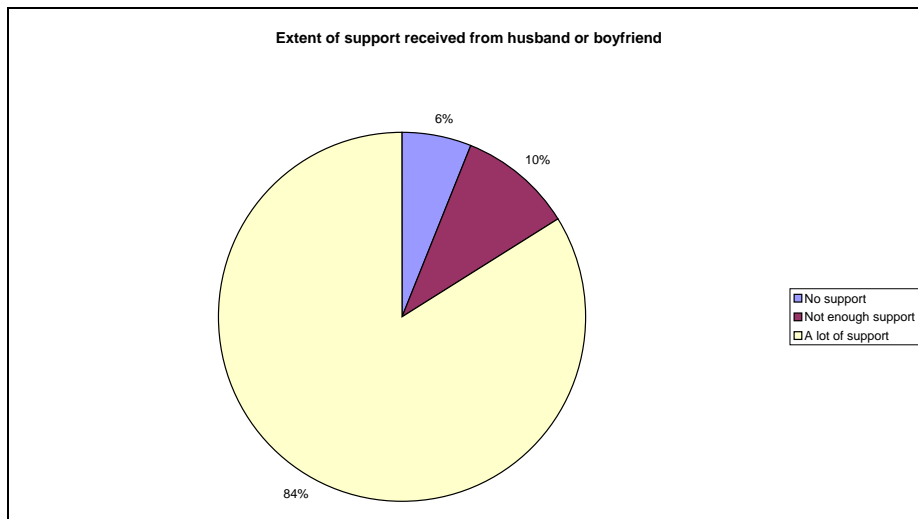


Figure 4.8: Pie chart showing the extent of support from husband or boyfriend regarding ARV treatment (N=50)

It has been stated earlier in this study that psychological support for people living with HIV/AIDS is a critical factor as well as being a therapeutic strategy. Eighty four percent (84% n=42) of respondents received support from husbands, boyfriends and parents. It is worth noting that maintaining a woman's psychological well being is equally as important as treating biological complications, as failure to do so may contribute to poor adherence to ARV treatment (Marlink et al 2001b:1-33).

4.5.8 Items 24 and 25: Cultural influences on ARV treatment

When the respondents were asked if culture has influence on treatment of HIV/AIDS, 70% (n=35) said 'Yes' while 26% (n=14) said 'No' (see table 4.14). The reasons given for their perceptions that culture has influence in treatment of HIV/AIDS ranged from the fact that women who have lost their husbands are instructed to take only those medications prescribed by the traditional healers (46% n=23), 34% (n=17) women are expected to bear children even when this is contrary to medical advice and 22% (n=11) are forced by dependency on husbands in financial matters (see table 4.15).

Table 4.14 Perception of respondent on whether culture has influence on treatment of HIV/AIDS (N=50)

CULTURE HAS INFLUENCE ON TREATMENT OF HIV/AIDS IN WOMEN	FREQUENCY	PERCENT
Yes	35	70
No	13	26
Not applicable	2	4
Total	50	100

Results showed 46% (n=23) responding about the oppressive cultural beliefs faced by woman after the death of their husbands. This action may have an adverse impact regarding adherence to ARV treatment.

Table 4.15 Reasons why respondents think that culture can influence treatment of HIV/AIDS (N=50)

REASONS WHY CULTURE INFLUENCE TREATMENT OF ARV	YES		NO		NOT STATED/ APPLICABLE		TOTAL	
	COUNT	%	COUNT	%	COUNT	%	COUNT	%
A woman is instructed by in laws to take only medications prescribed by traditional healer after the husband's death for a certain period	23	46	5	10	22	44	50	100
Forced dependency on husband in terms of finance	11	22	10	20	29	58	50	100
Culturally women are expected to bear children even when advised by the doctor against the decision	17	34	6	12	27	54	50	100
Any other (specify)	2	4	5	10	43	86	50	100

Apart from the influence that culture/tradition has on ARV medication, there are social and economic factors that pose obstacles to ARV medication. To find if the respondents were aware of these factors, they were asked to indicate which social and economic factors posed a threat to ARV medication.

Of respondents 70% (n=35) indicated that cultural influence can affect a woman's adherence to ARV treatment. Responses given by women clearly show the helplessness and powerlessness of women regarding their lives. A similar situation has

been observed in some studies in South Africa where it was discovered that, particularly in some black people, health and sexual behaviour including some important health decisions, are determined by either elders, community leaders, or traditional healers, possibly as a tradition or as the norm (Van Dyk 2001:126). The assumption is that man can possibly stop his wife from taking ARV treatment if he feels like.

In order to investigate the relationship between cultural/traditional beliefs of the respondents that interfere with their health seeking behaviour and adherence to ARV, the two criteria of classification were crossed classified as in table 4.13. The table shows that 88% of those who share the belief that the man must give permission to a wife/girl friends for seeking medical advice, 75% (n=38) of those who feel that husbands decide whether traditional or medical doctor have to be consulted and 67% (n=34) of those who think that man has authority and power over woman's life, have never missed their medication. The percentages for those who have missed once or twice, etc. can also be seen from the table. In order to test the significance of the differences in these proportions, a chi-square test was carried out. The test shows that there is no significant association between the two criteria ($p > 0.05$). The measure of degree of association between the two criteria of classification, given by the contingency coefficient (= 0.398), shows that there is no significant relationship between cultural/traditional beliefs and ARV adherence at the 5% level of significance ($p > 0.05$).

Overall the level of adherence to ARV treatment by our sample was 70% (n=35). This value is lower than that proposed by Newman and Rodriguez (2005), who indicated that adherence to ARV treatment should be near a perfect rate of 90% (n=45). This is an indictment on the women and a pointer to the fact that more efforts must be made into patient education regarding the importance of adherence to ARV.

4.6 SECTION E: SOCIAL AND ECONOMIC FACTORS

The data on social and economic factors that pose a threat to HIV/AIDS treatment adherence include: Social and economic factors that could pose obstacle to women in ARV medication adherence and Other factors interfering with taking ARV medications by HIV/AIDS infected women.

4.6.1 Item 26: Social/economic factors that causes obstacles to women in ARV medication adherence

The responses shown in Table 16 revealed lack of money (46% n=23), lack of education (40% n=20), husband's/boyfriend's attitude (34% n=17), family' (30% n=15) and community's attitude as the major factors

Table 4.16 Social and economic factors that threatens women adherence to ARV medication (N=50)

SOCIAL/ECONOMIC FACTORS THAT COULD POSE OBSTACLES FOR WOMEN ON ARV MEDICATION	YES		NO		NOT APPLICABLE		TOTAL	
	COUNT	%	COUNT	%	COUNT	%	COUNT	%
Husband's/ Boyfriend's attitude	17	34	21	42	12	24	50	100
Family attitude	15	30	21	42	14	28	50	100
Societal attitude	9	18	22	44	19	38	50	100
Community attitude	10	20	23	46	17	34	50	100
Lack of Education	20	40	17	34	13	26	50	100
Lack of money	23	46	16	32	11	22	50	100

The other factors include over indulgence in alcohol (88% n=44), drug abuse (76%; n=38) and anticipated ARV side effects (12% n=6) (see table 4.17).

4.6.2 Item 27: Other factors interfering with ARV medication by HIV/AIDS infected women

Other factors which also seem disturbing are lack of money, low educational standard and husbands and boyfriends attitudes. If not taken care of adequately, they may affect the morale of the patients to the extent of failing to get treated. Statistics on alcohol and drug abuse have also rated very high at 88% (n=44) and 75% (n=37) respectively. This causes a lot of concern. More consulting need so to be done.

Respondents identified how economic status, lack of education, husbands or boyfriends attitudes, posed a threat to their treatment. These socio-economic factors usually stem from a long standing poverty situation in which some HIV infected women find themselves. This view is supported by observations made by Marlink et al (2001b:1-33) during the development of their policy document in the USA. They concluded that HIV

infected women are likely to be poorer or more impoverished than men due to lack of employment, food, shelter, and other basics, leading up to extreme stress which can affect ARV treatment adherence.

Table 4.17 Other factors interfering with taking ARV medications by HIV/AIDS infected women (N=50)

OTHER FACTORS INTERFERING WITH TAKING ARV MEDICATIONS BY HIV/AIDS INFECTED WOMEN:	YES		NO		NOT APPLICABLE		TOTAL	
	COUNT	%	COUNT	%	COUNT	%	COUNT	%
Over indulgence in alcohol	44	88	1	2	5	10	50	100
Drug abuse	37	75.5	1	2.0	11	22.5	49	100
Number of pills	4	8	27	54	19	38	50	100
ARV side effects	6	12	24	48	20	40	50	100
Any other (specify)	3	6	3	6	44	88	50	100

Stigmatisation and dissemination of HIV/AIDS patients' data include: Stigmatisation of women against HIV/AIDS; Experience of stigmatisation; and those who discriminated against respondents because of their HIV/AIDS status.

4.6.3 Items 28 and 29: Stigmatisation against women with HIV/AIDS

Stigmatisation due to HIV/AIDS are some of the reasons why many people infected with HIV/AIDS refuse to go for HIV testing, disclose the status or join the ARV programme. These women were asked if they had ever been stigmatised against because of their HIV/AIDS status. Their responses shown in table 4.18 reveal that 68% (n=34) have never been stigmatised against while 30% (n=15) have faced some form of stigmatisation.

Table 4.18 Stigmatisation against women with HIV/AIDS (N=50)

EVER BEEN STIGMITISED AGAINST YOUR HIV/AIDS STATUS	FREQUENCY	PERCENT
Yes	15	30
No	34	68
Not stated	1	2
Total	50	100

When asked who has stigmatised them, it was shown that the major sources are the communities where the women live (16%; n=8), friends (12%; n=6), colleagues at work place (10%; n=5) and sometimes parents (2%; n=1) (see table 4.19).

Table 4.19 Respondents’ experience of stigmatisation (N=50)

STIGMATISED BY	YES		NO		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
Husband	0	0	50	100	50	100
Boyfriend	0	0	50	100	50	100
Children	0	0	50	100	50	100
Parents	2	4	48	96	50	100
Friends	6	12	44	88	50	100
Colleagues at work place	5	10	45	90	50	100
Community	8	16	42	84	50	100

4.6.4 Items 30 and 31: Those who discriminated against respondents because of their HIV status

When asked if they have been discriminated against because of their HIV/AIDS status, (82% n=41) of the women were negative that they had suffered any form of discrimination. Only 18% (n=9) said they had suffered some form of discrimination (see table 4.20), mainly from their friends (8% n=4), community and parents (6%; n=3), and colleagues at work place (4% n=2) (see table 4.21).

Table 4.20 Ever been discriminated because of your HIV status (N=50)

EVER BEEN DISCRIMINATED BECAUSE OF YOUR HIV STATUS	FREQUENCY	PERCENT
Yes	9	18
No	41	82
Total	50	100

Table 4.21 Discrimination against HIV+ respondents (N=50)

DISCRIMINATED AGAINST BY	YES		NO		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
Husband	0	0	50	100	50	100
Boyfriend	0	0	50	100	50	100
Children	0	0	50	100	50	100
Parents	3	6	47	94	50	100
Friends	4	8	46	92	50	100
Colleagues at work place	2	4	48	96	50	100
Community	3	6	47	94	50	100

Although 68% (n=34) of respondents reported that they have never been discrimination against, 30% (n=15) of them have experienced some form of discrimination. Mazonde (2004:21) postulated that stigma and discrimination are some of the challenges that have become major obstacles in the management of HIV/AIDS initiatives in Botswana. The researcher views eradication of stigma and discrimination as a responsibility of every individual within all societies of the world to ensure reduction of the spread of HIV/AIDS.

4.7 SECTION F: GENDER AND INEQUALITY

Gender and inequality data include perception on whether gender and inequality can affect ARV adherence in HIV/AIDS infected women and reasons why gender and inequality can affect ARV adherence in HIV/AIDS infected women.

4.7.1 Item 32: Perception of gender and inequality on ARV adherence in HIV/AIDS infected women

Whether gender and inequality in any way affect ARV adherence in HIV/AIDS infected women was inquired from the women. While 50% (n=25) said ‘Yes’, 50% (n=25) said ‘No’ (see table 4.22). The reasons why they think that gender and inequality can affect ARV adherence were that violence against women in the home can affect ARV medication adherence (38% n=19), women are dominated by men in the homes in relation to decision making (36% n=18) and the man can use his authority to stop the wife from taking ARV medication (34% n=17) (see table 4.23).

Table 4.22 Respondents’ perception on whether gender and inequality can affect ARV adherence in HIV/AIDS affected women (N=50)

GENDER AND INEQUALITY CAN IT AFFECT ARV ADHERENCE IN HIV/AIDS AFFECTED WOMEN	FREQUENCY	PERCENT
Yes	25	50
No	25	50
Total	50	100

Results in this section indicated that 38% (n=19) of the respondents stated violence against women as one of the major reasons that affect ARV medication adherence in

HIV/AIDS infected women. Again this expression endorses helplessness of women in the hands of men who lack compassion and are dangerous towards society.

4.7.2 Item 33: Reasons why gender and inequality can affect ARV adherence in HIV/AIDS infected women

The issue of gender and inequality is a long standing and damaging societal behaviour which impacts on certain sectors of the society in the form of women. The respondents in this study expressed their negative views against gender and inequality as contributory to lack of ARV adherence. Their views are endorsed by DeMarco and Johnsen (cited in Shaw & Mahoney 2003:125) who observed that women are physically more vulnerable and so more likely to have experienced a tremendous domination by men over them. Violence has negative and detrimental effects on any individual.

Table 4.23 Respondents’ reasons why gender and inequality can affect ARV adherence in HIV/AIDS affected women (N=50)

REASON	YES		NO		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
Women are dominated by men in the homes in relation to decision-making	18	36	32	64	50	100
Man can use his authority to stop the wife from taking ARV medication	17	34	33	66	50	100
Violence against women in the home can affect ARV medication adherence	19	38	31	62	50	100

4.8 SECTION G: PERSONAL EXPERIENCE RELATED TO HIV STATUS

It is often difficult for those who have tested positive to HIV/AIDS to inform anyone of their status because of the stigma and discrimination usually associated with it. In this regard the women were asked to state whether they informed anyone of their HIV/AIDS status after testing positive and who the first person they informed was.

4.8.1 Item 34: Reaction on told of HIV status

Results showed that a significantly larger portion of respondents accepted their HIV positive status. A non significant number reported that they were sorry, hurt, afraid, disappointed and shocked.

Some respondents expressed their feelings by saying these statements:

“I tried to be calm and understanding but I was really shocked and nearly lost my mind”.

“I also thought I was going to die and always thought of how I am going to tell my parents”.

“I felt I was the only one in the world who has sin and I was depressed and lonely for some months”.

“I accepted my HIV positive status because I knew that there was a possibility of getting infected by the virus as I had engaged in unprotected sex a few times”.

4.8.2 Item 35: The first person informed of my HIV/AIDS status after being told by health professional

The responses shown in table 24 inform us that over 50% (n=25) of the women first informed their mother, while 18% (n=9) informed their boyfriends. Only 10% (n=5) informed their husbands first.

In this section results showed more women (22% n=11) informed their mothers about their HIV/AIDS status whilst 18% (n=9) informed their boyfriends.

Table 4.24 Person informed of my HIV/AIDS status after being told by health professional (N=50)

PERSONS WHO WAS INFORMED OF HIV/AIDS STATUS	YES		NO		TOTAL	
	COUNT	%	COUNT	%	COUNT	%
Mother	26	52	24	48	50	100
Father	3	6	47	94	50	100
Husband	5	10	45	90	50	100
Children	7	14	43	86	50	100
Boyfriend	9	18	41	82	50	100
Friends	2	4	48	96	50	100
Nobody	0	0	50	100	50	100

Data revealed that all respondents disclosed their HIV status to their parents, children and significant others. The researcher failed to find any similar situation in the literature. However, in some communities, particularly in rural areas, there is always an element of knit and compact relationships which can result in a decreased likelihood of disclosure of HIV status for fear of stigmatisation or marginalisation.

4.9 CONCLUSION

The data analyses have indicated that HIV/AIDS infected persons face major obstacles in their quest for healing. The obstacles include cultural/traditional beliefs, socio-economic factors and attitudes of some family members. The analyses further highlighted the major influence of these factors on the infected individual's search for treatment, adherence to ARV and their desire to lead normal life in a society without any stigmatisation.

Chapter 5 discusses the findings, limitations and recommendations.

Chapter 5

Findings, limitations and recommendations

5.1 INTRODUCTION

This study collected information on religion, culture and social factors from a sample of 50 women who are HIV infected. This information was to assist explore the problems of religion, culture and social factors associated with ARV medication adherence in HIV/AIDS infected women in Gaborone and surrounding villages in Botswana. This chapter contains a discussion of the findings of the study and relevant conclusions based on the findings.

5.2 RESEARCH PROBLEM

HIV/AIDS infected patients who are on ARV treatment often fail to adhere strictly to their medications (Van Dyk 2001:70). Some of the reasons have a bearing on cultural and religious beliefs, as well as social factors. How this applies to HIV/AIDS infected women in Botswana is not clear and forms the major component of this study.

5.3 RESEARCH QUESTION

The study answered the following question: What are the religious, cultural and social challenges to ARV medication adherence in HIV/AIDS-infected women in Gaborone and surrounding villages in Botswana?

5.5 METHODOLOGY

The study design used in this study was based on a quantitative approach to provide a workable and logical plan for purposes of quantification and measurement properties to be analysed (Babbie & Mouton 2001:49). In this study the researcher used the quantitative approach which requires objective analysis based on observation of social reality. The main feature of quantitative design used in this study is the focus specifically

on the research questions which sought to describe and explore challenges of antiretroviral medication adherence in HIV/AIDS infected women in Botswana.

Burns and Grove (2007:24) describe quantitative research as “a formal objective, rigorous, systematic research process for generating information”. Burns and Grove (2007:24) identify quantitative research role as that of describing new situation, events or concepts. The philosophy guiding the quantitative research is positivism. Babbie and Mouton (2001:32) explain that “the term positivism refers to scientific claims that have been postulated on the basis of empirical evidence”. Quantitative research is descriptive and explorative with real – life connotation that provides characteristics of the phenomenon to be researched, stated Burns and Grove (2007) quoting Kerlinger and Lee (2000). Quantitative research emphasises qualification of constructs and measurement of properties (Babbie & Mouton 2001:49). The rationale for this study was to measure the research variable (factors associated with antiretroviral medication adherence) using numerical scale, in line with the ideology of positivism, logical reasoning was applied for structuring sections of the dissertation accordingly, that is following systematically the research process. Deductive reasoning was employed for the development of items of data collecting instrument. A structured data collection instrument was used as a measure for the enhancement of objectivity and to facilitate data analysis.

5.6 DISCUSSION

5.6.1 Section A: Demographic characteristics of respondents

Demographic characteristics investigated in this study included age distribution, marital status, educational status, religious affiliation, employment and place of residence.

Age distribution of respondents

Results revealed that 70% (n=35) were over 33 years of age, with 30% (n=15) aged between 35 and 37 years of age, and 24% (n=12) aged 43 years and over. The age distribution of women between 35 and 37 years raises a concern because these women are within the reproductive level in their lives, implying that if they fail to adhere to ARV

medication, their contribution to their wealth and economy of the country will be affected.

Marital status

The study showed that 68% (n=34) of the respondents were single women, 20% (n=10) were married, 8% (n=4) were cohabiting, while 4% (n=2) were divorced and widowed. The implication of a high percentage of respondents being single has an effect on the burden of these women as they strive to care for their children while the quality of life is being compromised by HIV/AIDS infection.

Educational status

HIV/AIDS infected women in this study who received secondary and tertiary education made up 60% (n=30) of the respondents. Only 10% (n=5) received no education. Education is a major factor in one's development, both socially and economically. Respondents with adequate education will understand the importance of adherence to antiretroviral medication.

Place of residence

There is an indication in this study that a large coverage of villages around Greater Gaborone was included. Twenty percent (20% n=10) of respondents lived in Gaborone, the capital city of Botswana. A further 29% (n=15) lived in Tlokweng and Mogoditshane, areas on the outskirts of Gaborone classified in Botswana as Urban Villages. In these areas there are more employment facilities which is an advantage for respondents living there.

Religious affiliations

Botswana is well known to be a Christian country with almost 70% (n=35) of the population being of the Christian faith. It is not surprising that study findings reported that 46% (n=23) of the respondents were Christian, and only 18% (n=9) belonged to other religious sects. A few of the respondents did not belong to any religion. Religion is a personalised component of an individual's value system based on his or her faith.

Most unfortunately, certain religious groups within some African societies are in conflict with medical treatment. For example, the Bazeruru religious sects who live in some areas of Botswana refused to let their children be immunised against measles in 2005 until law enforcement had to be implemented (Tlale 2005:19).

5.6.2 Section B: Socio-economic status

Employment status

Employment rate in this group of women was acceptably high, reported at 54% (n=27). This means that they could afford to support their families and children. In addition they had finances for transport to the nearest health facility for their supply of antiretroviral medications. However, from these results it can be inferred that 46% (n=23) of women were actually not employed and might have difficulties in sustaining their families and transporting themselves to health facility for their medical supplies. This lack of money for transport and sustenance has implication in their adherence to ARV treatment.

5.6.3 Section C: Traditional and cultural beliefs

Beliefs influencing everyday life

Cultural belief systems develop from the shared experiences of groups in a society enhanced by certain significant symbols known to the groups or traditions followed in their daily lives.

In this study, respondents were asked about cultural and traditional beliefs that affect their daily lives. Thirty six percent (36% n=18) stated support by families during the period of bereavement as a positive act. A further 38% (n=19) mentioned food sharing, and 38% (n=19) reported volunteerism as a good gesture affecting their daily lives. Thirty two percent (32% n=16) said family support during childbirth affects their daily lives. Andrews and Boyle (2003:96) postulate that childbearing is a time of traditional and social celebration of central importance in any society. Such positive support by respondents in this study, if extended to HIV/AIDS infected people, could encourage them to adhere to ARV medication.

Respondents were further asked about cultural and traditional beliefs which negatively affect their decision making in the home. Forty percent (40% n=20) of women do not favour strict rules which the women need to observe after the death of the husband in certain African societies. During this period in some families the widow must be cleansed by used in herbs given to her by a traditional healer. In some instances the traditional healers would prescribe traditional medicines to be taken by the widow. This may mean other medications should be stopped (Heald 2002:4), but 60% (n=30) of the respondents did not think that there is anything wrong with these traditional and cultural beliefs.

In this study women indicated that being denied power over one's life affects their decision making. A similar situation has been observed by Vallaeys (2006:1-7). She explained that while not all women are powerless, many women are victims of a patriarchal system that robs them of freedom over their own bodies.

Of the women 32% (n=16) were concerned about the strict conditions laid regarding family assets, meaning that they lack control over them. Surprisingly enough, 68% (n=34) of respondents said they accept family assets should be controlled by men, including husbands, and would attribute the latter's response as perhaps socialisation and culture.

First contact when ill

The study shows that 40% (n=20) of the respondents consulted traditional healers first before they considered an appointment with the medical doctor. The major reason given is that it is the family's tradition to do that over a number of years. Ten percent (10% n=5) of the respondents prefer to consult faith healers and reason is attributed to the family's tradition. In the family set up, individuals choose available medical resources depending on their socialisation, knowledge and in most cases according to financial resources. However the problem can arise if the choice is in conflict with medical treatment prescribed for HIV/AIDS. Van Dyk (2001:113) has observed that some Africa traditions are included by their Christian principle as far as their understanding of illness is concerned. To them the cause and effect relationship is not an organic one; rather than cause of health and illness is mystical (Andrews & Boyle 2003:76).

Traditional healers knowledge in regard to HIV/AIDS

Ninety eight percent (98% n=49) of respondents believe that the traditional healers have a lack of knowledge regarding HIV/AIDS. Their overwhelming response comes as a surprise as earlier on in their study, women stated that their first point of call for diagnosis of illness was a traditional healer. Seventy two percent (72% n=36) said traditional healers are ignorant about it because they associated it with “boswagadi”, and to them this is incorrect.

Cultural beliefs that interfere with respondents health seeking behavior

The study shows that 36% (n=18) of the respondents have a perception that man's dominating and authority over women's life cultural interferes with women's health seeking behaviour. A common denominator in related issues is inequality of both sexes and in most Africa societies, lack of status for women. Thirty two percent (32%) (n=16) of the respondents indicated that culturally the man has to give permission or consent before the woman seeks medical advice. Sixteen percent (16%) (n=8) expressed their concern unreservedly about the man's choice of call for medical health problems. In this regard the possibility of woman's failure to adhere to HIV/AIDS treatment cannot be excluded.

5.6.4 Section D: ARV treatment and adherence

Respondents understanding of HIV therapy and adherence to the therapy

Women were asked about their knowledge or understanding of antiretroviral medication. Sixty six percent (66% n=33) understood that ARV medication is a drug used for treatment of the HIV/AIDS infection. Less than 50% of women gave unsatisfactory responses which imply that their knowledge regarding antiretroviral medication is inadequate. Here it is imperative that more health education strategies need to be developed (see table 4.8). Respondents were also asked about the length of period for involvement in antiretroviral treatment. Thirty four percent (34% n=17) of respondents have been on ARV treatment for over 48 months, while 32% (n=16) of them had been on treatment for between 36 and 47 months. Findings showed an impressive participation and commitment of respondents in their own health care. It is also a

growing sign of body of evidence which reveals that antiretroviral treatment has dramatically improved the survival and quality of life for HIV infected people.

Respondents were asked to comment about their health condition since they received their ARV treatment. Results showed that 80% (n=40) said their health has improved tremendously (see table 4.10).

In regard to respondents ARV treatment adherence, 76% (n=38) had adhered to the medication meaning that they never missed their doses. Ten percent missed their doses two or three times within the past two months (see figure 4.7). Sustaining adherence to a complicated antiretroviral regime is a major challenge faced by HIV infected persons for maintaining suppression of viral replication (Williams 1997:18-21).

Reasons given for missed doses included forgetfulness (10% n=5). Other reasons stated can be seen in table 4.12. For ensuring ARV treatment adherence, 30% (n=15) of the respondent said they always carry their medications wherever they go (see table 4.13). Complete adherence to ARV treatment is the key factor in the treatment of HIV/AIDS infection.

Support from significant others while on ARV treatment

The study revealed that 85% (n=43) of the respondents received support from their husbands or boyfriends. Very few had inadequate or no support. It is worth mentioning that support from the significant others for HIV/AIDS infected women is viewed as an important emotional and psychological treatment. HIV/AIDS diseases causes an increased and devastating impact on individual's and in some families, poverty has become a great challenge. Once affected by the HIV infection, the chances of getting back to normal life can be an endless struggle.

Cultural influence on ARV treatment

Women were asked if culture has an influence on treatment of HIV/AIDS. Seventy percent (70% n=35) of respondents indicated that culture does have influence in the treatment of HIV/AIDS, in particular as related to women. Only 26% (n=13) of respondents gave a "no" response. Reasons provided included women being expected

to bear as many children as possible. Cross reference: The assumption is that since birth women at all times are socialised to please and defer to the authority of the male. In other societies, the perception is that no woman will feel confident enough to refuse what is pleasurable to a male counterpart irrespective of the risky consequences.

Another issue mentioned by respondents is absolute financial dependency on their husbands (see table 4.4). Twenty six percent (26% n=13) of respondents maintain that culture has no influence on treatment of HIV/AIDS infection.

5.6.5 Section E: Social and economic factors

Attitudes of significant others

Regarding social and economic factors that pose a threat to HIV/AIDS treatment adherence, the study showed that 46% (n=23) of respondents are of the opinion that husbands and/or boyfriends' attitude could pose a threat to a woman's HIV/AIDS treatment adherence by exercising extreme power and authority over them. Respondents said their husband can even stop the wife from taking her ARV medication. Other reasons given by the women included lack of education (40% n=20), family attitude (30% n=15) and community attitude.

It is universally acknowledged that the inextricable link between gender and inequality does exist in other societies, especially where the man is regarded as the head of the family. The issue of gender and inequality is discussed in this study.

Stigmatisation

According to this study, 68% (n=34) of the respondents reported that they have never been stigmatised against due to their HIV/AIDS status, while about 30% (n=15) stated that they have experienced some form of stigmatisation. Stigmatisation is a critical psychological and emotional threat to all human beings, with damaging effects to individuals' integrity. It can possibly become a barrier to ARV treatment adherence if not addressed.

Discrimination

Although 68% (n=34) of respondents reported that they have never been discrimination against, 30% (n=15) of them have experienced some form of discrimination. Mazonde (2004:21) postulated that stigma and discrimination are some of the challenges that have become major obstacles in the management of HIV/AIDS initiatives in Botswana. The researcher views eradication of stigma and discrimination as a responsibility of every individual within all societies of the world to ensure reduction of the spread of HIV/AIDS.

5.6.6 Section F: Gender and inequality

Perceptions on gender and equality to adherence of HIV therapy

Respondents were asked whether gender and inequality can affect ARV treatment adherence in HIV/AIDS infected women. Fifty percent (50% n=25) said “yes”, while 50% (n=25) said “no”. Reasons provided for their belief that gender and inequality have an impact on ARV treatment included violence against women (38% n=19), man’s dominance over women (36% n=18), and a further 34% (n=17) felt that a man can demonstrate his masculinity and authority to stop the wife from participating in ARV treatment. Another point often raised and causing a concern is women’s economic dependency to her husband or boyfriend.

Other factors influencing adherence

Respondents also expressed their feelings and concerns on other social factors that pose a threat to women’s adherence to HIV/AIDS treatment. Eighty four percent (n=42) clearly indicated alcohol as an example. Drug abuse has also been mentioned as a threat to HIV/AIDS treatment adherence (see table 4.17). Chesney (2000:171-6) endorses the concern in regard to alcohol and drug abuse as the principle factors associated with non-adherence.

5.6.7 Section G: Personal experience related to HIV status

Disclosure of HIV status

The study shows that 52% (n=26) of respondents first told their mothers about their HIV/AIDS status, while 28% (n=14) informed their partner (boyfriends at 18% (n=9) and husbands at 10% (n=5)). A further fourteen percent (14%; n=17) first told their children (see table 4.24). Voluntary disclosure respects the autonomy and dignity of the affected individuals, maintains the confidentiality as appropriate, and finally leads to beneficial results for the individual. Affect individuals will receive greater support and care from significant others after disclosure although sometimes it may have a negative impact.

It is worth noting that at times people do not want to disclose their status because they fear rejection by their partners, face stigma and discrimination, or fear they will be blamed for infecting others (UNAIDS/WHO 2002:2). Fear of disclosure can possibly affect ARV treatment adherence.

Perception of respondents on experiences when diagnosed HIV positive

Respondents expressed their reactions in various ways. Most of them said they accepted their status but were shocked and full of fear. The most outstanding reactions were expressed in this way, one respondent said:

“I accepted my HIV positive status because I knew that there was a possibility of getting infected by the virus as I had engaged in unprotected sex a few times”.

Others stated as follows:

“I tried to be calm and understanding but I was really shocked and nearly lost my mind.”; “I also thought I was going to die and always thought of how I am going to tell my parents.”; and “I felt I was the only one in the world who have sin and I was depressed and lonely for some months”.

5.7 CONCLUSIONS

This study has used the opinions of 50 women who are on ARV treatment at the Princess Marina hospital (IDCC) to reach the conclusion that the rate of adherence to ARV medication is 85 percent. This result is much lower than the universally accepted rate of 95 percent or better (Newman & Rodriguez 2005:1). It is also an indication that more intervention measures have to be put in place to assist the women in ensuring that they adhere strictly to their medication. Such interventions would have to deal with assisting the HIV positive women with resources for transportation to health facilities to replenish their medication as required, soliciting cooperation of partners to assist the women in taking their medication regularly, community enlightenment on the negative role of different cultural beliefs on interventions to curb HIV infection and the role the community can play to mitigate the impact of HIV/AIDS.

5.8 LIMITATIONS OF THE STUDY

The study was conducted at the Infections Disease Care Centre (IDCC) in the Princess Marina Hospital, Gaborone. The respondents were residents of Gaborone and the surrounding villages. The study was limited by time and financial constraints. Moreover, only a small sample was selected as representative of the affected population. Also the study relied on the honesty of the respondents to provide accurate and authentic information about themselves.

5.9 RECOMMENDATIONS

Recommendations of this study have been categorised according to nursing / health practice, health management, health education and health research.

5.9.1 Nursing practice/health practice

Respondents experienced shock and disbelief when informed about their HIV positive status. Nurses must pre- and post-counsel clients, including arrange follow-ups, as needed. Regular training on counseling would equip the nurses with necessary skills to perform this role.

5.9.2 Health management

Respondents reported lack of money and transport as reason for non-adherence to ARV treatment. Health managers must be vigilant about this situation and work together on a regular basis with social welfare officers to assess the patients and assist as required. This could be done through regular planned meetings and evaluation of performances.

5.9.3 Health education

An inadequate knowledge regarding ARV treatment was revealed by some respondents. Increased health education efforts must be continued regularly by all health professional in their clinical practice.

Intensive ARV and HIV education programmes must be implemented if not yet available, and improved if they are already in place.

5.9.4 Health research

It is recommend that a wide scope of this study should be developed as the current study captures only a small portion of HIV/AIDS infected women in Botswana. This future study should include HIV/AIDS infected men using the same or modified title.

5.10 CONCLUSION

Data presented in this study provided sufficient information in relation to the research question and objectives of the study. The researcher explored the respondents' opinions within the context of religion, culture and social factors as challenges associated with ARV treatment adherence. Most respondents attempted to provide relevant answers which enabled the researcher to come up with concrete recommendations. Responses from some of the participants in regard to how they felt when diagnosed HIV positive clearly showed the natural reactions of individuals faced by an uncompromising dilemma of HIV/AIDS infection. Hopefully health professionals and those in authority will increase their efforts to develop more comprehensive counselling and support for HIV/AIDS infected people in Botswana.

Knowledge and understanding of ARV treatment adherence has been expressed satisfactorily by most respondents but more need to be done by government and other implementers of ARV treatment programmes. It is essentially important to view ARV treatment as a dynamic behaviour that occurs in the context of the individual's personal social and environmental context. Thereafter infected people need to be encouraged to adhere to their treatment with absolute commitment.

During my interaction with the respondents, it became clear to me that the respondents had accepted their status positively and were very eager and looked forward to what the Government could do to keep them alive by providing them with ARV and other interventions without much costs on them.

LIST OF SOURCES

- Allen, T & Heald, S. 2004. HIV/AIDS policy in Africa: what has worked in Uganda and what has failed in Botswana. *Journal of International Development*, 16:1141-1154.
- Andrews, M & Boyle, JS. 2003. *Transcultural concepts in nursing care*. Philadelphia: Lippincott Williams Wilkins.
- Babbie, E & Mouton, J. 2001. *The practice of social research*. Cape Town: Oxford University Press.
- Balosang, M. 2007. *Botswana National tuberculosis programme manual*. Ministry of Health. Gaborone: Government Printer.
- Bandman, E & Bandman, B. 2002. *Nursing ethics: through lifespan*. Upper Saddle River, NJ: Prentice-Hall.
- Brigido, LFN, Rodrigues, R, Cassels, J, Oliveira, D, Rossetti, H, Menezes, P & Duarte, A. 2001. Impact of antiretroviral therapy in HIV infected patients at University Public Service, Brazil. *AIDS Patient Care and STDs*, 15(1):587-592.
- Brink, HI. 1990. *Fundamentals of research methodology for health care professionals*. Cape Town: Juta.
- Brink, HI. 1996. *Fundamentals of research methodology for health care professionals*. Edition 1. Cape Town: Juta.
- Burns, N & Grove, SK. 2001. *The practice of nursing research: conduct, critique and utilization*. 4th edition. Philadelphia: Saunders.
- Burns, N & Grove, SK. 2007. *Understanding nursing research*. St. Louis: Saunders.
- CDC – see Centre for Disease Control.
- Central Statistics Office. 1991. *Population Census, 1991*. Ministry of Finance, Development and Planning. Gaborone: Botswana Government Printers.
- Centre Statistics Office & National AIDS Coordinating Agency. 2004. *Report: Botswana Impact Survey II*. Gaborone: Botswana Government Printers.
- Centre for Disease Control. 1997. *MMWR Morbidity and Mortality Weekly Report*. New York: CDC.
- Chesney, MA, Ickovics, FM, Hetch, GS & Rabkin, J. 1997. Adherence: a necessity for successful HIV combination therapy. *AIDS CARE (Supplement 13A)*:S271-S278.
- Chesney, MA, Ickovics, FM, Hetch, GS & Rabkin, J. 1999. Adherence: a necessity for successful HIV combination therapy. *AIDS CARE*:5271-5278.
- Chesney, MA, Ickovics, FM, Hetch, GS & Rabkin, J. 2000. Factors affecting adherence to antiretroviral therapy. *Clinical Infectious Diseases*, 133:21-30.

Collins English Dictionary. 1991. 3rd edition. Glasgow: HarperCollins.

CSO – see Central Statistics Office.

CSO & NACA – see Central Statistics Office & National AIDS Coordinating Agency.

Darkoh, E. 2004. Balancing risk against roll-out: information choices and hope. *Future Positive*, 2:18-28.

De Kock, A, Jones, J. & Jaffe, HW. 1993. *Current trends in the epidemiology of HIV/AIDS*. Philadelphia: Lippincott, Williams & Wilkins.

Deeks, SG, & Verlberding, P.A. 1997. *Management of AIDS*. Philadelphia: WB Saunders Company.

De Vos, AS. 2002. *Research at grass roots*. Pretoria: Van Schaik.

Eldred, L, Wu, A, Chaisson, RE & Moore, RD. 1995. *Medication adherence to long-term therapy in HIV disease*. Paper presented at the 11th International AIDS Meeting, Vancouver, British Columbia. Canada: Foundation for Retrovirology and Human Health.

Eldred, L, Wu, A, Chaisson, RE & Moore, RD. 1997. *Adherence to HAART Therapy in HIV Disease*. Paper presented at the 4th Retroviruses and Opportunistic Infections. Washington, DC: Foundation for Retrovirology and Human Health.

Friedland, G & Williams, A. 1999. Achieving higher goals in HIV treatment: the central importance of adherence. *AIDS CARE (Supplement 13)*:561-572.

Gayle, H. 2001. *Impact of HIV/AIDS: UNAIDS/WHO Update Report, 1999*. New York: WHO.

Grierson, J, Barbs, M, Visser, R & McDonald, K. 2000. *Futures II: the health and well being of people with HIV/AIDS in Australia*. Monograph, Series Number 17. Australia: LA Trobe University.

Heald, S. 2002. It's never as easy as ABC: understanding of AIDS in Botswana. *African Journal of AIDS Research*, 18(1):1-4.

Ickovics, JR & Meisler, AW. 1997. Adherence in AIDS clinical trials: a framework for clinical research and clinical care. *Journal of Clinical Epidemiology*, 50(4):385-391.

Jones, SG. 2005. From ARV fatigue to pill Count. Medication adherence in HIV/AIDS. Annual Conference of Association of Nurses in AIDS Care.

Jong-Wook, L & Piot, P. 2004. "3 by 5" Progress Report December 2004.

Online: <http://www.who.int/3by5/progressreport/05/en/>

Kalipeni, E, Cradock, S, Oppong, JH & Hosh, J. 2004. *HIV/AIDS in Africa: beyond epidemiology*. Malden: Blackwell.

Kaplan, A, Golin, C, Beck, K, Lui, H & Hays, R. 1999. *Adherence to Protease Inhibitor Therapy and Viral Load*. 6th Conference on Retrovirus and Opportunistic Infections, Chicago: Foundation for Retrovirology and Human Health.

Marlink, RI, Kao, H & Hsieh, E. 2001a. Clinical care for women with HIV infection. *Annals of International Medicine*, 13:21-30.

Marlink, RI, Kao, H & Hsieh, E. 2001b. Women living with HIV and AIDS in the United States. *AIDS Research and Human Retroviruses*, 17:1-33.

Mazonde, P. 2004. MASA's new dawn taking time. *Future Positive*, 2:21.

Mazonde, P. 2005. *Botswana guidelines on anti-retroviral treatment*. Ministry of Health: WHO.

McAllister, J. 1999. *Antiretroviral therapy for HIV infection: developing an adherence framework*.

Online: www.ciap.health.nsw.gov.au/hospolotstvincents/2000/drug.therapy.html

Ministry of Health. 1998. *Botswana national policy on HIV*. Gaborone: Botswana Government Printer.

Ministry of Health. 2003. *Botswana National HIV/AIDS Surveillance Report, 2003*. Gaborone: Botswana Government Printer.

Ministry of Health AIDS STD Unit. 2005. *HIV/AIDS Annual Report: Botswana Review*. 25th edition. Gaborone: Botswana Government Printer.

MoH – see Ministry of Health.

NACA – see National AIDS Coordinating Agency.

NACA/CSO – see National AIDS Coordinating Agency/Central Statistics Office.

NACA, AIDS/STD Unit & WHO. 2000. *Syndrome Sentinel Survey Technical Report*. Gaborone: Botswana Government Printer.

National AIDS Coordinating Agency. 2003. *Botswana national strategic framework for HIV/AIDS 2003-2009*. Gaborone: Government Printer.

National AIDS Coordinating Agency. 2004. *Master report: NASA new dawn taking time*. Gaborone: Botswana Government Printer.

National AIDS Coordinating Agency/Central Statistics Office. 2005. *Botswana AIDS Impact Survey II, Statistical Report*. Gaborone: Botswana Government Printer.

Nachamias, CF & Nachamias, D. 1996. *Research methods in social sciences*. 5th Edition. London: Arnold Publishers.

Newman, L & Rodriguez, C. 2005. *Challenges when starting antiretroviral treatment*. Online: <http://thebody.com/bp/winter05/starting.html>

- Orgel, M. 2004. Europe AIDS capital struggles with drug-related infections. *Future Positive* 2:28.
- Paterson, DL, Swindells, S., Mohr, J., Bresler, M., Vergis, EL, Squir, C. 2000. Adherence to protease inhibitor therapy and outcomes in patients with HIV infection. *Annals of Internal Medicine* 13:21-30.
- Piot, P, Bartos, M, Ghuys, PD, Walker, N & Schwartlander, B. 2001. *The global impact of HIV/AIDS*. *Nature* 410:971.
- Podisi, MK. 2005. *Compliance with ARV treatment*. MA dissertation in Social Work. Pretoria: University of Pretoria.
- Polit, DF & Hungler, BP. 1997. *Essentials of nursing research: methods, appraisal and utilization*. 4th edition. Philadelphia: Lippincott.
- Remien, RH, Bastos, FI, Berkman, A, Terto Jr, Raxach, JC, & Parker, RG. 2007. Adherence to antiretroviral therapy in a context of Universal Access in Rio de Janeiro, Brazil. *AIDS Care*, 19(6):740-748.
- Roberts, K & Mann, T. 2000. Barriers to antiretroviral medication adherence in HIV-infected women. *AIDS Care*, 12(4):377-386.
- Saunders, M, Lewis, P. & Thornhill, A. 2003. *Research methods for business students*. Philadelphia: FT Prentice Hall.
- Shaw, J & Mahoney, EA. 2003. *HIV/AIDS nursing secrets*. Philadelphia: Hanley Belfus.
- Shisana, O & Davids, A. 2004. Correcting gender inequalities is central to controlling HIV/AIDS. *Bulletin of World Health Organization*, 82(11):69-83.
- Smeltzer, SC & Bare, BG. 2004. *Medical and surgical nursing*. New York: Lippincott Williams and Wilkens.
- Stevens, PE & Hildebrandt, E . 2006. Women's response on being diagnosed with HIV infection. *Advanced Nursing Sciences*, 29(3):207-221.
- Stone, VE. 2000. *Women, access and adherence to HAART: a vital connection*. Online: <http://www.aegis.com/pubs/beta/2000>
- Streubert, HJ & Carpenter. 2003. *Qualitative research in nursing*. Lippincott, Williams & Wilkens, Philadelphia.
- Tlale, B. 2005. Bazezuru resist immunization. *Botswana Daily News*, 192:19.
- UN – see United Nations.
- UNICEF/UNAIDS – United Nations Children Emergency Fund/United Nations Programme on HIV/AIDS.
- United Nations. 2000. *Annual report on HIV/AIDS*. New York: UN.

- United Nations. 2004. *Report on challenges of HIV/AIDS in Sub-Saharan Africa*. New York: UN.
- UNAIDS – see United Nations Programmes on HIV/AIDS.
- UNAIDS/WHO – see United Nations Programmes on HIV/AIDS/World Health Organization.
- UNDP – United Nations Development Programmes.
- United Nations Development Programmes. UNDP. 2005. *Annual Report on HIV/AIDS*. New York: UNDP.
- United Nations Children Emergency Fund/United Nations Programmes on HIV/AIDS. 2003. *Growing burden of care. AIDS Epidemic Update Report*. Geneva: UNAIDS.
- United Nations Programmes on HIV/AIDS. 2000. *Report on the Global Epidemiology of HIV*. Geneva: UNAIDS.
- United Nations Programmes on HIV/AIDS. 2004. *“3 by 5” Report on ARV Therapy Coverage*. Geneva: UNAIDS.
- United Nations Programmes on HIV/AIDS/World Health Organization. 1998. *UNAIDS/WHO Global Annual HIV/AIDS Epidemic Update Report*. Geneva: UNAIDS/WHO.
- United Nations Programmes on HIV/AIDS/World Health Organization. 2001. *WHO Global Annual HIV/AIDS Epidemic Update Report*. Geneva: UNAIDS/WHO.
- United Nations Programmes on HIV/AIDS/World Health Organization. 2002. *UNAIDS/WHO Global HIV/AIDS Epidemic Report*. Geneva: UNAIDS/WHO.
- United Nations Programmes on HIV/AIDS/World Health Organization. 2003. *UNAIDS/WHO Update Report on the Global HIV/AIDS Epidemic*. Geneva: UNAIDS/WHO.
- United Nations Programmes on HIV/AIDS/World Health Organization. 2005. *UNAIDS/WHO HIV/AIDS Epidemic Report*. Geneva: UNAIDS/WHO.
- United Nations Programmes on HIV/AIDS/World Health Organization. 2006. *UNAIDS/WHO Global HIV/AIDS Epidemic Report*. Geneva: UNAIDS/WHO.
- United Nations Programmes on HIV/AIDS/World Health Organization. 2007. *AIDS Epidemic Update Report*.
Online: <http://data.unaids.org/pub/>
- Vallaey, C. 2006. *Awareness is NOT enough: gender in the HIV/AIDS pandemic in Africa*.
Online: <http://www.scu.edu/ethics/publications/submitted/vallaey/gender.html>
- Van Dyk, A. 2001. *HIV/AIDS and counselling: a multidisciplinary approach*. Cape Town: Maskew Miller Longman.

Webster, RD & Barr, JD. 1997. *Adherence to highly active antiretroviral therapy (HAART) among individuals with HIV/AIDS: a compendium of HAART adherence research*. Washington DC: Centre for Health Policy Research.

Webster, RD & Barr, JD. 1999. *Adherence to highly active antiretroviral therapy (HAART) among individuals with HIV/AIDS: a compendium of HAART adherence research*. Washington DC: Centre for Health Policy Research.

WHO. 2000. *Antiretroviral treatment guidelines*. Geneva: WHO.

WHO. 2005. *Botswana summary country profile for HIV/AIDS treatment scale-UP*. Geneva: WHO

Williams, A. 1997. Antiretroviral therapy: factors associated with adherence. *Journal of Association of Nurses in AIDS Care*, 18:18-23.

Annexure 1

Request to conduct research at Princess Marina Hospital, Botswana

Annexure 2

Permission from the Ministry of Health, Botswana

**Permission from the Hospital Superintendent, Princess Marina Hospital,
Botswana**

Annexure 3

Ministry of Health: Application for Approval of Human Research

Annexure 4

Ministry of Health: Consent form

Participants: Consent form

Annexure 5

Questionnaire

Date:

From: Magdeline Mabuse
PO Box 351
Gaborone
Botswana

To: Superintendent
Princess Marina Hospital
P O Box 258
Gaborone
Botswana

Dear Sir

REQUEST TO CONDUCT RESEARCH AT PRINCESS MARINA HOSPITAL

This letter serves to request for your permission to conduct research on challenges of Antiretroviral medication adherence in HIV/AIDS infected women in Botswana.

I am presently registered with University of South Africa and pursuing Masters Degree in Health Studies with specialisation in Health Science Education and Principles of Research and Methodology. This research is a fulfillment requirement of the degree through distance learning.

Selected sample of the population to be studied will be required to complete a self administered questionnaire which will be collected later by the researcher.

The researcher assures the Hospital authorities that all ethical protocols will be adhered to and the safety, privacy and anonymity of respondents will be respected during the execution of the research study.

I hope my request will receive your favourable consideration.

Yours faithfully

Magdeline Mabuse (Mrs)

Ministry of Health



Republic of Botswana

Application for Approval of Human Research

Section A: Instructions

1. For research/academic institutions or PHD students attach 14 copies of the following.
 - i. Research Application form
 - ii. Study proposal.
 - iii. Consent/authorization form or a request for waiver of consent/authorization- Setswana , English and back translation where applicable.
 - iv. Questionnaires to be used. Setswana , English and back translation where applicable.
 - v. Curriculum vitae/ resume of the Principal investigator(s) and Local contact person
 - vi. Approval letter from other IRBs
 - vii. Grant approval letter
 - viii. Any other supporting materials i.e. recruitment scripts, brochures, flyers etc
2. For undergraduates and graduates attach one copy of the above listed items/ documents.

Section B: Application Details

1. Study Title: (Include Version number and date)CHALLENGES ON ANTIREROVIRAL MEDICATION ADHERENCE IN HIV/AIDS INFECTED WOMEN IN BOTSWANA
2. Date of submission:3-07 07
3. Type of Research: <ol style="list-style-type: none"> i. Basic Science () ii. Public Health () iii. Clinical Research () iv. Human Biology () v. Other DISSERTATION (M_A HEALTH STUDIES)_ UNISA_____

5. Principal Investigator(Name & Qualifications): MAGDELINE MABUSE B.ED. (NURSING) (UB)	5(i). Local Contact Details Name:
Postal P. O. BOX 351 Address: GABORONE, BOTSWANA.	Postal Address:
Phone Number:3952987/ 72177256	Phone Number:
E mail Address:magdeline@info.bw	E mail Address:
Name of affiliate Institution/ UNISA	Name of Institution/Organization:
Department (If Government):	Department (If Government):

6. Other Investigators /Co-Principal Investigators			
Name:	Organization:	Email:	Telephone Number:

7. Key Personnel working with data that may be linked to human subjects:			
Name:	Organization:	Email:	Telephone Number:

Section C: Description of Research

1. Brief Description of Study

THE PROPOSED STUDY IS MEANT TO INVESTIGATE THOSE SOCIAL FACTORS WHICH MAY BE ASSOCIATED WITH ANTIRETROVIRAL MEDICATION ADHERENCE IN HIV/AIDS INFECTED WOMEN IN BOTSWANA.

ANTIRETROVIRAL THERAPY IS A LIFELONG TREATMENT WITH PROVEN EFFECTIVENESS BY MANY SCIENTISTS.HOWEVER, LITERATURE HAS SHOWN THAT ARV TREATMENT HAS SOME SIDE EFFECTS WHICH NEED TO BE IDENTIFIED EARLY IN PEOPLE WHO ARE ON HIV TREATMENT AND BE ADDRESSED ON TIME SO THAT THERE IS NO DANGER TO THE PATIENTS. ARV SIDE EFFECTS HAVE ALSO BEEN IDENTIFIED AS POSSIBLE BARRIERS TO MEDICATION ADHERECE.

STUDIES HAVE ALSO REVEALED THAT THERE ARE OTHER SOCIAL FACTORS THAT HAVE BEEN ASSOCIATED WITH FAILURE TO ADHERE TO ANTIRTROVIRAL BY HIV – POSITIVE PEOPLE.

THIS STUDY SEEKS TO INVEITIGATE RELIGIOUS, CULTURAL BELIEFS AND ANY OTHER SOCIAL FACTORS ASSOCIATED WITH ARV MEDICATION ADHERENCE IN HIV/AIDS INFECTED WOMEN IN BOTSWANA.

2. Rationale/Justification (*Why the need to carry out this study in Botswana*):

THE PRINCESS MARINA HOSPITAL IDCC WILL HAVE SOME INDICATION OF WHAT SOME WOMEN LIVING WITH HIV AND AIDS CONSIDER TO BE FACTORS IN THEIR ADHERENCE OR NON-ADHERECE TO THE AEV MEDICATIONS PRESCIBED

THE IDCC TEAM PROVIDING CARE TO THE 50 WOMEN SELECTED FOR PARTICIPATION IN THE STUDY WILL GAIN INFORMATION ON CHALLENGES TO ADHERENCE PERCIEVED OR EXPERIENCED BY ANY OF THE 50 WOMEN CURRENTLY RECEIVING ARV TREATMENT FROM PRINCESS MARINA HOSPITAL IDCC WHO ARE INCLUDED IN THE STUDY.

3. Study Objectives (*Both General and Specific*):

TO DESRCIBE AND EXPLORE PROBLEMS OF RELIGION, CULTURE AND SOCIAL FACTORS ASSOCIATED WITH ARV MEDICATION ADHERENCE IN HIV/AIDS INFECTED WOMEN IN BOTSWANA.

TO GET THE INSIGHT OF EXPERIENCES OF THE SELECTED 50 WOMEN FOR THE IN RELATION TO ARV TREATMENT..

4. Expected Results (*Both Primary and Secondary endpoints*):

THE RESULTS OF THIS SMALL STUDY MAY DRAW ATTENTION TO GENERATE ISSUES THAT ARE LIKELY TO REQUIRE FURTHER ASSESSMENT PRIOR TO THE INITIATION OF THE ARV TREATMENT WHICH IS HITHERTO HAD IT NOT BEEN TAKEN INTO CONSIDERATION.

Section D. Methodology

1. Study Design

THE DESIGN OF THE STUDY IS BASED ON QUANTITATIVE APPROACH AND HAS SOME QUALITATIVE ASPECT. DESCRIPTIVE AND EXPLORATIVE PROCESSES WILL BE INCLUDED. PROCESSES INVOLVED ARE SELECTION OF THE POPULATION, SAMPLING, DATA COLLECTION AND ANALYSIS' PRE-TESTING, VALIDITY ,RELIABILITY ETHICAL CONSIDERATIONS AND INFORMED CONSENT.

2. Study sites (*Districts, Towns, Villages, Health facilities, Schools etc :*

**PRINCESS MARINA HOSPITAL INFECTIOUS DISEASE CARE CENTRE.(IDCC)
GABORONE'**

3. Subject Population(s) (*Clinical condition, Gender, age, and other relevant Characteristics*):

HIV/AIDS INFECTED WOMEN

AGE: 18YEARS AND OVER

HAVE BEEN ON ARV TREATMENT FOR MORE THAN 12 MONTHS

ABLE TO READ AND WRITE ENGLISH AND SETSWANA

4. Sample size(*The number of subjects to be involved in the study and how these subjects will be selected from the population*):

SAMPLE SIZE: 50

SELCTED THROUGH THE OF QUANTITATIVE CONVINIENT SAPLING

5. Subject Recruitment/Sampling Methods (*Explain all procedures in detail*):

WOMEN MAY BE INTERVIEWED BEFORE OR AFTER CONSULTATION WITH THE HEALTH CARE PROVIDER ON THE DAY OF THE CLIENT HAS COME TO THE FACILITY ON THE BASIS OF A BOOKING MADE. THE WOMEN WILL GIVE A CONSENT BEFORE BEING INTRVIEWED.

6. Data Collection Methods (*Explain all procedures in detail*)

A FORMAL CONSTRUCTED QUESTIONNAIRE WRITTEN IN ENGLISH AND SETSWANA WILL BE ADMINISTERED TO THE RESPONDENTS FOR COMPLETION. THE RESEARCHER WILL BE PRESENT TO CLARIFY ANY QUIRIES AND TO REASSURE THE RESPONDENTS ABOUT CONFIDENTIALITY.

7. Data Analysis (*Briefly explain how data will be analyzed*)

SIMPLE DATA ANALYSIS WILL BE DONE THROUGH CLASSIFICATION OF NUMEROUS OBSERVATIONS. SMALLER CATEGORIES OF CONCEPTS WILL BE DONE DURING THE FIRST STAGE OF DATA PROCESSING. FURTHER MANIPULATION OF RESEARCH STATISTICS WILL BE CARRIED OUT IN ORDER TO DEVELOP INTERPRETATION AND CONCLUSION TO ANSWER RELATED RESEARCH QUESTION. DATA ANALYSIS WILL BE COMPUTERISED.

8. Piloting/Pretesting (*Explain all procedures in details*)

PILOT-TESTING WILL BE DONE PRIOR TO THE ACTUAL CONDUCT OF THE RESEARCH PROCESS. A SMALL GROUP OF SUBJECTS WILL BE USED WHO ARE NOT NECESSARILY THE REPRESENTATIVES OF THE RESEARCH POPULATION BUT PEOPLE WHO THE QUESTIONNAIRE IS AT LEAST RELEVANT. THE RESEARCH INSTRUMENT WILL BE TESTED AT LEAST 2-WEEKS BEFORE COLLECTION OF DATA.

9. Protection of Subjects (*Describe measures to protect subjects from and minimize possible risk of harm, discomfort, or inconvenience*):

10. Approximate Date Study Recruitment will begin: _____

11. Estimated Duration of entire study: _____

Section E: Subject Information

1. Inclusion Criteria
2. Exclusion Criteria:
3. Does the study involve Vulnerable Groups? (Tick all that Apply)? Elderly <input type="checkbox"/> Children <input type="checkbox"/> Pregnant women, fetuses, or neonates of uncertain viability or nonviable <input type="checkbox"/> Prisoners <input type="checkbox"/> Decisionally impaired Persons <input type="checkbox"/> Minority and indigenous groups <input type="checkbox"/> Low Literacy <input type="checkbox"/> Economically Disadvantaged <input type="checkbox"/> Other _____ <input type="checkbox"/> N/A <input type="checkbox"/>
4. Does this study involve any use of a drug? No () Yes (). If yes, is the drug registered or given exemption status (IND studies) by the Drug Regulatory Unit in Botswana? If yes attach proof)_____
5. Reasonably foreseeable risk or discomforts to the subjects (list in detail):
6. Who will cover Subject Injury-Related Costs? i. Sponsor <input type="checkbox"/> ii. Third-Party Payers <input type="checkbox"/> iii. Subjects <input type="checkbox"/> iv. N/A <input type="checkbox"/> v. Other _____

7. Potential benefits to society and to subjects (do not include compensation):
8. Give details of Botswana based personnel that will be involved (Name, functions and qualifications):
9. Any remuneration given to subjects? Yes () No (). If yes, specify:
10. Will the participant incur any financial cost in this study? Yes () No (). If yes, specify:

Section F: Data Sources

1. Sources of Data

- i. Focus Group(s) ()
- ii. Interviews ()
- iii. Questionnaires/Surveys ()
- iv. Census/Public Records ()
- v. Human Biological Specimen
() Archive () Prospectively Collected () Discharged () Stored Samples
- vi. Medical Records ()
- vii. Registers (e.g. TB register and Cancer register) ()
- viii. Other _____

Section G. Study Details

1. Capacity Building (<i>how will the study build capacity in the country</i>)
2. Dissemination (<i>How will the study findings be disseminated</i>)
3. Other Ethical Body(ies) Involved in the review of the study

Section H: Sponsor Information

1. Name of Sponsor: _____

- 2. Type of Sponsor:**
- i. Government
 - ii. Private Foundation
 - iii. Industry
 - iv. Internal
 - v. Other

3. Sponsor Contact Person: _____

4. Sponsor Contact Telephone: _____

Section I: Contact Information:

PI or other researchers for answers to questions about the study or research-related injuries (<i>You must offer at least two contacts</i>):	The HRDC representative who can answer questions about their rights as research subjects
<p>i).</p> <p>ii).</p>	<p>Name _____</p> <p>Head of Health Research Unit</p> <p>Ministry of Health</p> <p>Private Bag 0038</p> <p>Botswana</p> <p>Tel: (+267) 3914467</p> <p>Fax: (+267) 3914697</p>

Section J: Investigator's Statement

INVESTIGATOR'S STATEMENT OF ASSURANCE

I promise to abide with existing relevant International Declarations and National procedures and guidelines when undertaking research involving human subjects within the Republic of Botswana and agree to:

- 1. Ensure that all studies conducted on human participants are designed and conducted according to sound scientific and ethical standards within the framework of good clinical practice.**
- 2. Report to the Health Research and Development Committee any information requested, serious or unexpected adverse events and any information related to national programs.**
- 3. Unless if an emergency treatment for patient care, obtain prior approval from the HRDC before amending or altering the scope of the project or implementing changes in the approved consent form(s).**
- 4. Submit progress reports as required by the HRDC.**
- 5. Maintain all documentation including consent forms and progress reports.**

Principal Investigator's Name:

Principal investigator's Signature:

Date:

Principal Investigator's Position:

Local Investigator's Name:

Local investigator's Signature:

Date:

Local Investigator's Position:

After Completion

- 1. An electronic and hard copy of the report should be submitted to the Health Research Unit, Ministry of Health as well as other relevant Botswana Government Institutions/Organizations within 3 months of producing a bound report.**
- 2. All continuing renewals should be submitted at least 6 weeks before the expiration.**

Section K. For Health Research Unit use ONLY.

1. Date Received	6. Review Body <input type="checkbox"/> Health Research Unit <input type="checkbox"/> HRDC
2. Final Outcome	
3. Ref No:	
4. Expiration Date:	
7. Continuing renewals extension Date 1 _____ Date 2 _____ Date 3 _____	
8. Final Report Submission <input type="checkbox"/> Yes Date _____ <input type="checkbox"/> No	

RESEARCH CONSENT FORM

I, on this day of 2006
hereby consent to

- complete the questionnaire developed by Mrson the topic “.....(put in you topic)”
- the use of data derived from these questionnaires by the researcher in the research report as she deems appropriate

I also understand that:

- I am free to terminate my involvement or to recall my consent to participate in this research at any time I feel like it
- information given up to the point of my termination of participation could, however, still be used by the researcher
- confidentiality will be maintained by the researcher and that the identity will not be linked to information
- no reimbursement will be made by the researcher for information given or participation in this project
- I may refrain from answering questions should I feel these are an invasion of my privacy
- by signing this agreement I undertake to give honest answers to reasonable questions and not to mislead the researcher
- I will be given the original copy of this agreement on signing it

I hereby acknowledge that the researcher has

- discussed with me in detail the purpose of this research project
- informed me about the contents of this agreement
- pointed out the implication of signing this agreement

In co-signing this agreement, the researcher has undertaken to

- maintain confidentiality and privacy regarding the participant's identity and information given by the participant
- arrange in advance a suitable time and place for the completion of the questionnaire to take place
- safeguard the duplicate of this agreement

INFORMANT:

RESEARCHER:

DATE:

DATE:



GUIDE - CONSENT FORM

Consent is a process involving the free interchange of information between the prospective subjects and the investigator. Informed consent must be sought under circumstances that provide subjects (*or their legally authorized representative*) sufficient opportunity to consider whether or not to participate and that minimize the possibility of coercion or undue influence. Researchers have the duty to ensure that the participants comprehend the information given. The verbal and written briefing of the participants must be in a manner, level and language that they understand.

A Consent form should at a minimum include the following information:

1. Title of study

2. Introduction

An introductory statement

3. Purpose of the study

A statement on what the research is for. What are the expectations? Etc.

3. Eligibility Criteria

4. Study Procedure

State whether procedure is experimental or not experimental, description of all procedures which will be followed and all treatments or procedures. It should state how treatment will be administered and include visit schedules etc. If the study is clinical, indicate study design i.e. Randomized Trial, Blind Trial, Case Cross-over or Placebo. State the approximate number of subjects to be involved in the study and the duration of the study.

4. Alternative Procedures

A disclosure of appropriate procedures or courses of treatment, if any that might be advantageous to the subject and their attendant risk and benefit. To enable a rational choice about participating in the research study, subjects should be aware of the full range of options available to them.

5. Blood tests

State if blood samples will be collected from subjects and name the types of tests that will be performed on the sample as well as the volume of blood that will be collected during each visit.

6. Risks and/or discomfort

This is a description of any foreseeable risk or discomforts to the subjects. If there are risks to participation, describe them for each procedure or drug. List all expected and occasional side effects. List all side effects, no matter how rare, that are life altering or potentially life altering. State if there are risks associated with the research. Describe more than minimal risks.

7. Handling of Research Related Injury

Describe how research related injuries would be handled by the researcher.

8. Benefits

A description of any benefits to the subject or others which may reasonably be expected from the research. If no direct benefit is anticipated, that should be stated.

9. New information

A statement that participants will be informed of any new findings which develop during the course of study that may relate to their willingness to continue in the study.

10. Costs to Subjects and Compensation

State any additional cost to the subject that may result from the research. State if there is any compensation to the participant.

11. Voluntary Participation

A statement that participation is voluntary (right not to participate) and that refusal to participate will involve no penalty or loss of benefits to which the subjects are otherwise entitled to.

12. Right to Withdraw

Subjects should be informed on their right to withdraw at any point in time and consequences of a subject's decision to withdraw from research. If applicable, describe circumstances under which the subject's participation may be terminated by the investigator without regard to the subject's consent (but subject must be informed).

13. Privacy, Anonymity and Confidentiality

Information on the extent of privacy, anonymity and confidentiality that will be provided to participants. This should describe measures to be used to maintain confidentiality of records and data pertaining to the subjects. A statement on institutions that will be allowed to review/inspect records should be included.

14. Future use of Information

The future possible use of the information and data obtained, including use as a database, archival research or recordings for educational purposes.

15. Storage of specimen

State the period of storage for specimens, where specimens will be stored, explain how you might use stored specimens in the future, blinded or unlinked, procedures for requesting withdrawal of specimens and what procedures will be followed for future use of these stored specimens.

16. Who to contact

Give contact details for

Information on the rights of the participants in the trial (Name of IRB representative)

Questions and Injuries related to study (Name of Researcher)

17. Statement of consent

Write a statement of consent, dates and signature of the participant and study staff member conducting consent.

CHALLENGES ON ANTIRETROVIRAL MEDICATION ADHERENCE IN HIV/AIDS INFECTED WOMEN IN BOTSWANA

QUESTIONNAIRE

1. OBJECTIVES OF THE STUDY

To describe and explore problems of religion, culture and social factors associated with antiretroviral medication adherence in HIV/AIDS infected women in Botswana.

2. ETHICAL CONSIDERATIONS

The information presented herein will be treated confidentially. Please do not write your name in this questionnaire.

3. INSTRUCTIONS

Please respond to all questions

Choose your response by providing “X” in the box corresponding to the chosen alternative(s).

Please answer all questions with honesty.

Answer questions according to your personal opinion and experience.

Answer the question by placing “X” in the box for the appropriate response(s).

SECTION A: DEMOGRAPHIC DATA

1. How old are you?

AGE	
18 years	1
19 years	2
20 years	3
21 years	4
22 years	5
23 years	6
24 or over	7

2. What is your marital status?

MARITAL STATUS	
Single	1
Married	2
Cohabiting	3
Divorced	4
Widowed	5
Separated	6
Any Other	7

3. What is your level of education?

LEVEL OF EDUCATION	
None	1
Primary Level	2
Secondary Level	3
Diploma Level	4
Tertiary Level	5
Any Other	6

4. What is your place of residence?

PLACE OF RESIDENCE	
Gaborone	1
Tlokweng	2
Gabane	3
Kumakwane	4
Moshupa	5
Mochudi	6
Morwa	7
Mogoditshane	8
Lentsweletau	9
Oodi	10
Kopong	11
Mmankgodi	12
Metsimothabe	13
Kanye	14
Thamaga	15
Ramotswa	16
Any Other	17

5. What is your religious affiliation?

RELIGIOUS AFFILIATION	
Muslim	1
Hindu	2
Christian Faith	3
Other please specify	4

SECTION B: SOCIO-ECONOMIC STATUS

6. What is your employment status?

EMPLOYMENT STATUS	
6.1 Employed	1
6.2 Unemployed (but seeking employment).	2
6.3 Unemployed (but not seeking employment).	3
6.4 Self – employed	4
6.5 Any Other	5

SECTION C: TRADITIONAL AND CULTURAL BELIEFS

7. Which cultural or traditional beliefs positively influence your everyday life?

CULTURAL/TRADITIONAL BELIEFS (positive)	
7.1 Family support during childbirth	1
7.2 Family support during bereavement	2
7.3 Food sharing	3
7.4 Voluntarism	4
7.5 All of them	5
7.6 Any Other (specify please)	6

8. Which beliefs negatively affect your decision making in the home?
(Multiple responses are acceptable)

NEGATIVE CULTURAL/TRADITIONAL BELIEFS	
8.1 Denied power over your life	1
8.2 Strict rules regarding widows	2
8.3 Rules and control concerning family assets	3
8.4 Societal acceptance of man as the head of the family	4
8.5 Any Other	5

9. When you fall ill do you always consult traditional healer first before consulting modern medical doctor?

	YES	NO
9.1 Consult traditional healer first	1	2

10. If you consult traditional healer state reasons. (Multiple responses are acceptable)

REASONS	
10.1 I Strongly believe in traditional healers	1
10.2 Traditional healers know causes of illnesses	2
10.3 Traditional healers can treat most illnesses	3
10.4 It is my family's tradition to consult traditional healers first	4
10.5 Any Other(specify)	5

11. Do you think traditional healers understand the causes of HIV/AIDS?

	YES	NO
11.1 Understand causes of HIV/AIDS	1	2

12. If No, state reasons

REASONS	
12.1 They say HIV/AIDS is caused by boswagadi (a condition that occurs in widows after the death of husbands)	1
12.2 HIV/AIDS is caused by committing serious sins	2
12.3 HIV/AIDS is the same as Tuberculosis	3
12.4 Any Other (specify)	4

13. Which cultural beliefs / tradition interfere with one's decision making concerning health seeking behavior in the home?

CULTURAL BELIEFS/TRADITION	
13.1 In some families the man must give permission for seeking medical advice	1
13.2 Husband makes a choice of traditional healer, medical doctor or faith healer to be consulted	2
13.3 Man's authority and power over woman's life	3
13.4 Any Other (specify)	4

SECTION D: ANTIRETROVIRAL TREATMENT AND ADHERENCE

14. Is ARV for curing HIV/AIDS or for boosting the immune system?

ANTIRETROVIRAL MEDICATION	
14.1 Medication for curing HIV/AIDS	1
14.2 Medication for TB and other illnesses	2
14.3 Medication for treating HIV/AIDS	3
14.4 Medication for treating all illnesses	4
14.5 All of the above	5
14.6 None of the above	6
14.7 Any other (specify)	7

15. What do you understand by adherence to Antiretroviral medication?

ADHERENCE	
15.1 Taking ARV medications whenever you can remember	1
15.2 Taking the ARV medication at the right time as prescribed by the doctor.	2
15.3 Taking ARV medications before going to sleep at night	3

16. How long have you been on ARV medications?

ARV MEDICATIONS	
16.1 Below 10 months	1
16.2 10 – 19 months	2
16.3 20 – 29 months	3
16.4 30 – 39 months	4
16.5 40 and above	5

17. Since you started ARV treatment how is your health status?

HEALTH STATUS	
17.1 Worse than before	1
17.2 Same as before (No improvement)	2
17.3 Slightly Improved	3
17.4 Moderately Improved	4
17.5 Greatly Improved	5

18. Have you ever missed your ARV treatment?

	YES	NO
18.1 Missed ARV treatment	1	2

19. If yes, how many times in the last two months, did you miss your ARV treatment?

NO OF MISSED ARV TREATMENT	
19.1 Once	1
19.2 Twice	2
19.3 Thrice	3
19.4 More than three times	4

20. What were your reasons for missing ARV treatment? (Multiple responses are acceptable?)

REASONS	
20.1 I forgot	1
20.2 Lack of transport money	2
20.3 Did not understand instructions	3
20.4 Nobody to remind me	4
20.5 Worried about my HIV/AIDS status	5
20.6 Don't want to be seen taking ARV medications by people at work	6
20.7 Because of cultural beliefs	7
20.8 Because of religious beliefs	8
20.9 Lack of family support	9
20.10 Recommended by spouse/boyfriend	10
20.11 Any Other(specify)	11

21. How will you ensure that you adhere to your ARV treatment?

ENSURING OF ARV TREATMENT ADHERENCE	
21.1 Get someone to remind me	1
21.2 Always carry my medications with me	2
21.3 Look for financial assistance	3
21.4 My children or husband or other members of the family will read instructions for me	4
21.5 Do away with negative cultural or religious beliefs	5
21.6 Any Other(specify)	6

22. How much support do you get from your husband or boyfriend regarding your ARV treatment?

SUPPORT	
22.1 No support	1
22.2 Not enough support	2
22.3 A lot of support	3

23. If you don't receive any support regarding your ARV treatment, what are the reasons?

.....

.....

.....

24. Do you think culture has an influence on treatment of HIV/AIDS in women?

	YES	NO
24.1 Cultural influence	1	2

25. If yes, state reasons (Multiple responses are accepted)

REASONS	
25.1 Woman is instructed by in laws to take only medications prescribed by traditional healer after the husband's death for a certain period	1
25.2 Forced dependency on husband in terms of finance	2
25.3 Culturally women are expected to bear children even when advised by the doctor against the decision	3
25.4 Any Other(specify)	4

SECTION E: SOCIAL AND ECONOMIC FACTORS

26. Which social and economic factors could pose as obstacles for women on Antiretroviral medications?

SOCIAL FACTORS		
26.1 Husbands attitude	1	<input type="text"/>
26.2 Family attitude	2	<input type="text"/>
26.3 Societal attitude	3	<input type="text"/>
26.4 Community Attitude	4	<input type="text"/>
<u>ECONOMIC FACTORS</u>		
26.5 Education	5	<input type="text"/>
26.6 Employment	6	<input type="text"/>
26.7 Lack of Money	7	

27. Which other factors can interfere with the taking of ARV medications by HIV/AIDS infected women?

FACTORS		
27.1 Over indulgence in alcohol	1	<input type="text"/>
27.2 Drug abuse	2	
27.3 Number of pills	3	
27.4 ARV side effects	4	
27.5 Any Other	5	

28. Have you ever been stigmatized because of your HIV/AIDS status?

	YES	NO	
28.1 HIV/AIDS stigma	1	2	<input type="text"/>

29. If yes, by who? **(Multiple responses are acceptable)**

STIGMA		
29.1 Husband	1	<input type="text"/>
29.2 Boyfriend	2	<input type="text"/>
29.3 Children	3	<input type="text"/>
29.4 Parents	4	<input type="text"/>
29.5 Friends	5	<input type="text"/>
29.6 Colleagues at the work place	6	<input type="text"/>
29.7 Community	7	

30. Have you ever been discriminated because of your HIV/AIDS status?

	YES	NO
30.1 HIV/AIDS discrimination	1	2

31. If yes, by who? **(Multiple responses are acceptable)**

DISCRIMINATION	
31.1 Husband	1
31.2 Boyfriend	2
31.3 Children	3
31.4 Parents	4
31.5 Friends	5
31.6 Colleagues at the work place	6
31.7 Community	7

SECTION F: GENDER AND INEQUALITY

32. Do you think gender and inequality can affect ARV adherence in HIV/AIDS affected women?

	YES	NO
32.1 Gender and inequality	1	2

33. If yes, in question (32) state reasons

REASONS	
33.1 Women are culturally dominated by men in the homes in relation to decision making	1
33.2 Man can use his power to stop the wife from taking ARV medications	2
33.3 Violence against women in the home can affect ARV medication adherence	3

SECTION G: PERSONAL EXPERIENCE RELATED TO HIV STATUS

34. How did you feel when you were told that you are HIV positive? Briefly explain in few words.

.....

.....

.....

35. After you were told by the Health care professional that you are HIV positive, who of your relatives did you tell?

TELLING RELATIVES	
35.1 Mother	1
35.2 Father	2
35.3 Husband	3
35.4 Children	4
35.5 Boyfriend	5
35.6 Friends	6
35.7 Nobody	7

36. If you told nobody, give reasons

REASONS	
36.1 I was afraid	1
36.2 I did not want anybody to know	2
36.3 I thought they will turn against me	3
36.4 I thought my husband / boyfriend will reject me	4