

3.5.3 Reliability and validity of the HADS

The HADS instrument was found to be reliable and it possesses both construct and criterion validity (Herrmann, 1997). The HADS has been used in a number of studies (Naidoo 2009; Savard, *et al.*, 1999) and has shown to be valid, reliable and comparable. The HADS is a widely used and popular self-report measure that has been extensively translated and utilized in a broad variety of clinical populations. A relatively consistent finding of previous reviews of this instrument is that it is a reliable and valid measure of two independent and separable dimensions of anxiety and depression; indeed this aspect of the HADS is crucial to the validity of the measure in clinical practice (Martin, 2005). The administering of the HADS questionnaire took about 10 minutes to complete in this study. It was found to perform well in assessing severity and caseness of anxiety disorders and depression in both somatic and psychiatric cases and (not only in hospital practice for which it was first designed for) in primary care patients and the general population (Snaith, 2003). In addition to frequent validation for use in the elderly the HADS has been validated for use in adolescents too (Snaith, 2003). The Cronbach alpha for HADS for this study is 0.67 when the anxiety and depression scales were combined to produce a score for psychological distress. The recommended coefficient of the Cronbach alpha is said to be above .60 in order for the instrument to be considered a reliable instrument (Bjelland, Dahl, Haug & Neckelmann, 2002). Thus, the good and reliable Cronbach alpha for the HADS validates its use in the study.

3.5.4 Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q)

The Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q) was used to obtain information pertaining to the degree of enjoyment and satisfaction the participant experiences given the fact that they are infected with the HI virus. It is used to measure health-related QoL in

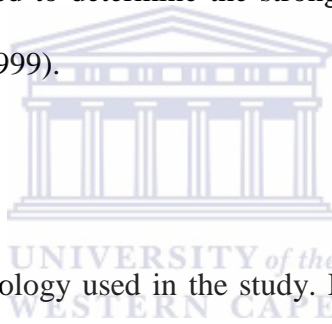
studies on depression amongst other mood and anxiety disorders and for measuring the relationship between depression and QoL. The Q-LES-Q consists of 93-items from the following domains: physical health, subjective feelings, leisure-time activities and social activities, work activities, schoolwork activities, household duties, and general activities. For the purpose of this study, this instrument was translated into isiXhosa. It is worth noting that there were some challenges in this process as some words used in the instrument are not available in the Xhosa vocabulary, and thus a compromise was made. The translations were back translated from Xhosa to English in order to ascertain accuracy of the Xhosa translated version and maintain the meaning from the English version. The questions were rated on a Likert scale from 1-5. The ranges within each domain were between 1.8 minimum and 112.5 maximum, except for work and school work domains (Daly, Trivedi, Wisniewski, Nierenberg, Gaynes, Warden, Morris, Luther, Farabaugh, Cook & Rush, 2010).

3.5.5 Validity and Reliability of Q-LES-Q

Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q) has been widely used in QOL outcome studies of mentally disabled patients since 1993. Researchers found the Q-LES-Q to be a useful instrument for assessing treatment of depression; for evaluating QoL in chronic depression, and bipolar disorder (Ritsner, Kurs, Gibel, Ratner & Endicott, 2005). The Q-LES-Q showed that the test-retest reliability showed high reliability and validity with a Cronbach alpha coefficient for the Q-Physical domain of 0.88 and for the Q-Feelings domain being 0.83 (Ritsner & Eward, 2007; Hakuzimana, 2005). The Cronbach alpha coefficient indicates an overall high internal consistency which is 0.77 for all the domains of the Q-LES-Q in this study.

3.6 Data analysis

The data was analyzed using the Statistical Program for Social Science (SPSS), version 19 (SPSS-SA, 2010). The statistical analysis used descriptive statistics and inferential statistics. Descriptive statistics were used to summarize and organize the data, while inferential statistics was used to generalize and draw conclusions from the data (Pretorius, 2007). Descriptive statistics was also used to describe the data by the scores as it relates to variables such as socio-demographic factors, disease profile and depression and whether the scores on each variable are interrelated (Terre Blanch & Durrheim, 1999). Inferential statistics was used to help provide information regarding the relationships between the variables and to test the hypothesis of the study. Regression analysis was used to determine the strongest predictors of Q-LES (Pretorius, 2007; Terre Blanch & Durrheim, 1999).



3.7 Chapter Summary

This chapter describes the methodology used in the study. It describes the research design, the participants, sampling method and the data collection tools. The chapter also explains the procedure of data collection, the method of data analysis as well as discussion around the ethical considerations regarding the study. The following chapter will give a presentation of the statistical analyses, which includes descriptive statistics and inferential statistics.

CHAPTER 4

RESULTS

Introduction

The results are presented in the following way: (1) social, bio-demographic and psychological distress characteristics of the sample, (2) the nature of the relationships between the variables under study, and (3) the predictive characteristics of biodemographics, psychological distress and quality of life enjoyment and satisfaction of adults diagnosed with HIV or AIDS.

4.1 Description of the Sample

The sample consisted of 121 HIV positive adults in total. A large proportion of the total sample (68.5%) was diagnosed with full blown AIDS, which is an advanced stage (stage three) of the disease and only 31.5% (n=35) reported to be diagnosed with HIV or in the early stages of the disease. The demographic characteristics of the sample are presented below, in Table 4.1.

The sample consisted of 90 females and 31 males. The majority of the participants were clearly females (74.4%) while only 25.6% of the sample was male participants. The mean age of the sample is 31.6 years with standard deviation (SD) of 7.95. A large percentage of the sample fell onto the age ranges of 25 to 49 years old, 81% of the sample. Majority of the participants (91.6%) within the sample were Xhosa-speaking participants, 3.4% were English speaking and 5% was speaking other languages such as seSotho. More than half of the sample was never married before, that is they are single or not legally married, 54.2% of the sample, followed by 24.6% that were married, 13.6% were living together with the partner, 2.5 percent were divorced

and 1.7% were widowed. A large proportion of the sample was unemployed, which is 101 participants (85.6%) of our sample while only 17 participants (14.4%) were employed.

Table 4. 1 Descriptive Characteristics of the Sample

Variables	N	%
Age (N=121)		
Minimum	18	
Maximum	54	
Mean	31.6	
Standard Deviation (SD)	7.95	
Sex (N=121)		
Males	31	25.6
Females	90	74.4
Language (N=119)		
English	4	3.4
Xhosa	109	91.6
Other	6	5.0
Marital Status (N=118)		
Never Married	64	54.2
Living with partner	16	13.6
Separated	4	3.4
Married	29	24.6
Divorced	3	2.5
Widowed	2	1.7
Employment Status (N=118)		
Employed	17	14.4
Unemployed	101	85.6
Diagnosed with HIV or AIDS (N=111)		
HIV	35	31.5
AIDS	76	68.5
Stage of disease (medical) (N=98)		
HIV stage 1	17	17.4
HIV stage 2	21	21.4
HIV stage 3	55	56.1
Other *	5	5.1
On ART (N=120)		
Yes	80	66.7
No	40	33.3
TB (N=113)		
Yes	33	29.2
No	80	70.8

* Either did not know the stage, reported “early stages” or reported “just found out”

Biomedical characteristics

Amongst those that reported to be diagnosed with AIDS (n=76), 56.1% of them were in stage three of the disease or AIDS stage as mentioned above, 21.4% were in stage two, and only 17.4% were in stage one or asymptomatic stage of the AIDS clinical stage categories. The remaining 5.1% of the study participants either didn't know of their stage or had just found out of their HIV status at the time of data collection. A large proportion (66.7 %) of the sample population was taking ART. The others were either being prepared for ART or awaiting their CD count levels. With regards to co-existing medical conditions, 29.2% (n=33) of the participants had TB as a co-infection.

Psychological Distress

Table 4.2 below presents the percentages for different categories of the psychological distress variable. For the category 0-7 which is normal indicating no presence of psychological distress, only 15.1% of the participants scored under this category, 34.5% scored under category 8-12 which is borderline and the large proportion (50.4%) scored under the category 13 and above which is serious presence of psychological distress. Thus, a large proportion of the study sample had a presence of psychological distress.

Table 4. 2 Psychological Distress

Variable Categories	N(119)	%
Normal (0-7)	18	15.1
Borderline (8-12)	41	34.5
Severe (13+)	60	50.4

Quality of life and Enjoyment Satisfaction

Table 4.3 below shows descriptive statistics of various domains of the quality of life measured from the participants. The percentage means for work and school work domains were very low especially on the school work domain at 4.57 with standard deviation (SD) of 12.5.

Table 4.3 Means and SD of Total Scores for the Q-LES-Q

Quality of Life Domains	% Mean	Std. Error of Mean	Std. Deviation	Minimum	Maximum
Q-Physical (N=119)	40.24	1.006	10.975	16	65
Q-Feelings (N=119)	45.79	1.162	12.680	13	70
Q-Work (N=103)	10.80	1.992	20.220	0	65
Q-Household duties (N=119)	29.50	1.162	12.672	0	50
Q-School Work (N=97)	4.57	1.271	12.516	0	50
Q-Leisure (N=119)	19.05	.636	6.938	0	30
Q-Social Relations (N=119)	38.25	.865	9.433	0	55
Q-General (N=119)	49.19	1.281	13.971	0	80

4.2 Psychological Distress and biodemographical characteristics

General cross tabulation of the biodemographic characteristics against psychological distress in Table 4.4 below yielded the following; 48 counts of the 97 in total (49.5%) of the age group 25-49 year olds sample, 10 counts of the 19 in total (52.6%) of the 18-24 age group sample, and 2 (66.7%) out of the 3 in total of the 50 year old and above sample, had significant presence of psychological distress. The highest frequency of the psychological distress was found in 18 – 24 years age group at 52.6%, followed by 49.5 % of the age group 25-49 year olds as indicated above. Further cross-tabulation against between psychological distress and males revealed that 16 (53.3%) of the 30 total males had presence of psychological distress, compared to 44 (48.9%) of the 90 in total females. On the other hand, 11 males (36.7%) and 30 females (33.2%) scored on the borderline category of psychological distress.

With regards to marital status, 32 (50%) of the total 64 of those that reported never married, followed by 14 (50%) of the 28 in total of those who were currently married, and 9 (56.2%) of the 16 of those living with the partner, had presence of psychological distress. On the other hand, 8 (53.3%) of the 15 in total employed participants reported presence of the psychological

distress; compared to a rather very large number of those unemployed, which is 51 (50.5%) of the total 101 unemployed participants who also scored on the probable (severe) presence of psychological distress category.

The table below (Table 4.4) also shows that 65.8% of those who were not on ART yet were distress psychologically, compared to those who were already taking ART at 42.5% who also scored on the category of presence of psychological distress. Overall, about 50% of the total sample had presence of psychological distress. More of the descriptive statistics of biodemographic characteristics are shown in Table 4.4 below.

4.3 Association between biodemographics, psychological distress and QoL

Table 4.5 below shows the association between psychological distress and biodemographics of the participants using the Pearson's correlation coefficients. There was a negative relationship between ART and psychological distress, and that ART was significantly correlated ($r = -.244$, $p < 0.01$) with psychological distress at 0.01 level, 2-tailed. This means that those who were on ART during the time of the study were less likely to be psychologically distressed compared to those not taking ART. On the other hand, there was a positive relationship between TB and psychological distress ($r = .183$, $p < 0.05$) and were significantly correlated at 0.05 level, meaning that the diagnosis of TB is an added burden among PLWHA and it increases the risk for psychological distress.

Table 4. 4 Descriptive for Biodemographical and Psychological Distress Characteristics

Biodemographic Variables	Psychological Distress Categories		
	0-7	8-12	13+
Age Groups in years			
18-24 (N=19)	5 (26.3%)	4(21.0%)	10 (52.6%)
25-49 (N=97)	12 (12.4%)	37(38.1%)	48 (49.5%)
50+ (N=3)	1 (33.3%)	0	2 (66.7%)
Total (119)	18 (15.1%)	41(34.5%)	60(50.4%)
Gender			
Male (N=30)	3 (10%)	11 (36.7%)	16 (53.3%)
Female (N=90)	15 (16.7%)	30 (33.2%)	44 (48.9%)
Total (120)	18 (15%)	41 (34.2%)	60 (50%)
Employment Status			
Employed (N=15)	0	7 (46.7%)	8 (53.3%)
Unemployed (N=101)	17 (100%)	33 (32.7%)	51 (50.5%)
Total (116)	17 (100%)	40 (34.5%)	59 50.8%)
Marital Status			
Never married (N=64)	12 (18.8%)	20 (31.2%)	32 (50%)
Living with partner (N=16)	0	7 (43.8)	9 (56.2%)
Separated (N=3)	0	1 (33.3%)	2 (66.7%)
Married (N=28)	4 (14.3%)	10 (35.7%)	14 (50%)
Divorced (N=3)	1 (33.3%)	1 (33.3%)	1 (33.3%)
Widowed (N=2)	1 (50%)	1 (50%)	0
Total (116)	18 (15.5%)	40 (34.5%)	58 (50%)
On ARV (Yes or No)			
Yes (80)	16 (20.0)	30 (37.5%)	34 (42.5%)
No (38)	2 (5.3)	11 (28.9%)	25 (65.8%)
Total (118)	18 (15.3%)	41 (34.7%)	59 (50%)
TB			
Yes (33)	2 (11.1%)	11 (28.2%)	20 (35.7%)
No (80)	16 (88.9%)	28 (71.8%)	36 (64.3%)
Total (113)	18 (16%)	39 (34.5%)	56 (49.5%)

Table 4.5 Association between Psychological Distress and Biodemographics

Psychological Distress	
Biodemographic Variables	r
ART	-.244**
TB	.183*

**Correlation significant at the 0.01 level (2-tailed)

*Correlation significant at the 0.05 level (2-tailed)

Table 4.6 below shows Pearson's correlation coefficients between QLES domains and biodemographic characteristics of the participants. ART and TB were again significantly correlated ($p < 0.01$) with physical, feelings, leisure, social relations and the general domains of the Q-LES. The relationship between Q-LES domains and TB was negative. Therefore TB has a negative impact on Q-LES of PLWHA. The relationship between ART and Q-LES domains was a positive relationship meaning that being on ART has a positive and beneficial effect on Q-LES of PLWHA.

Table 4.7 below shows Pearson's correlation coefficients between total Q-LES and biodemographic characteristics of the participants. Employment Status, being diagnosed with AIDS, late stage of disease (late clinical AIDS stage), taking ART, and having co-existing medical condition (TB) were again significantly correlated ($p < 0.01$) with overall Q-LES of the participants. All these biodemographic variables had a negative relationship with total Q-LES, except for TB which had a positive relationship with total Q-LES. This means that these factors impact on overall Q-LES of PLWHA negatively, and hence PLWHA reported poor on overall enjoyment and satisfaction. However, as noted in Table 4.6 above, some of these factors (i.e. ART) have a positive impact on the separate domains of Q-LES.

Table 4.6 Association between Q-LES Domains of life and Biodemographics

Biodemographics	Q-LES Domains							
	Q-Physical	Q-Feelings	Q-Work	Q-Household duties	Q-School Work	Q-Leisure	Q-Social Relations	Q-General
On ART	.255**	.244**	.065	.179	.030	.313**	.212*	.276**
TB	-.266**	-.290**	-.262**	-.097	-.043	-.213*	-.359**	-.242**

**Correlation significant at the 0.01 level (2-tailed)

*Correlation significant at the 0.05 level (2-tailed)

Table 4.7 Association between total Q-LES and Biodemographics

Total (overall) Q-LES	
Biodemographics	r
Stage of disease (medical)	-.382**
On ART	.257*
TB	-.353**
Psychological Distress	-.307**

**Correlation significant at the 0.01 level (2-tailed)

*Correlation significant at the 0.05 level (2-tailed)

Table 4.8 below shows Pearson's correlation coefficients between Q-LES domains and psychological distress among the participants. Except for the domains: work and school work, all other domains of Q-LES were significantly correlated ($p < 0.01$) with psychological distress and the correlation was negative. Therefore, the participants with psychological distress scored poor on Q-LES domains and thus psychological distress negatively affects Q-LES of PLWHA.

Table 4.8 Association between Q-LES Domains and Psychological Distress

Psychological Distress	
Quality of life Domains	r
Q-Physical	-.285**
Q-Feelings	-.295**
Q-Work	.035
Q-Household duties	-.237*
Q-School Work	-.149
Q-Leisure	-.295**
Q-Social Relations	-.340**
Q-General	-.336**
Total QoL	-.307**

** .Correlation significant at the 0.01 level (1-tailed)

* . Correlation significant at the 0.05 level (2-tailed)

4.4 Predicting Quality of Life Enjoyment and Satisfaction

Table 4.9 below shows regression analysis for Q-LES, psychological distress and biodemographics of the participants in the study. Psychological distress and TB were the strongest predictors of poor Q-LES ($p < 0.01$) for both, followed by ART for good Q-LES ($p = 0.01$). This demonstrates that having psychological distress and a TB diagnosis has a negative impact on the outcomes Q-LES while being on ART improves the outcomes of Q-LES of PLWHA.

Table 4.9 Regression Analysis for Q-LES, Psychological Distress and Biodemographics
Predicting Q-LES (ANOVA) (R²=0.33 F (5.9) = 19.47)

Predictors	B	t	Partial R
Age group	.118	.1.23	1.34
Sex (Female)	.059	.60	.066
Marital Status	-.122	-1.28	-.140
Employment Status	.334*	3.37	.347
On ART	.216*	2.32	.246
TB	-.238*	-2.53	-.268
Psychological Distress	-.249*	-2.62	-.277

* p <0.05

Table 4.10 below also shows regression analysis for the specific Q-LES domains, psychological distress and significant biodemographics of the participants in the study. Under the domains: physical and feelings, being on ART, TB and psychological distress were the strongest predictors of Q-LES (p<0.01) in these two domains. ART and psychological distress also were the strongest predictors of Q-LES (p<0.01) in the domains of leisure and general. Psychological distress was the strongest predictor of Q-LES (p<0.01) in the in the domains of leisure, social relations and general as well as TB except for the leisure domain.

Table 4.10 Regression Analysis for Q-LES domains and Biodemographics

Biodemographics	Q-LES Domains (P-Value)							
	Q-Physical	Q-Feelings	Q-Work	Q-Household duties	Q-School Work	Q-Leisure	Q-Social Relations	Q-General
Employment Status/ School	.621	.192	.000	.283	.068	.394	.901	.603
On ART	.005*	.008*	.516	.053	.769	.001*	.021	.002*
TB	.004*	.002*	.009*	.304	.683	.024	.000*	.010*
Psychological Distress	.002*	.001*	.726	.010*	.150	.001*	.000*	.000*

*. Significant at the 0.01 level (p <0.01)

4.5 Conclusion

More than a third of this study sample received ART, and their total psychological distress and Q-LES scores were significantly different from those who were not on ART yet. Those who were on ART scored better on the psychological distress and had a higher quality of life enjoyment satisfaction than those who were not on ART. Another third of the study sample had a co-existing medical condition; tuberculosis (TB). These variables (predictors) were the variables that predicted Q-LES strongest with $p\text{-value} \leq 0.01$. In the case of TB, participants who were co-infected with TB scored lower on the Q-LES compared to participants who were not co-infected. The results of this chapter were presented in the form of descriptive and inferential statistics, and will now be briefly discussed in an integrated manner in the next chapter, including the limitations of the study and recommendations for future research.



CHAPTER 5

DISCUSSION

Introduction

The primary research question in this study was: what are the predictors of Quality of Life Enjoyment and Satisfaction among individuals living with HIV or AIDS? In order to answer the research question statistical tests were carried out to determine the association between psychological distress and quality of life enjoyment and satisfaction (Q-LES), as well as to determine the predictors of Q-LES among individuals living with HIV or AIDS in an under-resourced setting. The significant findings of the study are discussed in this chapter. This chapter will begin by discussing the biodemographic characteristics of the sample in relation to quality of life and psychological distress. It will then end with the relationships between biodemographic characteristics, psychological distress and quality of life and enjoyment satisfaction. The study findings are examined in relation to the aims and objectives as well as the hypotheses of the study, integrating the theoretical framework discussed in Chapter 2.

5.1 Characteristics of the sample

Biodemographic Profile

Women in South Africa, as in many other countries are overwhelmingly affected by HIV and AIDS. For example, women in sub-Saharan Africa represent 58% of the people living with HIV and bear the greatest burden of care (UNAIDS, 2012). Our study sample consisted of 74% women with only 26% of the sample were men, who are HIV positive, consistent with previous and current research (WHO, 2007; Freeman, Nkomo, Kafaar, & Kelly, 2007; Shisana *et al.*, 2009; UNAIDS, 2012). Clearly, the number of women in this study is much higher than that of

men. However, women could be over-represented because they agreed to participate more than men as the study used a purposive sampling method. With regards to age a large proportion of the sample was in the age group 25 to 49 years old. Consistent with our findings, previous research also indicated that HIV infection and mortality is extensive in this reproductive age group (Myer *et al.*, 2009). Majority of the participants were also not legally married before, with smaller proportions married; and a few were living together with the partner, divorced and or widowed. These results are not unique as previous research has indicated that HIV prevalence is higher amongst the people that were never married before (Freeman *et al.*, 2007; Shisana *et al.*, 2005; Myer *et al.*, 2009; Shisana *et al.*, 2009; UNAIDS, 2012).

A large proportion (91.6%) of the participants was Xhosa speaking people with some of them having some form of basic understanding of English. In SA, the language Xhosa is a predominant African language in the Eastern and Western Cape regions of the country. This particular study was undertaken in an under-resourced setting or low income community, as mentioned in earlier chapters; hence the lower socioeconomic status of the participants as the majority was unemployed (85.6%) and were Xhosa speaking (Njomo, 2006; du Preez, 2008). The lower socioeconomic and unemployment rates in SA adds a burden on HIV vulnerability as noted by Kaharuza *et al.*, (2006) study in Uganda and supported by Havenaar, Geerlings, Collinson, Robertson, (2008) study on unemployment and lack of education that have been associated with increased risks of psychological disorders in South Africa and potentially increase HIV infection risks. Women are especially affected by this association due to social and economic power imbalances between the genders and thus many women have little or no power to negotiate safe sex in order to protect themselves from HIV (UNAIDS, 2012). This imbalance is further emphasised by the high number of participants in the advanced stages of the disease. In

this study more than half of the participants (56%) were in stage three of the disease or AIDS stage, followed by 21.4% in stage two, and an even smaller proportion was in stage one or asymptomatic stage, consistent with the previous and current status of the epidemic (UNAIDS, 2011 & 2012). The remaining 5% of the participants either didn't know of their stage or had just found out of their HIV status at the time of data collection. Finally, more than half of the sample population (66.7 %) was taking ART, also consistent with the epidemic status (UNAIDS, 2011). The relatively high number of participants on ART could be the result of the escalated ART roll-out programme in the country in order to mitigate the HIV and AIDS burden. The others were either being prepared for ART or awaiting their CD count levels.

5.2 Prevalence of Psychological Distress

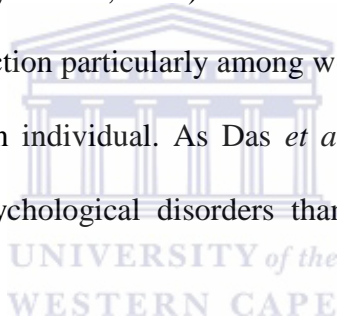
The prevalence of psychological distress in this study is relatively high with more than half of the participants on the significant psychological distress category. Psychological distress, among HIV positive patients has been reported to be associated with accelerated HIV progression to AIDS (Leserman *et al.*, 1999) and that raises concern and creates difficulty in the management of the disease by health care practitioners. Our study revealed that 50.4% had significant presence of (category 13 and above) psychological distress while 34.5% had borderline (category 8-12) presence of psychological distress when screened by the HADS. Thus, more than half of the study participants had a presence of psychological distress. Our findings support previous findings. In a study conducted by Herman, Stein, Seedat, Heeringa, Moomal, and Williams (2009) found that the Western Cape region, the region where the present study was also conducted, has the highest prevalence of common mental disorders, including anxiety and depression (Herman *et al.*, 2009). Also, it has been reported that one in three people with HIV

suffer from depression (Bing, Burnam, Longshore, Fleishman, Sherbourne, London, Turner, Eggen, Beckman, Vitiello, Morton, Orlando, Bozzette, Ortiz-Barron, Shapiro, 2001; NIH, 2002).

The study revealed that 53.3% of the men in the study had significant presence of psychological distress (category 13 and above or severe) compared to 48.9% of the female population. It is important however, to note that the male population of this study was relative smaller than the female population as mention above, although these findings are consistent with previous research. For example, a comparison study of the demographic characteristics and HIV status reported similar findings (Stranix-Chibanda, Chingono, Montgomery, Wells, Maldonado, Chipato & Shetty; 2005). Also, the psycho-social factors affecting both men and women in SA are perceived differently by both genders due to cultural and societal connotations surrounding both genders. It is also worth noting that the highest frequency of the psychological distress was clearly evident in 18 – 24 years age group at 52.6% despite its overall population size (n=19) being smaller than that of the 25-49 year olds. This is generally a vulnerable group in HIV and AIDS, particularly women in this age group. Besides HIV and AIDS, they experience other psycho-social issues such as peer pressure, identity crisis and a sense of love and belonging. Therefore, it is not surprising that many of them had a presence of psychological distress.

With regards to marital status, both those that were never married before as well as those that were currently married scored under the upper category of psychological distress in our study. However, there were more participants who were never married before or not legally married in the study than those who were married. Thus, participants who were never married before had a presence of psychological distress (50%) compared to those that were currently married or living with a partner. The results also show that slightly more employed people (53 %) in the study

were psychologically distressed compared to the unemployed group of people (50%), although the unemployed participants had significant value statistically as they were more unemployed participants (n=101) compared to the employed participants (n=17) in this study. The psychological distress among the unemployed participants could also be due to the added burden of lack of finances to support and maintain their needs and living expenses. This could be very worrying indeed to the ill person as their basic health care needs are difficult to meet, in addition to coping with the straining demands of living with their HIV status. Consistent with our findings, Myer *et al.*, (2008) reported that individuals from low socio-economic stratum (SES) are at 1.5–2.0 more at risk of a major depressive episode compared to individuals from the highest socioeconomic stratum (Myer *et al.*, 2008). It has been well documented that poverty not only drives the spread of HIV infection particularly among women, but also has a negative effect on psychological well-being on an individual. As Das *et al.*, (2007) reported that individuals from lower SES report more psychological disorders than their counter parts; hence these findings are not surprising.



Our findings also revealed that more people (65.8%, n=38) who were not on ART yet were significantly distressed, compared to those who were already taking ART at 42.5% (n=80) who also scored on the category of significant presence of psychological distress. With the revised CD4 count start off for ART initiation, it is expected that individual who are initiated on ART before their CD4 count dropped too low would respond better to treatment and that would also decrease chances of development of other opportunistic infection and minimize treatment side effects. ART improves the immune system functioning and therefore makes ones' condition manageable. With any disease under control, one gradually turns to do better physically and emotionally. Therefore this can offer an explanation to the fewer participants on ART scoring on

the significant category of psychological distress than those not on ART yet as they could still be overwhelmed with and in distress about their disease. They could also be simply anxious about the manifestation and possibly the disease progression and or be overwhelmed with other opportunistic infection and thus presenting with deteriorating health. Our findings are not unique from previous research as Freeman *et al.*, (2007) reported that overall prevalence of psychological disorder was 43.7% and even higher in Stage three of the AIDS disease (Freeman *et al.*, 2007) where it is expected to drastically progress and affects one's health, lifestyle and functioning. The more advance the stage of the disease the higher the chances of development of other opportunistic infections, the more unbearable are the signs and symptoms, and thus one would be in distress.

5.3 Association between biodemographics, psychological distress, and Q-LES

Psychological well-being is essential in mind–body healing and its association with natural killer (NK) cell activities is well known (Hasanah, Zaliha, & Mahiran; 2011). It lowers their production and affects their functioning negatively. This further diminishes the bodies' ability to naturally protect itself from opportunistic infection. Our study found a negative relationship between ART and psychological distress, and that the correlation was significant ($r = -.244$, $p < 0.01$). This means that participants who were not on ART scored higher on psychological distress and those that were on ART scored lower. Therefore being on ART appears to be beneficial among the study population by decreasing the chances of being psychologically distressed. On the other hand, there was a positive relationship between TB and psychological distress ($r = .183$, $p < 0.05$) and that means that TB as an HIV and AIDS co-infection significantly increases psychological distress. In other words participants who were co-infected with TB scored higher on psychological distress, and that means that individuals having TB diagnosis in

addition to HIV infection increases their psychological distress. Further associations were found between employment status and psychological distress, supporting findings found by (Myer *et al.*, 2008) where low levels of SES were persistently associated with increased non-specific psychological distress experienced in the previous 30 days in their study. Also, depression has been associated with low quality of life in men and women living with HIV (Molassiotis, Callaghan, Twinn & Lam, 2001). In another study, similar to our findings, only advanced stage of HIV disease was negatively associated with poor QoL in a study by (Woods, Moore, Weber & Grant, 2009). As mentioned earlier, advanced stage of the disease increases chances of opportunistic infections, slows ART response as the viral load is quite high at this stage and there is also extensive signs and symptoms that add stress onto ones' health.

Psychological distress consistently appeared as significant associations ($p < 0.01$) to general or overall QoL and the five other domains of Q-LES. Research findings have found that adults with severe psychological disorders have been unequally and disproportionately affected by HIV or AIDS epidemic (Meade & Sikkema, 2005). This was confirmed by several other studies which showed an increase in HIV infection amongst acute and chronic psychologically ill adults in urban areas (Kelly, Murphy, Sikkema, Somlai, Mulry, Fernandez, Miller & Stevenson, 1995). This also demonstrated that individuals with psychological disorders are more at risk for contracting HIV and AIDS. HIV is known to attack the brain quickly, suggesting another reason for the increase in psychological health disorder amongst people diagnosed with HIV and AIDS (Palitza, 2009). Therefore, empirical evidence supports the fact that psychological illness can be a result of the, as well as be a consequence of the HIV and AIDS disease (NIH, 2002; Tate *et al.*, 2003; Palitza, 2009).

Psychological distress can substantially affect the quality of life of HIV-infected persons. In addition to poor quality of life, psychological distress particularly, is likely to adversely affect adherence to ART (Walkup, Wei, Sambamoorthi, & Crystal; 2008) which in turn affects health outcomes. Indeed, it has been shown that HIV-infected persons who received treatment for their psychological conditions, such as depression were likely to be more adherent than those who remained untreated (Dalessandro *et al.*, 2007).

5.4 Factors affecting Quality of Life and Enjoyment Satisfaction (Q-LES) among PLWHA

Factors affecting the quality of life and enjoyment satisfaction of individuals living with HIV or AIDS in this study were unemployment, ART, tuberculosis (TB) and psychological distress. Unemployment revealed a significant relationship to quality of life ($p < 0.05$), consistent with Eriksson's *et al.*, (2000) study, significant positive relationships between higher level of education, being employed, and better quality of life were found (Eriksson, Berglund & Sandstrom; 2000). Unemployment is a psychosocial stressor on its own. One cannot argue the fact that the lack of financial support or income adds an added stress onto ones' well-being as one has to worry about basics means of survival, such as food over and above worrying about their health status. Another study supporting these findings is a study by (Stangl, Wamai, Mermin, Awor & Bunnell, 2007) which reported that depression, lower CD4 counts, higher HIV RNA levels, economic dependence, and lower education levels predicted poor HR-QOL (Stangl *et al.*, 2007). The study also reported that unemployment or financial insecurity was, however the strongest predictor of poor HR-QOL (Stangl *et al.*, 2007). Consistent with our findings, Stangl *et al.*, (2007) also found similar clinical, socio-economic, and psychosocial factors predictive of better HR-QOL. These findings are consistent with our findings where unemployment had a

significant relationship to quality of life, meaning that the lack of income impedes quality of life enjoyment and satisfaction.

In the era of ART, when quality of life issues are of paramount importance, strategies to improve social support, coping, and particularly, alleviation of depressive symptoms are strongly encouraged (Jia, Uphold, Wu, Reid, Findley, & Duncan, 2004). A recent survey on patients receiving ART showed that anxiety was more frequent in the following situations: female gender; low education level; unemployment; no steady partner; side effects of ART; and detectable viral load (Preau *et al.*, 2008). This is consistent with our findings, whereby there was a negative correlation between ART and psychological distress ($p < 0.01$). This means that participants who were not taking ART were psychologically distressed compared to those who were taking ART. However, Nachera *et al.*, (2010) argues that patients who are recently put on ART had higher incidence of depression and generalized anxiety than those who were not treated (Nachera, Adrioucha, Sebillottea, Hanfa, Vantilckec, Guedjc, *et al.*, 2010). This presumably reflected the psychological and physical distress due to treatment initiation, although a study on efavirenz revealed no association with an increased incidence of depression but was significantly related to generalised anxiety as presumably thought. It was reported that depression increases in the more severely immune-compromised patients with impeding QoL, Nachera, *et al.*, (2010) further elaborates.

ART initiation can improve patients' health related-QoL if initiated in the early stages of the disease, on the other hand, it can further deteriorate patients' health related-QoL if started late in the disease stage of progression as the immune system is weaker at this stage- cannot handle the works of ART in the body. Previous studies have shown a positive effect of ART on patients'

QoL because of the delay of disease progression (Nieuwkerk, Hillebrand-Haverkort, Vriesendorp, Frissen, de Wolf & Sprangers, 2007). At the same time, ART can have a negative effect on patients' QoL because of the toxicities and inconveniences associated with most regimens. The extent to which these potential negative effects of ART on QoL are outweighed by positive effects may depend on the timing of ART initiation (Nieuwkerk, *et al.*, 2007).

The significant impact of the AIDS clinical stage of disease on the quality of life enjoyment and satisfaction of the participants in this study reflects the hindering nature of the disease which affects various aspects of the Q-LES of those infected. However, the most important problems of our participants were related to the feelings, social relations, general and physical aspect of the Q-LES domains. As Ichikawa and Natpartan (2006) showed in their study, having social acceptability has the most significant relationship with better quality of life and the social supporting regardless of clinical stage of the disease, had desired impact on psychosocial aspects of patients' life. Also in other studies, the relationship between HIV or AIDS, patients' quality of life and their socioeconomic status was linear (Ichikawa & Natpartan, 2006; Stangl *et al.*, 2007; Eriksson's *et al.*, 2000).

5.5 Predictors of Quality of Life and Enjoyment Satisfaction (Q-LES)

Demographic characteristics such as age, sex and marital status did not show any significance in predicting Q-LES. Only unemployment was a strong predictor of Q-LES with a p-value of .002, supporting previous research. This is not unique to the HIV and AIDS epidemiological status as it has been well reported that low SES or poverty is one of the major structural factors which are key drivers of HIV infection, particularly amongst women in the Southern Africa. For example, sociodemographic characteristics such as education and financial dependence in a study by

Stangl *et al.*, (2007) mentioned above were the only significant predictors of QoL (Stangl *et al.*, 2007).

The predictive models presented below (Figure 1 and Figure 2) illustrate the effects of the bio-demographics on the psychological well-being of PLWHA and their Q-LES. Model A shows the bio-demographics that affect Q-LES negatively, while Model B shows the bio-demographics that affect Q-LES positively.

As illustrated, group of factors such as social support (not having a stable relationship or being single), unemployment, not taking ART, and a co-infection (TB) result in psychological distress which in turn diminishes Q-LES among PLWHA. These factors also accelerate the disease progression. Low SES has also been shown to be linked to poor QoL (Alleyne, 2001) and according to this model (Model A); it shows that unemployment has a negative effect on psychological well-being as well as on the Q-LES of the study participants. Therefore, unemployment greatly increases psychological distress risks and further exacerbates Q-LES of PLWHA. Also, female gender is linked to increased psychological distress. This could be due to the fact that violence against women is relatively high, increasing their psychological distress and thus putting a strain on women's Q-LES. These factors, including TB predicted poor Q-LES among PLWHA in our study, as shown below in Figure 1.

The Predictive Model: A

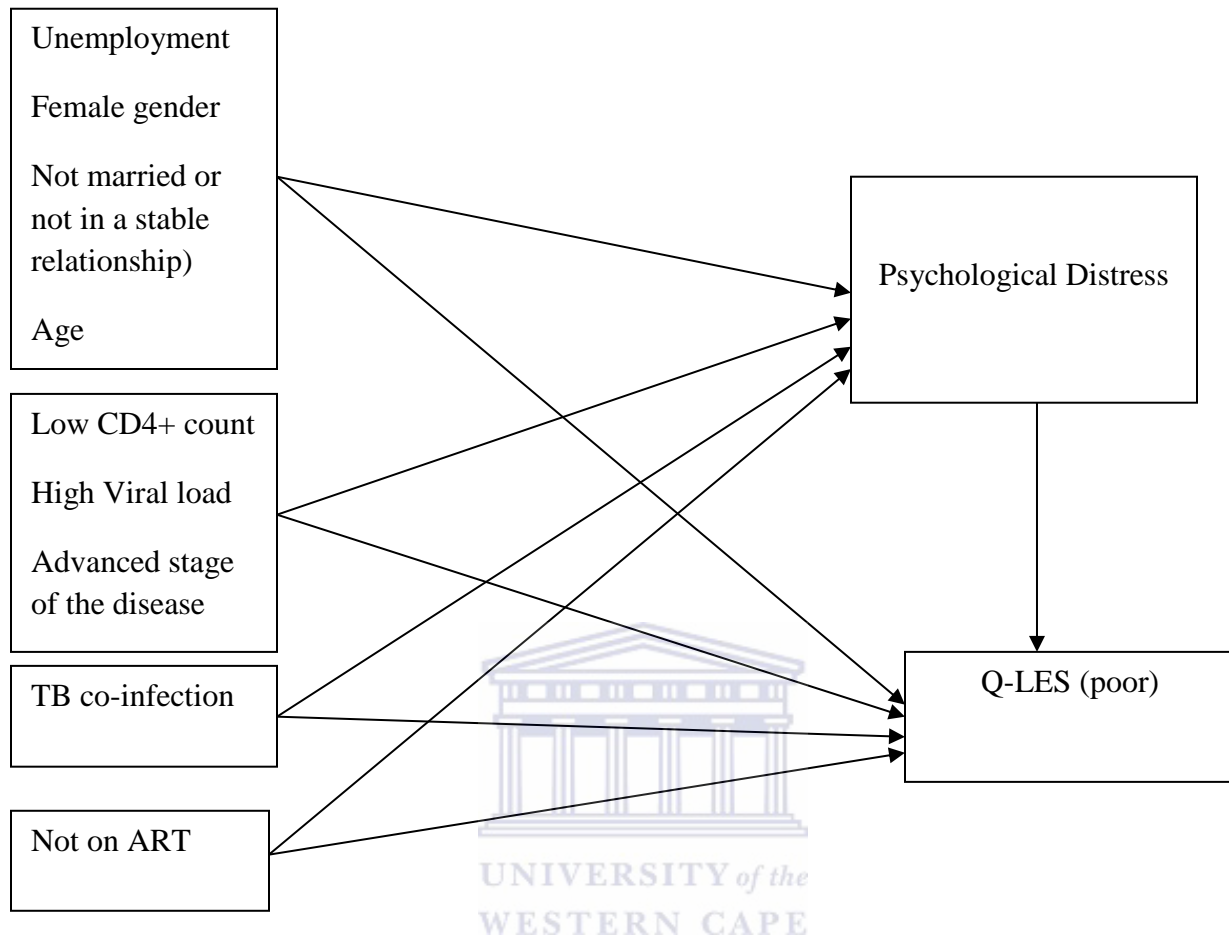


Figure 1: Factors Predicting Quality of Life Enjoyment and Satisfaction (Negative)

Figure 2 below illustrates factors that affect psychological well-being positively and therefore predicts better Q-LES of PLWHA. Employment as well as absence of TB co-infection has a positive effect on psychological well-being, thus minimising psychological distress. TB co-infection adds more burden on the PLWHA as it affects general health and well-being over and above living with HIV and AIDS. On the hand, ART alleviates HIV and AIDS signs and symptoms, further improving health while enhancing Q-LES. Managing HIV and AIDS greatly improves psychological well-being as one would live life similar to any other person with a

chronic disease. This obviously decreases psychological distress of the individual and thus predicts better Q-LES of PLWHA (see Figure 2 below).

The Predictive Model: B

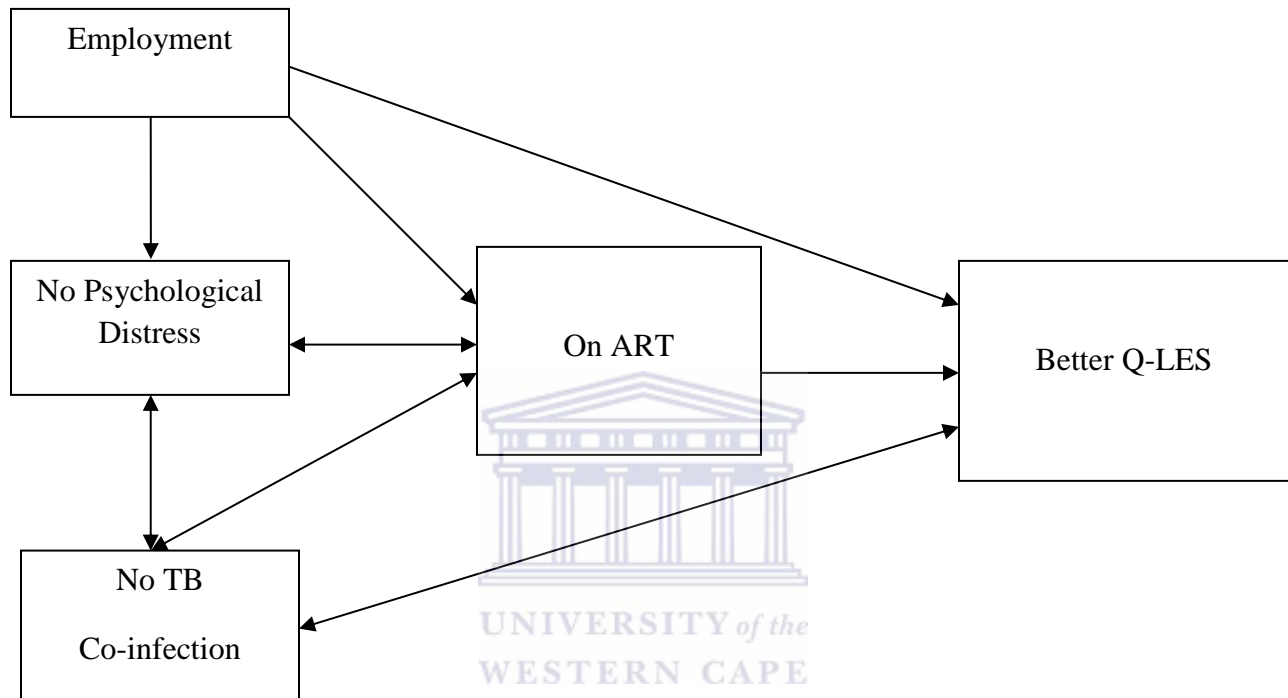


Figure 2: Factors Predicting Quality of Life Enjoyment and Satisfaction (Positive)

In this study psychological distress and TB were the strongest predictors of Q-LES with a p-value less than 0.01. This means that having psychological distress, as well as TB co-infection affects the Q-LES of PLWHA negatively. In addition, our regression model consistently showed that psychological distress and TB had a significant impact on most aspects of the Q-LES domains. These findings support previous research, for example, among the clinical variables, high CD4 cell count was the strongest predictor of better QoL at ART initiation while presence of depressive symptoms among study participants predicted poor QoL, in a study by (Campos *et*

al., 2008). These findings suggest that our findings support previous research that identified psychological distress symptoms as a key factor affecting QoL among persons infected with HIV or AIDS (Jia *et al.*, 2004; Tate *et al.*, 2003; Campos *et al.*, 2008). Psychological distress, such as depression, as shown by Molassiotis, *et al.*, (2001) was associated with low quality of life in men and women living with HIV. Another study also found psychological distress to be the strongest predictor of poor QoL in men and women with advanced or late stage HIV/AIDS (Kempainen, 2001). Psychological distress affects ones' thinking, functioning and coping mechanisms, making it difficult for one to live life and perform the normal activities one usual performs, and thus further exacerbates the distress. It is very stressful for any individual, with or without HIV to not being able to perform their normal activities. PLWHA tend to feel stress, depression, and anxiety regarding their illness and the progression of the disease, as well as concerns about financial problems and their family even to the point of deterring them from seeking medical care. HIV infected individuals are also faced with social stigma, long-term physical discomfort and illness, and eventually death. All these factors significantly affect their psychological well-being as well as their Q-LES negatively and further making it difficult for them to cope with their illness both physically and emotionally. Furthermore, it is useful to note that psychological distress not only affects the individual, leading to depression and poor Q-LES; but it could also possibly have an adverse effect on the immune system resulting in lower CD 4+ cells which could further lead to the progression of HIV into AIDS. Our findings supports the conclusion drawn by other studies that HIV status alone, is not a strong predictor of QoL, but instead it interacts with other psychosocial characteristics of the individual as reported in Dickey *et al.*, (1999); Rabkin, (1996). Therefore, factors predictive of better Q-LES scores include, but not limited to, clinical factors (e.g., fewer AIDS-related symptoms, higher CD4 counts, lower clinical staging, and psychological well-being).

Conclusion

In summarizing the results of this study, it appeared that the most important biodemographic factors that have association with the quality of life enjoyment and satisfaction of the patients were unemployment, ART, TB and psychological distress ($p < 0.01$). Psychological distress is significantly prevalent among HIV positive individuals and was found to be the strongest predictor of Q-LES among the study population followed by TB and ART. This suggests and highlights the importance of detecting psychological distress by simple screening methods and developing special interventions for individuals living with HIV and AIDS. Early detection of psychological distress will impact Q-LES of PLWHA positively, and will improve their psychological well-being; which in turn will significantly improve the overall health-related quality of life (HRQOL).

5.6 Contributions of the study

The outcomes of the study are intended to help build the practitioners' knowledge and understanding of psychological distress conditions, as co-morbid disorders in individuals infected with HIV or AIDS. Including and modifying the current psychological intervention programmes for individuals infected with the HI virus will assist in improving the current health outcomes and also help to achieve better QoL outcomes. Also, the findings of the study hope to inform the larger study on the factors influencing QoL and contribute to the development of future intervention programmes.

5.7 Limitations of the study

In interpreting the results, some important limitations of the study were taken into account. One such important limitation was that of the number of males in the study being very small relative to the number of women. However, it should be noted that women attend the primary healthcare

facilities way better than men, probably because of cultural and societal connotations related to the male figures in the South African context; as well as due to stigma although the latter also applies to women too. Another important limitation is the fact that the study findings are not generalisable due the sample size and the fact that the study participants were purposively selected and thus may not necessarily be good representative of the general population. Despite these limitations, our findings have several clinical and research implications and add to our understanding of the processes by which psychosocial variables impact on different dimensions of the Q-LES.

5.8 Recommendations

Identifying psychological distress within HIV positive patients in South Africa could be an important step towards developing interventions that reduce depression and anxiety in HIV positive patients. Future studies should address, in detail, the role of bio-demographic characteristics in psychiatric morbidity. Q-LES measures, on the other hand, may add to biological measures of ART response to assess resource allocation and improve health outcomes. Furthermore, ART can lengthen the disease progression and also improve Q-LES of PLWHA. Also, the ultimate goal of primary healthcare should be to maintain and or improve the quality of life of people living with HIV and AIDS and thus improved Q-LES can help influence life expectancy; hence, the importance of psychological interventions and better –Q-LES among PLWHA. Finally, predicting the Q-LES in PLWHA will assist in improving the current health outcomes and also help in modifying the current intervention programmes, such as including psychological interventions for PLWHA to better their Q-LES outcomes.

REFERENCES

Alciati, A., Ferri, A., Rozzi, S., Monforte, A. D., Colmegna, F., Valli, I., *et al.*, (2001). Changes in lymphocyte subsets in depressed HIV-infected patients without antiretroviral therapy. *Psychosomatics*, 42, 247-251.

Alleyne, G.A.O., (2001). Health and the quality of life. *Public Health*; 9(1), 1-6.

Aranda-Naranjo, B., (2004). Quality of life in HIV-positive patient. *Journal of Associated Nurses in AIDS Care*, 15(5), 20 – 27.

Ashton, E., Vosvick, M., Chesney, M., Gore-Felton, C., Koopman, C., O'Shea, K., *et al.*, (2005). Social support and maladaptive coping as predictors of the change in physical health symptoms among persons living with HIV/AIDS. *AIDS Patient Care and STDs*, 19, 587-598.

Atkinson, J.H., Heaton, R.K., Patterson, T.L., Wolfson, T., Deutsch, R., Brown, S.J., *et al.*, (2008). Two-year prospective study of major depressive disorder in HIV infected men. *Journal of Affective Disorders*, 108(3), 225-234.

Babbie, E. & Mouton, J., (2004). The Practise of Social Research. *Oxford University Press*, Cape Town.

Basavaraj, K.H., Navya, M.A., & Rashmi, R., (2010). Quality of life in HIV/AIDS. *Indian Journal of Sexually Transmitted Disease and AIDS*, 31(2), 75–80.

Bearda, J., Feeleya, F., & Rosen, S., (2009). Economic and quality of life outcomes of antiretroviral therapy for HIV/AIDS in developing countries: a systematic literature review. *AIDS Care*, 21(11), 1343-1356.

Bjelland, I., Dahl, A. A., Haug, T. T., Neckelmann, D., (2002). The validity of the Hospital Anxiety and Depression Scale: An updated literature review. *Journal of Psychosomatic Research*, 52, 69– 77.

Bogart, L.M., Catz, S.L. & Kelly, J.A., (2000). Psychosocial issues in the era of new AIDS treatments from the perspective of persons living with HIV. *Journal of Health Psychology*, 5, 500–16.

Booyesen, F., Van Rensburg, H., Bachmann, M., Louwagie, G. & Fairall, L., (2007). The heart in HAART: quality of life of patients enrolled in the public-sector antiretroviral treatment programme in the Free State Province of South Africa. *Social Indicators Research*, 81, 283–329.

Bowlby, J., (1969). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.

Brannon L. & Feist J., (2007). *Health Psychology: An Introduction to Behaviour and Health*. Belmont: Thomas-Wadsworth.

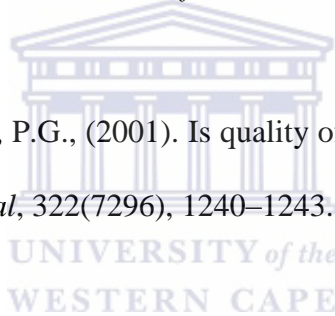
Brown, J.E., King, M.T., Butow, P.N., Dunn, S.M. & Coates, A.S., (2000b). Patterns over time in quality of life, coping and psychological adjustment in late stage melanoma patients: An application of multilevel models. *Quality of Life Research*, 9(1), 75–85.

Burgoyne, R.W., Rourke, S.B., Behrens, D.M. & Salit, I.E., (2004). Long-term quality-of-life outcomes among adults living with HIV in the HAART era: The interplay of changes in clinical factors and symptom profile. *AIDS Behaviour*, 8,151–163.

Campos, L.N., Guimaraes, N.D.C., & Remien, R.H., (2008). Anxiety and depression symptoms as risk factors for non-adherence to antiretroviral therapy in Brazil. *AIDS Behavior*, 14, 289-299.

Carabin, H., Sonleitner, N.K., Keesee, M., & Shinault, K., (2008). Quality of life measurement tools for people living with HIV/AIDS. *Journal of HIV/AIDS & Social Services*, 7(1), 71-82.

Carr, A.J., Gibson, B. & Robinson, P.G., (2001). Is quality of life determined by expectations or experience? *British Medical Journal*, 322(7296), 1240–1243.



Chandra, P.S., Deepthivarma, S., Jairam, K.R. & Thomas, T., (2003). Relationship of psychological morbidity and quality of life to illness-related disclosure among HIV-infected persons. *Journal of Psychosomatic Research*, 54, 199– 203.

Ciesla, J. A. & Roberts, J. E., (2001). Meta-analysis of the relationship between HIV infection and risk for depressive disorders. *American Journal of Psychiatry*, 158, 725-730.

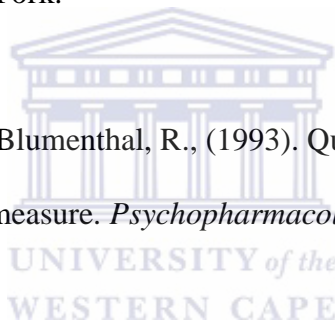
City of Cape Town by Suburb Census, (1996). Available <http://www.capetown.gov.za/eDocuments>.

City of Cape Town Media Release, (2008). Mfuleni Clinic renames in honour of the late Dr Ivan Toms. [Online]. Available .

Cook, J.A., Cohen, M.H., Burke, J., Grey, D., Anastos, K., Kirstein, L., Palacio, H., Richardson, J., Wilson, T. & Young, M., (2002). Effects of depressive symptoms and mental health quality of life on use of highly active antiretroviral therapy among HIV-seropositive women. *Journal of Acquired Immune Deficiency Syndrome*, 30(4), 401–409.

DiClemente R. J., Petersen J.L., (1994). Preventing AIDS: Theories and methods of behavioral interventions. Plenum Press, New York.

Endicott, J., Nee, J., Harrison, W., Blumenthal, R., (1993). Quality of Life Enjoyment and Satisfaction Questionnaire: a new measure. *Psychopharmacology Bulletin*. 29(2), 321-6.



Engel, G.L., (1977). The need for a new medical model: A challenge for biomedicine. *Science*, New Series.

Eriksson, L.E., Nordström, G., Berglund, T. & Sandström, E., (2000). The health-related quality of life in a Swedish sample of HIV-infected persons. *Journal of Advanced Nursing*, 32,1213 – 1223.

Evans, D.L., Leserman, J., Perkins, D. O., Stern, R.A., Murphy, C., Tamul, K., *et al.*, (1995). Stress-associated reductions of cytotoxic T lymphocytes and natural killer cells in asymptomatic HIV infection. *American Journal of Psychiatry*, 152, 543–550.

Farquhar, M., (1995). Definitions of quality of life: A Taxonomy. *Journal of Advanced Nursing*, 22(3) 502–508.

Field, A., (2005). *Discovering Statistics Using SPSS*. 2nd Edition. *Sage Publications*, London.

Freeman M., Nkomo N., Kafaar Z., & Kelly K., (2007). Factors associated with prevalence of mental disorder in people living with HIV/AIDS in South Africa. *AIDS Care* 19(10): 1201-1209.

Gore-Felton, C., Vosvick, M., Brondino, M., Winningham, A., Koopman, C. & Spiegel, D., (2006). Effects of quality of life and coping on depression among adults living with HIV/AIDS. *Journal of Health Psychology*, 11(5), 711–729.

Hakuzimana, A., Burgoyne, R. & Lambert, F., (2006). Quality of life assessment of HIV-positive adults in Kigali, Rwanda. *Paper presented at the 7th Conference of the International Society for Quality-of-Life Studies (ISQOLS)*, 17–20 July, Rhodes University, Grahamstown, South Africa.

Hasanah, C. I., Zaliha, A. R. & Mahiran, M., (2011). Factors influencing the quality of life in patients with HIV in Malaysia. *Qual Life Res*, 20,91–100.

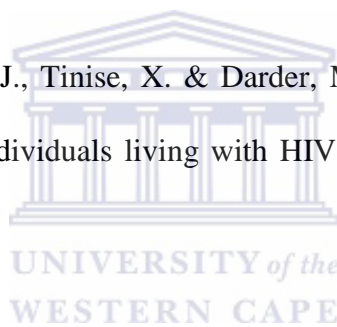
Havenaar J.M., Geerlings M.I., Collinson V. L., Robertson M., (2008). Common mental health problems in historically disadvantaged urban and rural communities in South Africa: Prevalence and risk factors. *Social Psychiatry and Psychiatric Epidemiology* 43(3):209-215.

Holmes, S., (2005). Assessing the quality of life--reality or impossible dream? A discussion paper. *Internal Journal of Nursing Studies*; 42(4) 493-501.

Huanguang, J., Uphold, C.R., Zheng, Y., *et al.*, (2007). A further investigation of health related quality of life over time among men with HIV infection in the HAART era. *Qual Life Research*, 16,961–968.

Ichikawa, M. & Natpartan, C., (2006). Perceived social environment quality of life among people living with HIV/AIDS in northern Thailand. *AIDS Care*, 18, 128 – 132.

Jelsma, J., MaClean, E., Hughes, J., Tinise, X. & Darder, M., (2005). An investigation of the health-related quality of life of individuals living with HIV who are receiving HAART. *AIDS Care*, 17, 579–588.



Jia, H., Uphold, C.R., Faan, A., Wu, S., Chen, J. & Duncan, P.W., (2005). Predictors of changes in health-related quality of life among men with HIV infection in the HAART era. *AIDS Patient Care and STDs*, 19(6), 395-405.

Jia, H., Uphold, C., Wu, S., Reid, K., Findley, K. & Duncan, P., (2004). Health-related quality of life among men with HIV infection: Effects of social support, coping, and depression. *AIDS Patient Care STDs*, 18, 40–49.

Kabore, I., Bloem, J., Etheredge, G., Obiero, W., Wanless, S., Doykos, P., Ntsekhe, P., Mtshali, N., Afrikaner, E., Sayed, R., Bostwelelo, J., Hani, A., Moshabesha, T., Kalaka, A., Mameja, J., Zwane, N., Shongwe, N., Mtshali, P., Mohr, B., Smuts, A. & Tiam, A., (2010).

The effect of community-based support services on clinical efficacy and health-related quality of life in HIV/AIDS patients in resource-limited settings in sub-Saharan Africa. *AIDS Patient CARE and STDs*, 24(9), 581-594.

Kaharuza, F.M., Bunnell, R., Moss, S., Purcell, D.W., Bikaako-Kajura, W., Wamai, N., Downing, R., Solberg, P., Coutinho, A. & Mermin, J., (2006). Depression and CD4 Cell count among persons with HIV infection in Uganda. *AIDS Behavior*, 10, 105-111.

Kalichman, S., Rompa, D. & Cage, M., (2000). Distinguishing between overlapping somatic symptoms of depression and HIV disease in people living with HIV-AIDS. *Journal of Nervous and Mental Disease*, 188(10), 662-670.

Kelly, B., Raphael, B., Judd, F., Perdices, M., Kernutt, G., Burnett, P., Dunne, M. & Burrows, G., (1998). Suicidal ideation, suicide attempts and HIV infection. *Psychosomatics*, 39, 405-15.

Kemppainen, J.K., (2001). Predictors of quality of life in AIDS patients. *Journal of the Association of Nurses in AIDS Care*, 12(1), 61-70.

Komiti, A., Judd, F., Grech, P., Mijch, A., Hoy, J., Williams, B., *et al.*, (2003). Depression in people living with HIV/AIDS attending primary care and outpatient clinics. *AIDS*, 37(1), 70-78.

Kumar, V., Abbas, A.K., Fausto, N., Robbins, V. & Stanley, L., (2005). *Pathologic Basis Disease*. China, Elsevier Saunders

Lee, R.S., Kochman, A., & Sikkema, K.J., (2002). Internalized stigma among people living with HIV/AIDS. *AIDS & Behavior*, 6, 309–319.

Leserman, J., (2008). Role of depression, stress, and trauma in HIV disease progression. *Psychosomatic Medicine*, 70(5), 539-545.

Leserman, J., Jackson, E.D., Petitto, J.M, Golden, R.N., Silva, S.G., Perkins, D.O., Cai, J., Folds, J.D. & Evans, D.L., (1999). Progression to AIDS: The effect of stress, depressive symptoms, and social support. *Psychosomatic Medicine*, 61, 397-406.

Loonat, N., (2010). Investigating depression and quality of life in adults diagnosed with HIV or AIDS. Master's Thesis, University of Western Cape.

Lorenz, K.A., Shapiro, M.F., Asch, S.M., Bozzette, S.A. & Hays, R.D., (2001). Associations of symptoms and health-related quality of life: findings from a national study of persons with HIV infection. *Annals of Intern Medicine*, 134(9:2), 854-60.

Liu, C., Johnson, L., Ostrow, D., Silvestre, A., Visscher, B. & Jacobson, L.P., (2006). Predictors for Lower Quality of Life in the HAART Era among HIV-Infected Men. *Journal of Acquired Immune Deficiency Syndrome*, 42(4), 470-477.

Maj, M., (1990). Psychiatric aspects of HIV-1 infection and AIDS. *Psychological Medicine*, 20(3), 547–563.

Mannheimer, S.B., Matts, J., Telzak, E., Chesney, M., Child, C. Wu, A. W. & Friedland G., (2005). Quality of life in HIV-infected individuals receiving antiretroviral therapy is related to adherence. *AIDS Care*, 17(1), 10- 22.

McClure, J. B., Catz, S. L., Prejean, J., Brantley, P. J., & Jones, G. N., (1996). Factors associated with depression in a heterogeneous HIV-infected sample. *Journal of Psychosomatic Research*, 40, 407–415.

McInerney, P. A., Ncama, B.P., Wantland, D., Bhengu, B. R., McGibbon, C., Davis, S.M., Corless, I.B., Faan, R.N. & Nicholas, P.K., (2008). Quality of life and physical functioning in HIV-infected individuals receiving antiretroviral therapy in KwaZulu-Natal, South Africa. *Nursing and Health Sciences*, 10, 266–272.

Mcphee, S.J., Lingappa, V.R. & Ganong, W.F., (2003). Pathophysiology of disease. McGraw-Hill

Molassiotis, A., Callaghan, P., Twinn, S.F. & Lam, S.W., (2001). Correlates of quality of life in symptomatic HIV patients living in Hong Kong. *AIDS Care*, 13(3), 319–334.

Mouton, J., (2001). How to succeed in your Master's and Doctoral Studies: A South African Guide and Resource Book. *Van Schaik Publishers*, Pretoria.

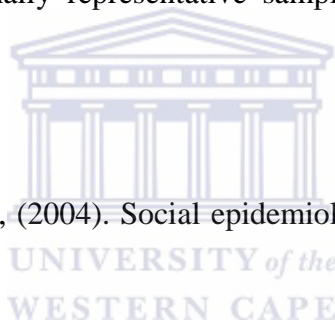
Murri, R., Fantoni, M., Del B.C., *et al.*, (2003). Determinants of health-related quality of life in HIV-infected patients. *AIDS Care*, 15(4), 581-590.

Murs, J.M., Williams, P.L., Tsevat, J, Cohn, S.E. & Wu, A.W., (2005). Gender difference in health-related quality of life in patient with HIV/ AIDS. *Journal of Quality of Life Research*, 14, 479 – 491.

Myer, L., Smit, J., Le Roux, L., Parker, S., Stein, D.J., & Seedat, S., (2008). Common mental disorders among HIV-infected individuals in South Africa: Prevalence, predictors, and validation of brief psychiatric rating scales. *AIDS Patient Care and STDs*, 22(2), 147-158.

Myer, L., Stein, D., Grimsrud, A., Seedat, S. & William, D.R., (2008). Social determinants of psychological distress in a nationally representative sample of South African adults. *Social Science Medicine*, 66,1828–1840.

Myer, L., Ehrlich, R. & Susser, E., (2004). Social epidemiology in South Africa. *Epidemiology Review*, 26, 112–123.



Nachera, M., Adrioucha, L., Sebillottea, C. G., Hanfa, M., Vantilckec, V., Guedjc, M. E., Vazc, T., Lecontec, C., Simartd, G., Djossoue, M. & Couppie', P., (2010). Predictive factors and incidence of anxiety and depression in a cohort of HIV-positive patients in French Guiana. *AIDS Care*, 22(9), 1086-1092.

Naidoo, P., (2009). Public health care practitioner's reflections on tuberculosis patient's perspectives on factors influencing their adherence to the directly observed treatment short-course. *The Open Public Health Journal*, 2, 33-38.

Naidoo, P., (2004). A critical look at health. *South African Family Practise*, 46(7), 5-7.

National Institute of Mental Health, (2002). *Depression and HIV and AIDS: Major depression unipolar varieties*. Department of Health and Human Services.

<http://www.nih.com> [accessed 22/10/12]

Nieuwkerk, P.T., Tollenaar, M.S., Oort, F.J. & Sprangers, M.A., (2007). Are retrospective measures of change in quality of life more valid than prospective measures? *Medical Care*, 45, 199-205.

O'Connell, K., Skevington, S., Saxena, S. & WHOQOL HIV Group., (2003). Preliminary development of the World Health Organisation's Quality of Life HIV instrument (WHOQOL-HIV): analysis of the pilot version. *Social Science & Medicine*, 57(7), 1259-75.

Olley, B.O., Seedat, S., Nei, D.G., & Stein, D.J., (2004). Predictors of major depression in recently diagnosed patients with HIV/AIDS in South Africa. *AIDS Patient CARE and STDs*, 18(8), 481-487.

Olley, B.O., Zeier, M.D., Seedat, S., & Stein, D.J., (2005). Post-traumatic stress disorder among recently diagnosed patients with HIV/AIDS in South Africa. *AIDS Care*, 17(5), 550-557.

Patel, V., Araya, R., Chatterjee, S., Chisholm, D., Cohen, A., De Silva, M., *et al.*, (2007a). Treatment and prevention of mental disorders in low-income and middle-income countries. *Lancet*, 370(9591), 991-1005.

Patel, V., Todd, C., Winston, M., Gwanzura, F., Simunyu, E., Acuda, W., *et al.*, (1997). Common mental disorders in primary care in Harare, Zimbabwe: Associations and risk factors. *British Journal of Psychiatry*, 171, 60-64.

Peltzer, K. & Phaswana-Mafuya, N., (2008). Health-related quality of life in a sample of HIV-infected South Africans. *African Journal of AIDS Research*, 7(2), 209–218.

Penedo, F. J., Antoni, M. H., Schneiderman, N., Ironson, G. H., Malow, R. M., Cruess, S., *et al.*, (2001). Dysfunctional attitudes, coping, and depression among HIV-seropositive men who have sex with men. *Cognitive Therapy and Research*, 25, 591–606.

Phaladze, N.A., Human, S., Dlamini, S.B., Hulela, E.B., Hadebe, I.M., Sukati, N.A. Makoae, L.N., Seboni, N.M., Moleko, M. & Holzemer, W.L., (2005). Quality of life and the concept of “living well” with HIV/AIDS in sub-Saharan Africa. *Journal of Nursing Scholarship*, 37(2), 120-126.

Porter, R. S., (2008). *The Merck Manual of Diagnosis and Therapy*, 19th Edition

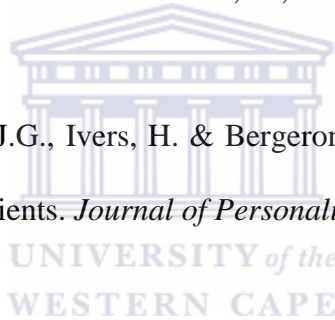
Poupard, M., Ngom-Gueye, N., Thiam, D., Ndiaye, B., Girard, P., Delaporte, E., Sow, P. & Landman, R., (2007). Quality of life and depression among HIV-infected patients receiving efavirenz- or protease inhibitor-based therapy in Senegal. *HIV Medicine*, 8, 92–95.

Pretorius, T. B., (2007). *Inferential data analysis: Hypothesis Testing and Decision Making*.
Pinetown: Pinetown Printers,

Rao, D., Hahn, E. A., Cella, D., & Hernandez, L., (2007). The health related quality of life outcomes of English and Spanish speaking persons living with HIV/AIDS from the continental United States and Puerto Rico. *AIDS Patient Care and STDs*, 21(5), 339-346.

Rabkin, J., Ferrando, S., Lon, S., Sewell, M., & McElhiney, M., (2000). Psychological effects of HAART: A two-year study. *Psychosomatic Medicine*, 62, 413-422.

Savard, J., Laberge, B., Gauthier, J.G., Ivers, H. & Bergeron, M.G., (1998). Evaluating anxiety and depression in HIV-infected patients. *Journal of Personality Assessment*, 71, 349–367.



Shishana, O, & Simbayi, L., (2002). Nelson Mandela/HSRC Study of HIV/AIDS. Cape Town: Human Science Research Centre of South Africa.

Simbayi, L., Kalichman, S., Strebel, A., Cloete ,A., Henda, N. & Mqeketo, A., (2007). Internalized stigma, discrimination, and depression among men and women living with HIV/AIDS in Cape Town, South Africa. *Social Science and Medicine*, 64,1823–1831.

Stranix-Chibanda, L., Chibanda, D., Chingono, A., Montgomery, E., Wells, J., Maldonado, Y., *et al.*, (2005). Screening for psychological morbidity in HIV infected and HIV-uninfected pregnant

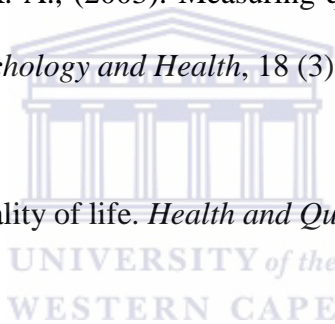
women using community counselors in Zimbabwe. *Journal of the International Association of Physicians AIDS Care*, 4(4), 83-88.

Riggs, S.A., Vosvick, M. & Stallings, S., (2007). Attachment Style, Stigma and Psychological Distress among HIV+ Adults. *Journal of Health Psychology*, 12, 922.

Schmidt, S., Nachtigall, C., Wuethrich-Martone, O., & Strauss, B., (2002). Attachment and coping with chronic disease. *Journal of Psychosomatic Research*, 53, 763–773.

Skevington, S. M. & O'Connell ,K. A., (2003). Measuring quality of life in HIV and AIDS: A review of the recent literature. *Psychology and Health*, 18 (3), 331-350.

Snaith, R.P. (2003). Health and quality of life. *Health and Quality of Life Outcome*, 1(29).



South African National HIV Prevalence, Incidence, Behaviour and Communication Survey (2008). *A Turning Tide Among Teenagers?* HSRC Press

Stangl, A., Wamai, N., Mermin, J., Awor, S. & Bunnell, R., (2007). Trends and predictors of quality of life among HIV-infected adults taking highly active antiretroviral therapy in rural Uganda. *AIDS Care*, 19(5), 626–636.

Statistics SA, (2010). Mid-year Population estimates 2010.

<http://www.statssa.gov.za/publications/P0302/P03022010.pdf> [accessed 31/03/2011]

Stein, D.J., Seedat, S., Herman, A., Moomal, H., Heeringa, S.G., Kessler, R.C. & Williams, D.R., (2008). Lifetime prevalence of psychiatric disorders in South Africa. *British Journal of Psychiatry*, 192(2), 112-117.

Subramaniana, T., Guptea, M.D., Dorairajb, V.S., Periannana, V. & Ma, A.K., (2009). Psycho-social impact and quality of life of people living with HIV/AIDS in South India. *AIDS Care*, 21(4), 473-481.

Tangkawanich ,T., Yunibhand, J., Thanasilp, S., & Magilvy, K., (2008). Causal model of health: Health-related quality of life in people living with HIV/AIDS in the northern region of Thailand. *Nursing and Health Sciences*, 10, 216–221.

Tate, D., Paul, R.H., Flanigan, T. P., Tashima, K., Nash, J., Adiar, C., Boland. & Cohen, R. H., (2003). The Impact of Apathy and Depression on Quality of Life in Patients infected with HIV. *AIDS Patient Care and STDs*, 17(3), 115-120.

Terre Blanche, M.T. & Durrheim, K (1999). *Research in practise: Applied Methods for the Social Science*. Cape Town: University of Cape Town Press.

Tostes, M.A., Chalub, M. & Botega, N.J., (2004). The quality of life of HIV-infected women is associated with psychiatric morbidity. *AIDS Care* 16(2), 177-186.

UNAIDS, (2011). *World AIDS day report 2011*.

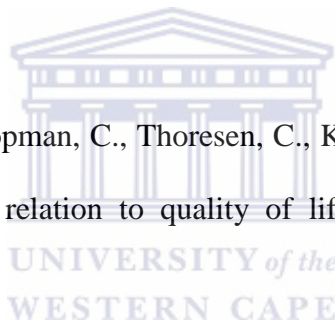
http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2011/jc2216_worldaidsday_report_2011_en.pdf [accessed on 24/03/2012]

UNAIDS, (2012). Global Report: UNAIDS Report on the global AIDS epidemic 2012.

http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2012/gr2012/20120120_UNAIDS_Global_Report_2012_en.pdf [accessed on 14/12/2012]

Vosvick, M., Koopman, C., Gore-Felton, C., Thoresen, C., Krumboltz, J., & Spiege, D.,(2003). Relationship of functional quality of life to strategies for coping with the stress of living with HIV/AIDS. *Psychosomatics*, 44, 51–58.

Vosvick, M., Gore-Felton, C., Koopman, C., Thoresen, C., Krumboltz, J. & Spiegel, D., (2002). Maladaptive coping strategies in relation to quality of life among HIV+ adults. *AIDS and Behavior*, 6, 97–106.



Vyavaharkar, M., Moneyham, L., Murdaugh, C. & Tavakoli, A. (2012). Factors associated with quality of life among rural women with HIV disease. *AIDS and Behavior*, 16 (2), 295-303.

Wadland, W. C. & Gleeson, C. J., (1991). A model for psychosocial issues in HIV disease. *Journal of Family Practice*, 33(1), 82–86.

Walkup, J., Wei W., Sambamoorthi, U. & Crystal, S., (2008). Antidepressant treatment and adherence to combination antiretroviral therapy among patients with AIDS and diagnosed depression. *Psychiatric Quarterly*, 79, 43-53.

WHOQOL HIV GROUP, (2004). WHOQOL-HIV for quality of life assessment among people living with HIV and AIDS: results from the field test. *AIDS Care*, 16(7), 882- 889.

World Health Organization Quality of Life Group (WHOQOL), (1995). The World Health Organization Quality of Life Assessment (WHOQOL): Position Paper from the World Health Organization. *Social Science & Medicine*. 41(10), 1403-1409.

Worthington, C. & Krentz, H.B., (2005). Socioeconomic factors and health-related quality of life in adult living with HIV. *International Journal of STD & AIDS*, 16, 608 – 614.

www.avert.org/worldstats.htm, viewed on 31/03/2011



Appendix A

Information sheet



UNIVERSITY OF THE WESTERN CAPE

*Private Bag X
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Tel: +27 21-959 2835/2283

Project Title: IMPLICATIVE PERSONAL DILEMMAS AND COGNITIVE CONFLICTS IN HEALTH DECISION-MAKING IN HIV POSITIVE ADULTS AND ADULTS WITH AIDS

What is this study about?

This is a research project being conducted by Professor Pamela Naidoo at the University of the Western Cape. We are inviting you to participate in this research project because you have tested positive for the HI Virus and you are already on a treatment programme, which includes anti-retro viral therapy. The purpose of this research project is to try and understand how you think about your life and the fact that you are HIV positive, and how you arrive at the decision you make regarding your health. You are aware that you can infect others with the HI Virus if you do not take the necessary precautions, such as using protective devices (e.g. a condom) whilst you are involved with other individuals during periods of intimacy. You are also aware that you have to follow a particular life-style, such as not engaging in risky behaviour, which can compromise your health. Not taking the anti-retro viral therapy as the doctor or the nurse advises you to take it, for example, may lead you to suffer ill health.

Very often despite individuals knowing that, certain behaviours are bad for theirs and other individual's health, they make decisions that may endanger theirs and the lives of others. This study, therefore, focuses on the difficulties that individuals, who are HIV positive, face when making health decisions. The study also attempts to understand how HIV positive individuals arrive at making health decisions that are good for them and other individuals that form part of their lives.

Once we are better able to understand the way you think about your health and how this thinking influences the decisions you make about taking care of our health, we will try to use this understanding to make changes to your current treatment programme. Once these changes are made and you receive the newly developed programme we will monitor the programme to assess whether it works well. Only one of the two clinics that is involved in the study will provide the new programme because we still need to test whether the programme works better than the previous programme before all the clinics provide it.

What will I be asked to do if I agree to participate?

You will be asked to fill in a number of questionnaires in a language of your choice. You will be assisted and guided by a research assistant. There will be a special room where you will be able to sit comfortably and fill in all the questionnaires. Please do not hesitate to inform the research assistant if you are experiencing any discomfort or if you want to have a rest before completing the questionnaires. You should be able to complete the questionnaires within one and a half (to two) hours. Light refreshments will be provided.

About 6 to 8 months after the new treatment programme is given to you at your clinic, we will ask you and the patients from the clinic that did not provide the programme to fill in another set of questionnaires, which should take an hour and a half to complete. This will be done at one of your follow-up visits. Once again, you will be given the questionnaires in a special room where light refreshments will also be provided.

If you are required to come in when it is not your clinic follow-up visit, then you will be given money for your transport.

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, we will not write your name on each of the questionnaires but we will use a code so that the main researchers can identify you. This is important because we would like you to benefit from this study. We would like you to participate in the follow-up phase of the study, after the new programme is provided at the clinic. It is for this reason that the main researchers need to be able to identify you.

Please be assured that the questionnaires you answer will be locked in a safe place and only the main researchers will be able to access it. After we enter your answers on the computer, we will create a protected file that only the main researchers can enter with a password.

If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

What are the risks of this research?

There are no known risks associated with participating in this research project. However, you are at liberty to rest if you get tired whilst you are filling in the questionnaires.

What are the benefits of this research?

The benefits to you if you receive the new treatment programme include the fact that you will be able to express the way you think and feel about being HIV positive. You will be given the choice to have more counselling about your health status.

You and the patients who do not receive the new programme, will also be helping other people who are HIV positive, indirectly, to benefit. By testing the new programme, we will be able to advise all the health practitioners involved in your treatment what the best method of treatment is so that you can live a better life by making better decisions.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

Is any assistance available if I am negatively affected by participating in this study?

Yes, the research assistants will be able to help you during the time that you are participating in the research. If you feel that you want to talk more about your experiences of being HIV positive, the research assistant will arrange for the appropriate professional person to see you. If this happens, you will have to provide permission for the research assistant to refer you.

What if I have questions?

This research is being conducted by Professor Pamela Naidoo of the department of Psychology at the University of the Western Cape. If you have any questions about the research study itself, please contact me at: the Department of Psychology at the University of the Western Cape. Tel: 021 959 2835/2283/2453.

Should you have any further questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Principal Investigator: Prof Pamela Naidoo
Dean of the Faculty of Community and Health Sciences: Prof R Mpofu
University of the Western Cape
Private Bag X17
Bellville 7535

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

Appendix B

CONSENT FORM



UNIVERSITY OF THE WESTERN CAPE

*Private Bag X 17, Bellville 7535, South Africa
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Title of Research Project: IMPLICATIVE PERSONAL DILEMMAS AND COGNITIVE CONFLICTS IN HEALTH DECISION-MAKING IN HIV POSITIVE ADULTS AND ADULTS WITH AIDS

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

PARTICIPANT'S NAME.....



PARTICIPANT'S SIGNATURE.....

DATE.....

Should you have any questions regarding this study or wish to report any problems you have experiences related to the study, please contact the study coordinator:

Study Coordinator's Name: PROFESSOR PAMELA NAIDOO

University of the Western Cape

Private Bag X17, Bellville 7535

Telephone: (021)959-2835

Cell: 083 776 1144

Email: pnaidoo@uwc.ac.za



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*Private Bag X 17, Bellville 7535, South Africa**Tel: +27 21-959 2835/2283*

Hospital Anxiety and Depression Scale (HADS)

Patients are asked to choose one response from the four given for each interview. They should give an immediate response and be dissuaded from thinking too long about their answers. The questions relating to anxiety are marked "A", and to depression "D". The score for each answer is given in the right column. Instruct the patient to answer how it currently describes their feelings.

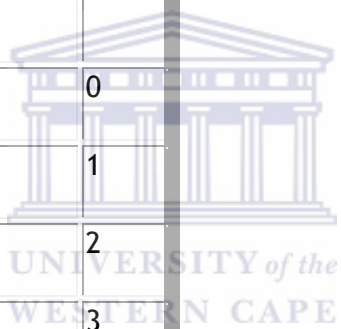
A	I feel tense or 'wound up':	
	Most of the time	3
	A lot of the time	2
	From time to time, occasionally	1
	Not at all	0

D	I still enjoy the things I used to enjoy:	
	Definitely as much	0
	Not quite so much	1
	Only a little	2
	Hardly at all	3

A	I get a sort of frightened feeling as if something awful is about to happen:	
	Very definitely and quite badly	3
	Yes, but not too badly	2
	A little, but it doesn't worry me	1
	Not at all	0

D	I can laugh and see the funny side of things:	
	As much as I always could	0
	Not quite so much now	1
	Definitely not so much now	2
	Not at all	3

A	Worrying thoughts go through my mind:	
	A great deal of the time	3
	A lot of the time	2
	From time to time, but not too often	1
	Only occasionally	0



D	I feel cheerful:	
	Not at all	3
	Not often	2
	Sometimes	1
	Most of the time	0

A	I can sit at ease and feel relaxed:	
	Definitely	0
	Usually	1
	Not Often	2
	Not at all	3

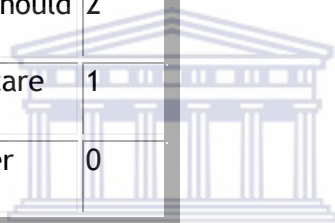


D	I feel as if I am slowed down:	
	Nearly all the time	3
	Very often	2
	Sometimes	1
	Not at all	0

A	I get a sort of frightened feeling like 'butterflies' in the stomach:	
----------	--	--

	Not at all	0
	Occasionally	1
	Quite Often	2
	Very Often	3

D	I have lost interest in my appearance:	
	Definitely	3
	I don't take as much care as I should	2
	I may not take quite as much care	1
	I take just as much care as ever	0



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A	I feel restless as I have to be on the move:	
	Very much indeed	3
	Quite a lot	2
	Not very much	1
	Not at all	0
D	I look forward with enjoyment to things:	
	As much as I ever did	0
	Rather less than I used to	1

	Definitely less than I used to	2
	Hardly at all	3

A	I get sudden feelings of panic:	
	Very often indeed	3
	Quite often	2
	Not very often	1
	Not at all	0

D	I can enjoy a good book or radio or TV program:	
	Often	0
	Sometimes	1
	Not often	2
	Very seldom	3

	Scoring (add the As = Anxiety. Add the Ds = Depression). The norms below will give you an idea of the level of Anxiety and Depression.	
	0-7 = Normal	



	8-10 = Borderline abnormal	
	11-21 = Abnormal	



Appendix D



Q-LES-Q (Self-Report)

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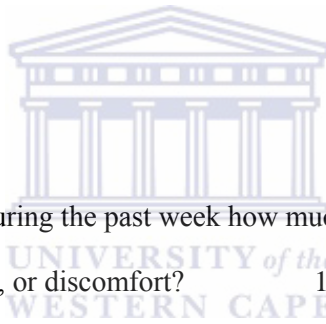
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Page 1 Of 8

PHYSICAL HEALTH/ACTIVITIES

Circle the most appropriate answer

- 1 Not at all (never)**
- 2 Rarely**
- 3 Some of the time**
- 4 Often or most of the time**
- 5 Frequently or all the time**



With regard to your physical health, during the past week how much of the time you have...

... been completely free of aches, pain, or discomfort?	1	2	3	4	5 (25)
... felt rested?	1	2	3	4	5 (26)
... felt energetic	1	2	3	4	5 (27)
... felt in excellent physical health?	1	2	3	4	5 (28)
... felt in all least very good physical health?	1	2	3	4	5 (29)
... been free of worry about your physical health?	1	2	3	4	5 (30)
... felt you got enough sleep	1	2	3	4	5 (31)
... felt able to be as physical active as needed?	1	2	3	4	5 (32)
... felt well coordinated?	1	2	3	4	5 (33)
... felt you memory was functioning well?	1	2	3	4	5 (34)
... felt good physical?	1	2	3	4	5 (35)
... felt full of pep and vitality?	1	2	3	4	5 (36)
... been free of visual problems?	1	2	3	4	5 (37)

FEELING

Circle the most appropriate answer

- 1 Not at all (never)**
- 2 Rarely**
- 3 Some of the time**
- 4 Often or most of the time**
- 5 Frequently or all the time**

During the past week how much of the time you have..

felt clearheaded?	1	2	3	4	5 (38)
felt satisfied with your life?	1	2	3	4	5 (39)
felt good about your appearance?	1	2	3	4	5 (40)
felt happy or cheerful?	1	2	3	4	5 (41)
felt independent?	1	2	3	4	5 (42)
felt content?	1	2	3	4	5 (43)
felt able to communicate with others?					
felt interested in taking care of your appearance (hair, clothing) and personal hygiene (bathing, dressing)	1	2	3	4	5 (45)
felt able to make decisions?	1	2	3	4	5 (46)
felt relaxed?	1	2	3	4	5 (47)
felt good about your life?	1	2	3	4	5 (48)
felt able to travel to get things done when needed (walk, use car, bus, train or whatever is available as needed)?	1	2	3	4	5 (49)
felt able to deal with life's problem?	1	2	3	4	5 (50)
Felt able to take care of yourself?	1	2	3	4	5 (51)



Q-LES-Q (Self-Report)

Page 3 Of 8

WORK

Do you: have a job____, work for yourself____, do you volunteer work____?

If – NO to all3 (Note reason & SKIP to Page 4)

- Yes to any of the 3 (COMPLETE THIS SECTION) (55)
- Reason 1. Too ill physically 2. Too emotionally upset 3. Retired 4. other

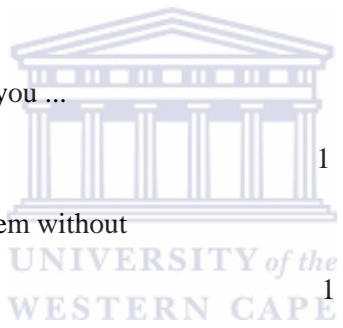
_____ (Specify other reason) (56)

Circle the most appropriate answer

- 1 Not at all (never)**
- 2 Rarely**
- 3 Some of the time**
- 4 Often or most of the time**
- 5 Frequently or all the time**

During the past week how often have you ...

enjoyed work?	1	2	3	4	5 (57)
solved work problems or dealt with them without					
undue stress?	1	2	3	4	5 (58)
thought clearly about work?	1	2	3	4	5 (59)
been decisive about work, or made decision when needed?	1	2	3	4	5 (60)
accomplished what you wanted to do?	1	2	3	4	5 (61)
worked well?	1	2	3	4	5 (63)
been interested in your work?	1	2	3	4	5 (64)
concentrated on your work?	1	2	3	4	5 (65)
work carefully?	1	2	3	4	5 (66)
kept up with expected work?	1	2	3	4	5 (67)
taken care of work by yourself when it was necessary?	1	2	3	4	5 (68)
communicated and interacted with ease with others?	1	2	3	4	5 (69)



Q-LES-Q (Self-Report)

Page 4 Of 8

HOUSEHOLD DUTIES

Are you responsible for any household duties/house work/homemaker activities (e.g. cleaning, shopping, doing dishes food shopping or preparation)

If: 1 NO (Note reason & SKIP to Page 5)

2 Yes (COMPLETE THIS SECTION) (70)

Reason 1. Too ill physically 2. Too emotionally upset 3. not expected to anything for yourself or other people? 4. Other _____ (Specify other reason) (71)

Circle the most appropriate answer

1 Not at all (never)

2 Rarely

3 Some of the time

4 Often or most of the time

5 Frequently or all the time

During the past week how often have you ...

kept your room/apartment/house cleaned to your satisfaction?	1	2	3	4	5 (72)
paid bills, done the banking to your satisfaction?	1	2	3	4	5 (73)
shopped for food or other household items to your satisfaction?	1	2	3	4	5 (74)
prepared food or obtain food to your satisfaction?	1	2	3	4	5 (75)
taken care of the laundry/cleaning to your satisfaction?	1	2	3	4	5 (76)
had a feeling of accomplishment with regard to household activities?	1	2	3	4	5 (225)
concentrated and thought clearly about what household activities needed to be done?	1	2	3	4	5 (226)
solved household problems or dealt with them without undue stress?	1	2	3	4	5 (227)
Been decisive or made decision when needed with regard to household activities?	1	2	3	4	5 (228)
made repairs or taken care of household maintenance as needed?	1	2	3	4	5 (229)

Q-LES-Q (Self-Report)

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SCHOOL/COURSE WORK

Have you in taking any courses, going class, or been involved in any type of course work, school or college studies during the past week?

IF: 1 NO (Note reason & SKIP to Page 6)

2 YES (COMPLETE THIS SECTION) (230)

Reason:

1. Too ill physically 2. Too emotionally upset 3. not expected to anything? 4. Other

_____ (Specify other reason) (231)

(Write in reason)

Circle the most appropriate answer

1 Not at all (never)

2 Rarely

3 Some of the time

4 Often or most of the time

5 Frequently or all the time



During the past week how much of your time have you ...

enjoyed the course/class work?	1	2	3	4	5 (232)
looked forward to getting to work on the course/class work?	1	2	3	4	5 (233)
dealt with the course/class work without undue stress?	1	2	3	4	5 (234)
thought clearly about the course/class work?	1	2	3	4	5 (235)
been decisive about the course/class work?	1	2	3	4	5 (236)
been please with your course/class work accomplishment?	1	2	3	4	5 (237)
been interested in your course/class work?	1	2	3	4	5 (238)
concentrated on the course/class work?	1	2	3	4	5 (239)
felt good while doing your course/class work?	1	2	3	4	5 (240)
communicated and interacted with ease with others at your course/class?	1	2	3	4	5 (232)

Q-LES-Q (Self-Report)

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LEISURE TIME ACTIVITIES

The following questions refer to leisure time activities such as watching T.V, reading the paper or magazines, tending house plants or gardening, hobbies, going to museums or the movies, or to sports events, etc.

Circle the most appropriate answer

- 1 Not at all (never)**
- 2 Rarely**
- 3 Some of the time**
- 4 Often or most of the time**
- 5 Frequently or all the time**

During the past week ...

When you had time, how often did you use that time for a leisure time activity?	1	2	3	4	5 (244)
how often did you enjoy the leisure activities?	1	2	3	4	5 (245)
how often did look forward to the leisure activities before spending time at them?	1	2	3	4	5 (246)
how often did you concentrate on the leisure activities and pay attention to them?	1	2	3	4	5 (247)
if a problem arose in your leisure activities, how often did you solve it deal without undue stress?	1	2	3	4	5 (248)
how often did the leisure activities sustain your interest?	1	2	3	4	5 (249)



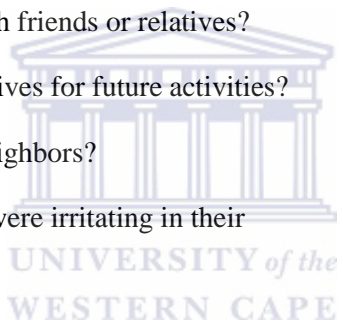
SOCIAL RELATIONS

Circle the most appropriate answer

- 1 Not at all (never)**
- 2 Rarely**
- 3 Some of the time**
- 4 Often or most of the time**
- 5 Frequently or all the time**

During the past week how often have you ...

enjoy talking with or being with friends or relatives?	1	2	3	4	5 (250)
looked forward to getting together with friends or relatives?	1	2	3	4	5 (251)
made social plans with friends or relatives for future activities?	1	2	3	4	5 (252)
enjoyed talking with co-workers or neighbors?	1	2	3	4	5 (253)
been patient with others when others were irritating in their actions or words ?	1	2	3	4	5 (254)
been interested in the problems of other people?	1	2	3	4	5 (255)
felt affection toward one or more people?	1	2	3	4	5 (256)
gotten along well with other people?	1	2	3	4	5 (257)
joked or laughed with other people?	1	2	3	4	5 (258)
felt you met the needs of friends or, relatives?	1	2	3	4	5 (259)
felt your relationship with your friends or relatives were without major problems or conflicts?	1	2	3	4	5 (260)



Q-LES-Q (Self-Report)

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GENERAL ACTIVITIES

Taking everything into consideration, during the past week how satisfied have been with your ...
Circle the most appropriate answer – OVERALL LEVEL OF SATISFACTION

- 1 Very Poor**
- 2 Poor**
- 3 fair**
- 4 Good**
- 5 Very Good**

Physical health?	1	2	3	4	5 (261)
Mood?	1	2	3	4	5 (262)
Work?	1	2	3	4	5 (263)
Household activities?	1	2	3	4	5 (264)
Social relationships?	1	2	3	4	5 (265)
Family relationship?	1	2	3	4	5 (266)
Leisure time activities?	1	2	3	4	5 (267)
Ability to function in daily life?	1	2	3	4	5 (268)
Sexual drive, interest and/or performance?*	1	2	3	4	5 (269)
Economic status?	1	2	3	4	5 (270)
Living/house situation?	1	2	3	4	5 (271)
Ability to get around physically without feeling dizzy or unsteady or falling?	1	2	3	4	5 (272)
Your vision in terms of ability to do work or hobbies?*	1	2	3	4	5 (273)
Overall sense of well being?	1	2	3	4	5 (274)
Medication (if not taking any, check here _____ and leave item blank) (275)	1	2	3	4	5 (276)
How would you rate you overall life satisfaction and contentment during the past week?	1	2	3	4	5 (277)

**If satisfaction is very poor, poor or fair on these items, please UNDERLINE the factor(s) associated with a lack of satisfaction.*