TITLE: Do HIV positive people combining ARVs with immune boosters, traditional herbal medicines or vitamins experience viral resistance and treatment failure than those taking ARVs only?

A mini-thesis submitted in partial fulfillment of the requirement for the degree of Master of Philosophy (HIV/AIDS Management in the world of work) at Stellenbosch University, Department of Economics and Management).

By

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JANUARY 2009
CANDIDATE’S DECLARATION

I certify that the thesis entitled: submitted for the degree of: Master of Philosophy (HIV/AIDS Management) is the result of my own research, except where otherwise acknowledged, and that this thesis in whole or in part has not been submitted for an award, including a higher degree, to any other university or institution.

Full Name… Nomakula Noluthando Shweni

(Please Print)

Signed………………………………………………Date: 26th January 2009
ABSTRACT

“HIV and AIDS is one of the main challenges facing South Africa today. It is estimated that of the 39.5 million people living with HIV worldwide in 2006, and that more than 63% are from sub-Saharan Africa. About 5.54 million people are estimated to be living with HIV in South Africa in 2005, with 18.8% of the adult population (15-49) affected. Women are disproportionally affected; accounting for approximately 55% of HIV positive people. Women in the age group 25-29 are the worst affected with prevalence rates of up to 40%.

For men the peak is reached at older ages, with an estimated 10% prevalence among men older than 50 years. HIV prevalence among younger women <20 years seems to be stabilizing, at about 16% for the past three years.”(HIV/AIDS AND STI Strategic Plan for South Africa for 2007-2011)

The South African Strategic plan is to reduce morbidity and mortality by providing treatment and care and support to 80 % of those infected by 2011.

With the Sub Saharan region faced with lots of challenges namely –

- migration which is presumed to increase the spread of the disease
- stigmatisation which still prohibits the voluntary testing leading to late discovery of those infected
- Lack of proper leadership by the various states in the Sub Saharan region– which delays the proper rollout of ARVS

It seems as if this plan is easier said than done. People from this region have always believed in alternative medicines like traditional medicines, medicinal herbs and would start at that route first before using antiretroviral drugs or might even combine them. My interest in this study is to see the uptake of these alternative medicines whilst using antiretroviral therapy and what effect is displayed in the users.

**Keywords:** Antiretroviral therapy, traditional medicines, HIV, viral Load, CD4, resistance, side effects, immunity.
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Dedication

This thesis is dedicated to my children who had to struggle with me whilst I was advancing my knowledge and skills not understanding why I had to study whilst working but supported me regardless.

Acknowledgements

I would like to acknowledge the following people who provided me with support and care during the time of my studies.

My Pastors
- Pastor Mike
  Thank you for your encouragement, your support and motivation. Your endless attention and sms’s which always brought me to my senses when hope was dissipating and running away from me.
- Pastor Ruth –
  My mentor, my role model and my teacher. Thank you so much for the time you dedicated to me despite your own projects and responsibilities. Your guidance in this project has assisted me to be independent to strive towards excellence.

Prof Stoltz from the Foundation of Peoples Development – You Have supported this idea of this project despite knowing who I am and you made it your responsibility to assist me. Thank you very much.
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List of Abbreviations

HIV: human immune deficiency virus.

ARVs: antiretroviral drugs –

CD4 - Cluster of differentiation 4 cells

WHO - World Health Organisation

3TC - Lamivudine

ABC - Abacavir

AIDS - Acquired Immunodeficiency Syndrome

ARV – Antiretroviral

AZT - Zidovudine

ART – Antiretroviral therapy

CNS - Central Nervous System

d4T - Stavudine

DdI - Didanosine

NVP – Nevirapine

HAART – Highly active antiretroviral therapy

DOH – Department of Health
Chapter One

Introduction to Research Project

1.1 Aim

To determine if the sole use of ARVs should be recommended in order to reduce the viral load in the body and to prolong the effectiveness of this treatment without having to change the drug combinations untimely. I have looked at the number of HIV positive people combining herbal preparations at the clinic and those not combining them.

Analyse their records looking into:

- What are the popular herbal preparations used by the respondents?
- How often are they taken?
- Whether they are prescribed by physicians or are self prescribed?
- The number of different herbs an individual takes?

1.2 Objectives

- To ascertain the use of other medicinal preparations other than antiretroviral therapy
- To see how effective the use of these is when combined with antiretroviral therapy

1.3 Rationale

It seems as if there is not so much known about the efficacy of ARVs when taken with herbal preparations/traditional medicines. There is not much studying done abroad and even in South Africa about this topic. Seeing that the Sub Saharan regions and the so called Third World Countries use more of these before taking ARVs or when taking ARVS, it would be interesting to know the effect these have in the improvement of health and viral progression when ARVs are combined.
1.4 Hypothesis

Combining ARVs with herbal preparations (independent variable) leads to treatment failure or resistance to ARVs (dependent variable).

1.5 Null Hypothesis

Combining ARVs with herbal preparations does not lead to treatment failure or resistance to ARVs.

1.6 Operational Definition of Concepts

**HIV:** human immune deficiency virus. Berger R et al. (1994) defines this as a virus that causes AIDS and is transmitted through blood, sperms and vaginal fluids.

**ARVs:** antiretroviral drugs -treatment given to reduce the number of viruses in the body and which assists with the increase of immune system.

**Immune boosters** - Wikipedia defines them as substances (drugs and nutrients) that stimulate the immune system by inducing activation or increasing its activity

**Traditional herbal medicines** – medicines that contain active ingredients plants still in their crude state or natural state with no addition of chemicals

**CD4 (Cluster of differentiation 4 cells)** –is a glycoprotein found in the T cells and is used by the HI virus to enter the body

**Viral Load**- it is the measure of the viral infection in the body- it is used to measure the amount of viral cells in the body

**Resistance**-means that the medications used, in this case antiretroviral therapy, is ineffective to prevent the multiplication of the virus in the body

**Immunity** – describes a state of having enough biological resistance to infection by micro organism invading the body

**Neuropathy** – painful condition of nerve damage, felt in the hands and feet. Person will complain of pins and needles in these areas.

1.7 Background Literature

HIV positive patients need healthy balanced diet and positive living with stress free environments for them to survive longer before being attacked by opportunistic infections. When their immune system fails they then require treatment which will suppress the virus and also increase the immune system. The treatment required is called antiretroviral therapy (ARVs) sometimes called highly active antiretroviral therapy
Antiretroviral therapy (ARVs) is a lifelong treatment that sometimes carries lots of risks like side effects, viral resistance and treatment failure should adherence be compromised.

The benefits for ARVs:

- Suppress the virus
- Increases immune system
- Reduce death rate and prolong life of an HIV positive person
- Postpones further development of opportunistic infections

Most patients diagnosed with HIV/AIDS in the Sub Saharan region are said to prefer herbal preparations before the use of antiretrovirals as they believe in traditional medication and continue taking those regardless of being started on ARVs.

The South African government has taken time to avail ARVs and has contributed to the hesitation for some HIV positive persons to commence ARVs thus increasing the use of traditional medicines or other herbal preparations like immune boosters.

The Medical fraternity has very little information on the drug interaction of these herbal preparations when taken with ARVs and the South African government has commissioned the Medical Research Council to check for safety, efficacy and quality of traditional medicines including immune boosters but have not included drug interaction with ARVs.

An email posted to the website (www.hiv-druginetractions.org) by The Liverpool HIV pharmacology Group Site has revealed that there might be a significant drug interaction between herbal preparations and anti retroviral drugs like non-nucleosides (e.g. stocrin).

It further states that herbal preparations like St John Worts should not be used together with non-nucleotides as they compete with transport proteins and the concentrations of these antiretroviral drugs gets reduced thus resistance might occur and the person might not do well virally.

The general principles for efficacy of ARVs is adherence, they need to be taken at certain times at all times, to be taken on empty stomachs or full stomachs and most importantly there should be careful monitoring and that includes drug interactions and side effects as per The Guidelines by WHO (2001).

The study I intend to undertake will reveal that using herbal preparations, Immune boosters and/or vitamins whilst on ARVs decreases the concentration of ARVS thus reducing their effectiveness and might lead to treatment failure and/or viral resistance of health and viral progression when ARVs are combined.
1.8 Research Problem

Effectiveness of Antiretroviral therapy when together with herbal medicines, traditional medicines and immune boosters. I want to ascertain whether there can be some benefits if both world of medicine are combined or can there be some drug-drug interactions.

1.9 Research Question

Does antiretroviral therapy work effectively when taken together with other medicinal preparations like traditional medicines, vitamins and immune boosters?

1.10. Research Methodology

1.10.1 Population, sample, source

Population refers to all events, things or individuals to be presented in a research project (Christensen, 2006). Sample refers to any number of individuals. The population to be used will be from the community of Northern Pretoria mostly black population group made of male and females who already taking antiretroviral therapy and assuming that some of them will be taking other medicines like traditional medicines.

1.10.2 Comparative sample source

The control group which does not or has not receive the independent variable in this case –the group that does not is not taking traditional medicines or herbs.

1.10.3 Instruments

I have be used a questionnaire and do records review as well. Questions should be clear and unambiguous and to be relevant to the topic.

1.10.4 Interview method

• Face to face interview method

It is going to be a face to face method and the investigator will obtain a response from the respondents. The advantage for this type of method is that it allows the interviewer to clear any ambiguities and information offered is usually complete. The only disadvantage is the interviewer can be biased to certain group or gender if a topic is against her own beliefs.

1.10.5 Data Analysis

This is the presentation of the result from the data collected and will provide
information and what it means. It will include statistical data such as means and deviations.

1.10.5 Validity and reliability

Validity refers to the extent to which an empirical measure reflect them earning of the concept under validation (Anderson, 2005). Reliability – refers to whether a certain technique applied will the same result each time is it applied (Homsy and King, 1996).

1.11 Ethical Statement

A protocol was submitted to the Health Committee of the University of Pretoria (as the Centre is a Research Centre under the Pretoria Hospital, the University and the Foundation of Peoples Development), for approval and permission to collect data, considering that HIV/AIDS is still treated with extreme confidentiality. A preliminary permission was granted so as to collect data as the investigator was pressed for time .The Committee will be sitting in February.

1.12 Summary

In order to conduct this research, I have conducted a literature review to the identified problem which will reveal the current knowledge of the selected topic. The next chapter is about the reviewed literature.
CHAPTER TWO

Literature Review

2.1 Introduction

ACEME NYILA conducted a study on traditional medicines and ARVS and he was looking at the ethical issues surrounding taking of traditional medicines and the study was conducted in Kwa-Zulu-Natal (Bulterys, M et al., 2002). The HSRC does not have research papers covered on the effectiveness of ARVs when taken with ARVs as well. Most papers are on adherence and compliance.

The WHO Journals, South African Medical Journals, British Journals as well as the American Journal have not yet covered the topic of effectiveness of ARVs when taken with traditional medicines or any other herbal preparations (Sliep 2000).

The Medical fraternity has very little information on the drug interaction of these herbal preparations when taken with ARVs and the South African government has commissioned the

A study done by Ms Caroline Hooper-Box on the African Potato in 2005 revealed that the African Potato reduces the concentration of ARVs when taken together (www.iol.co.za)

From the same website (www.hiv-druginteractions.org) a certain pharmacist and a Senior Lecturer from the University of Kwa-Zulu Natal by the name of Andy Gray wrote a letter to the Liverpool group saying that it seems in their researches there is more a concern on toxicity rather than loss of efficacy and I concur with him as I had the same conclusion as well looking at available papers and reports posted via the internet.

An email posted to the website (www.hiv-druginetractions.org) by The Liverpool HIV pharmacology Group Site has revealed that there might be a significant drug interaction between herbal preparations and anti retroviral drugs like non-nucleosides (e.g. stocrin).

It further states that herbal preparations like St John Worts should not be used together with non-nucleotides as they compete with transport proteins and the concentrations of these antiretroviral drugs gets reduced thus resistance might occur and the person might not do well virally.
2.2 Antiretroviral Program

Antiretroviral program is a program set down by the WHO in the treatment of HIV/AIDS.

WHO- is a specialised agency of the UN that acts as a coordinating authority for all international public health issues. It sets the standards and guidelines for countries for all public health related matters.

WHO recommends that anti retroviral programs should be started for adults and adolescents in resource limited settings regardless of the cd4 count as long as there is an underlying opportunistic disease although ideally it should be started when the CD4 count is less than 2000 (Peltzer, Mngqundaniso, Petros, 2006).

It recommends that people should be commenced on triple therapy (three drugs) a combination of two nucleosides and one non-nucleoside commonly known here in South Africa as HAART. This will consist of a combination of two nucleosides and one non-nucleotide, for example AZT, 3TC or d4t (nucleosides) and Stocrin / NVP (both nucleosides). This recommendation is based on cost, efficacy and toxicity which are considered less in these combinations. (Nzima M et al., 1996).

2.3 South African Treatment Program

The South African DOH (Department of Health) devised guidelines in 2004 on therapy available for Adults and children and fully lays down what treatment to be given and the criteria used. This forms only a guide to the practitioner and they may use their own discretion and is dependent on the available drug combination at any hospital’s and the clinic’s disposal. The South African government based its guidelines on the recommendation laid down by the WHO.

It informs the medical personnel the level CD4 count must reach before treatment is started but also informs of the variations, for example, it states that if the CD4 count is above 200 and the patient has an opportunistic disease like meningitis, treatment maybe commenced.

The guidelines inform the medical personnel of the different categories of people needing ARVs, the different regimens and combinations available in the country and the side effects. (SA National HIV/AIDS Treatment guidelines, p6-24)

Ojikutì et al., (2006) reports, in his analysis of barriers to ARVs, that South Africa has to date 5.3 million people infected with HIV and has a million people needing treatment with ARVs. Also South Africa is carrying one quarter of the treatment burden of the African Continent.
2.4 Alternative Treatment Methods

Alternative treatment methods are substances used to treat illnesses that are not regarded as standard western treatment methods e.g. traditional medicines (aidsinfonet.org). These are methods practiced in different areas of the world like China, most countries in the African Continent and most likely the Third World Countries (Homsy, Kabatesi, Nshakira et al., 1995). It is methods like:-

- Traditional healing practices such as ayurveda, Chinese acupuncture, and Native American healing
- Physical therapies such as chiropractic, massage, and yoga
- Homeopathy or herbs
- Energy work such as polarity therapy or reiki
- Relaxation techniques, including meditation and visualization (Porter, 1996).

These methods do not necessary treat the disease but provide relief of symptoms and pain. In HIV/AIDS people use them because they could not afford ARVs and sometimes did not believe the existence of HIV/AIDS. Thus commencement of ARVS will happen after the person has tried all else and has failed to get relief and might even continue to take these like traditional medicines in order to get better quickly.

Tshibangu et al., (2007) conducted a study for eight months assessing the effectiveness of traditional herbal medicines on 33 HIV positive persons. He reports that herbal medicines can be used as alternative therapies and immune boosters as there was a significant improvement in physical health, an increase CD4 count and a drop in viral load (East African Journal, 2006). Mahlangu (2004) in her paper on self reported use of traditional, complementary over the counter medicines is reporting that 8.9% of the her respondents used some of these (Mahlangu: www.bioline.org).

2.5 Side Effects

ARVs like any other drug is a chemical that produces adverse effects in the body sometimes minor sometimes major. One might get headaches, tiredness, insomnia, dizziness or stomach ache and these will go away within two weeks to three months of commencing treatment. The major side effects become a problem in the treatment of HIV/AIDS as they sometimes lead to deformity and major discomfort leading to stopping of the medication (SA National HIV/AIDS treatment guidelines).
To name but a few these –

- Lipodystrophy – fat loss in arms, legs and face, fat gain in the stomach and back of neck. Person may mistake this to weight loss and not do anything about it.
- Anaemia – shortage of HGB – a protein that carries oxygen from the lungs to the rest of the body. This causes fatigue and may aggravate the sickness of the individual.
- Mitochondrial toxicity - destruction in the body structures. May lead to kidney damage, lactic acid build up and neuropathy. A person may feel pins and needles on both feet and even swelling of the feet - very discomforting.

All these side effects mentioned above are the causes of the use of alternative methods and the mistrust of ARVs (aidsinfonet.org). Ernst in his paper writes that herbal medicines can also cause psychiatric and neurological adverse effects due to improper use, contamination, toxicity and drug interactions with the conventional medicines like ARVS (Smith, Williams, Johnson, 1997).

A study conducted by Lattu, King, Kabatesi, et al (1994) in Western Uganda on use of traditional herbal medicine by AIDS patients reports that of the 137 recruited most were combining, 69 was only taking ARVS and 68 were only getting alternative therapies (Nshakira, Kwamya, Ssali, et al., 1995).

2.6 Challenges faced by Medical Personnel

According to the paper on Scaling up AIDS treatment in Africa – issues and challenges there are 100 000 people on antiretroviral treatment and an outstanding number of 4.4 million still to be put on ARVS by the Sub-Saharan countries (www.uneca.org/CHGA).

Limited Resources:

There needs to be more clinics or ARV centres to implement the roll out of ARVS but the countries need more money in order to increase the resources. Cost of ARVs is said to have dropped but it is still high for the poor man who is not working and is solely dependent on a grant. The Report on Scaling up challenges informs us that in Nairobi there are no laboratories.

Capacity:

Lack of well informed medical personnel in the field of HIV/AIDs. Migration of doctors and nurses to well resourced countries has left a big gap in the capacity of medical personnel in the Sub Saharan region mostly in South Africa. Those who have remained are getting sick in high rates. The various countries need to train more doctors and nurses, review remuneration and working conditions. The Report on Scaling up Challenges informs us that in Nairobi most doctors who diagnose and prescribe have never been
trained on HIV/AIDS. There are no proper follow up procedures of those who have been started on ARVs.

**Leadership:**

For sometimes the Sub Saharan region has been lacking effective governance and leadership when it comes to the management of HIV/AIDS.

**2.7 Summary**

Based on this background I believe that this topic will lead me to discover widespread use of alternative methods which might show either ineffectiveness of ARVs, if taken together with these. It must be a challenge to get a true reflection of the patient practices as they might not have enough trust of the investigator. I hope that the clinic will take over where the investigator has left off so as to gather more data if the capacity permits. Next is the chapter that deals with methodology used to conduct the study Scheinman D et al, 1992).
CHAPTER THREE

Methodology

3.1 Introduction

On examining possible research methods, the main concern was to choose a methodology that would provide a framework within which the research question could be meaningfully addressed (Fals-Borda and Rahman, 1991). The study adopted a survey method research approach. Although data derivation and reduction strategies based on quantification are often viewed as most reliable for achieving knowledge and generalisability of that knowledge, “the transformation of phenomena into quantitative data is not a guarantee of knowledge” (Bernard, 1995).

There is need to conduct studies on any topic related to HIV/AIDS as it is still an interesting virus which the scientists have not managed to find a cure for. There is still a need for vaccines, various treatment methods and preventative measures. My interest lies in how the treatment interacts with other agents of treatment not developed scientifically and whether these agents do actually treat the symptoms or do they do more harm. My study can be best done by surveying those that are already taking treatment.

3.2 Research Design

The research design I will use is the SURVEY METHODOLOGY

SURVEY METHODOLOGY - according to Survey Research Methods (2nd Ed, p51), is a method that examines a sample from a population and is conducted in order to make a descriptive conclusion about that population.

3.2.1 Study Population, sample, source

As the samples of the population I will be using are already taking the treatment I will not be able to use an experimental approach so I will conduct a study post the fact.
I will therefore use an **ex post facto research design**- THETA (2000) states that it is a study in which the variable/s the researcher is interested in cannot be manipulated but must be chosen after the fact.

The population to be used will be from the community of Northern Pretoria mostly black population group made of male and females who are already taking antiretroviral therapy and assuming that some of them will be taking other medicines like traditional medicines (Rogerson, 2002). These must be attending an ARV Center situated at Steve Biko Academy Hospital situated in Gezina Pretoria which is under the Foundation of People Development. I expect to get a sample of 100 people who will agree to be interviewed.

### 3.2.2 Interview Group

I have received a preliminary permission form the Ethics Committee for the purpose of collecting data as the Committee will be sitting in February and I am pushed for time, to do the study at their ARV Clinic run in conjunction with University of Pretoria and the Foundation of People Development based in Pretoria. The sample will be done randomly from a population that is already taking treatment and they will be grouped into two - those taking ARVs only and those taking combinations (ARVs and herbal preparations).

Consent will be sought after from the head of the clinic and from the respondents as well. They will be assured of confidentiality and if needed, a confidentiality form will be
signed. They will be given an option to refuse to participate and the use of a recorder in order to capture the data as is from the respondent will be used. The information will then be populated onto the computer and all data to be collated by the researcher.

3.2.3 Comparison Group

The same sample will be the same as above. They will be the control group who have never taken combination of any other medicines since commencing antiretroviral therapy.

3.2.4 Interview Method

Face to face interview method

It is going to be a face to face method and the investigators have obtained a response from the respondents. The advantage for this type of method is that it allows the interviewer to clear any ambiguities and information offered is usually complete. The only disadvantage is the interviewer can be biased to certain group or gender if a topic is against her own beliefs.

3.4 Research Instruments

Open and closed questions will be formatted into questionnaires which will be handed out at the Clinic. These will cover the use of traditional medicines, vitamins and other herbal preparations. I will also use. The clinic records and the blood results with the permission of the respondents to assess the improvement displayed following the commencement of ARVs and other substances. The personnel will be interviewed as well for their evaluation of the effectiveness of treatment taken.

The limitations of this design and its weaknesses like the attitude of the interviewer will be taken into account when interpreting the results. Some of the limitations may be time
3.5 Validity and Reliability

Validity – the tool used should be able to give an empirical measurement.

Reliability – Asking questions that are irrelevant might yield unreliable results. The attitude and preference of the investigator might yield unreliable results. The questionnaire should have structured questions that are straightforward, relevant to the topic at hand and clear. Validity and reliability were addressed using criteria appropriate for the research method (Narayan, 1996). Credibility, concern with the lived experience as perceived by the participants, and fittingness, the ability to fit the data into the findings from which they were achieved by ensuring that conceptual categories can be verified against statements in the interview data and by participants in the study. Follow-up interviews were conducted with ten participants, and all participants were sent a summary of the analysis. Participants were asked to comment on the truth of the descriptions and impressions derived from the interviews in order to verify the validity of the data analysis.

3.6 Data analysis and processing

The dependent variable- from the study will be - "resistance and treatment failure” the result as displayed by respondents, the opinions of clinic staff and the blood results will show the researcher the conclusion. Graphs will be used to show case the results received.

The independent variable from the study
From the study will be” Combination of ARVs and herbal preparations” -the taking or not taking of these will be assessed. Microsoft excel will be used in order to tabulate, graph in columns and/or charts the results obtained uunderstand another’s world. A fear is expressed by researchers that should analysis become too focused on specific steps,
quality may be lost. Unlike other methodologies, research cannot be reduced to a “cookbook set of instructions it is more an approach, an attitude, an investigation posture with a certain set of goals” (Barton and Wamai, 1994).

To analyse the rich wealth of data generated by the in-depth interviews, however, it was necessary that the researcher, follow a set of guidelines. These guidelines were provided by Hycner (Green E (1992) and UNAIDS (2002) who felt a need existed to provide guidelines to researchers who did not have enough philosophical background to know what “being true to the phenomenon” meant in relation to concrete research methods (Hycner, 1985: 280). A practical guideline from Allen (Scheinman D et al., 1992) was also critical. Interviews were audio-taped, transcribed, and subjected to qualitative data analysis. Constant-comparative analysis (Mtullu, 2006 and Kabatesi D et al., 1994; Nshakira N, Kwamya L, Ssali A et al., 1995; Okome-Nkoumou M et al. (2005), a process of constantly comparing the data for similarities and differences, guided data analysis, thus capturing all potentially relevant aspects of the data as soon as they were received. Transcription and analysis of the interviews began immediately following the first interview and was preceded by analyzing the transcribed interviews, line by line, highlighting important ideas and themes. Each theme was coded and recoded using Ethnographic computer program (Seidel, 1988).

Codes was then grouped together and sorted into categories. As the categories emerged, they were examined and linked together. Through the repeated analysis of the data, categories was tested against the interviewed data, revised and modified until core categories were identified which pulled all of the identified categories together and explained most of the variation in the data. Several research processes occurred simultaneously. This method of data processing involved moving back and forth between data collection and analysis, ultimately leading to the construction of the “paradigm model” (McMillen H et al., (2000) or conceptualization of the ARVs and natural medicine.
CHAPTER FOUR

Results

4.1 Introduction

In the management of HIV/AIDS, the medical personnel are faced with the introduction of traditional medicines or other self medications that make it difficult to assess the effectiveness of this disease. The aim of the study was to determine the effectiveness of ARVs when taken together with other alternative methods. This proved to be a difficult task as there were a lot of challenges faced by the investigator (Feuerstein, 1986).

The products used by the people at the clinic visited are mostly traditional medicines and medicines bought from chemists which are said to boost the immune system and television is not making things easier as well as they flight a lot of “good medicines that boost your immune system”. There were substances like ubhejane popular in Kwa Zulu Natal, the African potato, sutherlandia and many others with no names. Approximately 67% of the surveyed group used reported using traditional or alternative therapies currently or in the past (Homsey et al. (2004).

Miller states in a study done 1998 that 64% of patients stated that their doctors were aware of their use of traditional or alternative medicines and had been advised to discontinue the use of such therapies (Miller, 1998).

4.2 Demographics of the Centre

Data was collected at a clinic in Tshwane, an ARV centre with _+6000 patients. There are 4509 on ARVS and 1491 who are not taking treatment. Of the 4509 there 478 children on treatment, 2800 are females and 1708. Of the 1491 not on treatment – 879 are females and 612 are males. In this clinic they service _+ 150 patients per day including new admissions. The Tshwane ARV Centre serves as a study site as well it provides voluntary testing, counselling services, treatment and support to its patients. It
has 8 nurses, a doctor and a pharmacist.

<table>
<thead>
<tr>
<th></th>
<th>No of patients not on treatment</th>
<th>No of Patients taking ARVs</th>
</tr>
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<tbody>
<tr>
<td>Males</td>
<td>612</td>
<td>1708</td>
</tr>
<tr>
<td>Females</td>
<td>879</td>
<td>2800</td>
</tr>
<tr>
<td>Children</td>
<td>-</td>
<td>478</td>
</tr>
<tr>
<td>Total</td>
<td>1491</td>
<td>4986</td>
</tr>
</tbody>
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Table 1: Demographics of patients serviced by the clinic

4.3 Data collection and sample:

Data was collected using a semi structured questionnaire with closed and open ended questions during a face to face interview. The questionnaire consisted of 11 questions. Sample selection was based on taking ARVs alone or with any herbs whether currently or used to and was also based on the assumption that +60% of the black population regardless of where they are coming they are using or have used traditional herbs or immune boosters. A sample of 100 patients was anticipated but due to time constraints and Hospital protocol, it was not possible to get that number. Instead and assumption from data collected from the sister in charge of the clinic an analysis was reached. Of the 150 patients that they see at the clinic – 80 are using herbs or any type of traditional medicine. At the time of my visit there were only 50 patients.
4.3 Data analysis

A cross sectional survey was used as it provides a cost effective way of gathering information in a short pace of time. Data was collected on age, gender, marital status, names and types of herbs, traditional medicines used and for how long it was used. In order to comply with ethical standards, proposal requesting permission for collecting data was submitted to the Ethics Committee of University Pretoria, due to time constraints I was granted preliminary permission whilst awaiting the Committee to sit at end of January (DANIDA, 1999).

4.4 Socio demographic data attending the clinic for ARVs at time of my visit

Table 2

<table>
<thead>
<tr>
<th>Age Category (50)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14-25 = 24</td>
<td></td>
</tr>
<tr>
<td>26-45 = 56</td>
<td></td>
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<tr>
<td>45-55 = 10</td>
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</tbody>
</table>

**Gender**

Female = 68.9
Male = 31.1

**Marital Status**

Single = 65
Married = 15
Widowed = 10
Divorced = 10
4.4 Gender and distribution

Of the patients attending the clinic that day their mean age was 28. The majority were female and single. This distribution is consistent with how the demographics of HIV prevalence are in South Africa where females who are HIV positive in South Africa are more than males. The majority is the 26-55 age groups. In a study by Good C (1987), it is reported that that there are more female patients who were noted to be taking traditional herbal medication concurrently with ARVs than male patients would (Jegede A et al., 2006).

In the study conducted by McMillen H (2004), it is reported as well that majority were female also single and that the use of alternative methods were found to be used by the women older than 30 years of age (Mberesero F et al., 1995).

4.5 Findings

The results were based on 50 people who attended the clinic at the time of investigation, on historical data of the patients and according to information provided by the sister in charge. It has to be noted that of the 4509 patients taking treatment at the clinic, almost 80% of them have taken immune boosters, traditional medicines at some stage during their history of taking ARVs until such time that the doctor or the nurses discovered and advised to stop.

The most popular immune boosters amongst the group was immunadue, aloe vera, garlic supplements, St John’s wort, products, GNLD and others bought over the counter. The Clinic also provides multivitamins which are supposed to boost appetite as patients lose their appetites when opportunistic infections start occurring.

These methods are said to reduce plasma concentrations of ARVs and can lead to limited effectiveness of these. Drugs like African Potato are reported to inhibit ARV drug metabolism and transportation in the blood (Durant et al., 2000). According to the
sister the majority of patients in this clinic were diagnosed way after they had started to treat themselves with traditional herbs. Reasons given were that:

- They did not know what was the cause of their illness and it would be attributed to jealousy from family members or community members;
- That the usual practice is to visit a sangoma and he will diagnose and prescribe;
- That it was more affordable to go to the sangoma and they are more accessible to them and finally;
- The patients just wanted to get relief from the symptoms they were experiencing at any given time.

When all else failed the clinic would become the last resort and since the clinic is prescribing treatment that has side effects the patient will resort to combine the two as they still do not trust the western medicines.

The effects the patients will display when they do not do well are the following:

- Decrease in cd4 count
- Increase in viral load or what is known as a viral breakthrough
- Complications like renal shutdown
- Side effects
- Death before use of alternative therapies is discovered

It is reported by the sister that the most common side effects patients display are yellowish discolouration (jaundice) due to liver toxicity, oral thrush, renal problems, and dehydration due to diarrhoea and vomiting, the strangest one for me was worm infestation in the brain. The other not so common complication is a polycystic kidney commonly known as “a shrunken kidney.”

The patients or relatives will inform the sisters or the doctors later when the patient is
hospitalised because of a complication. One patient said he did not believe in this disease and therefore he thought it was a traditional problem and he was dealing with it traditionally and when he was taking the treatment he was washing with it (dissolve the treatment in hot water).

Table 3: This table shows that the virus increased whilst the CD4 decreases when the patient was taking herbs in various degrees.
Conclusion

At the present moment there is no scientific conclusion that completely describes the drug interaction of ARVs. I think there should more studies done to determine the efficacy of ARVs when taken with herbal preparations because there is a myth amongst the black population that ARVs kill more than they improve their health. It is yet to be known whether it was because of the toxicity of combining these or because of loss of efficacy or of viral resistance.

Until there is more information on these topics, the medical fraternity will not be able to give proper advice or even increase the percentage of those taking ARVS. I am hoping to lay to rest the argument between the Minister of Health and the HIV practitioners what is better for the patient - diet, herbs or ARVs or combination of all.

Challenges and limitations

- The study findings may not be generalizable unless the study is done in at least four or more different areas including the surrounding countries.

- The time taken was too short and this kind of a study needs to be done over a period of at least three months in order to get used to the environment so as to yield better results

- It is difficult to remove the investigator’s bias unless the investigator understands what traditional medicines are

- The information was not verified and validated as there was a problem of permission from the clinic’s doctor as much as there was permission from the Committee
There was not chance of proving that herbal medicines can work as the study was concentrating on those taking ARVs already and therefore there patients who might be taking traditional medicines could have given some evidence that these do work if they had been included in the study.

Language barrier of the investigator and the questionnaire

Recommendations

- To do a follow up study for at least a longer period over different areas

- The comparative group to be those not on ARVs who are positive

- To have a multi-linguist doing the study or to use two or three different investigators and design questionnaires which will be in at least two or three different languages

- Clinicians should be vigilant about what therapies patients are using

- Clinicians to work hand in hand with traditional healers and reach a common understand as we are far from proving that western medicine is better than traditional medicines

Reference


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