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FACULTY OF SOCIAL SCIENCE

DEPARTMENT OF PSYCHOLOGY

**MENTAL HEALTH CORRELATES WITH GYNAECOMESTIA IN MEN ON
ART IN HWANGE.**

RESEARCH

BY

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**A DISSERTATION SUBMITTED TO THE FACULTY OF SOCIAL SCIENCES
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DEDICATION

I dedicate this Research to all victims of ART-Induced Gynaecomastia across the globe who have succumbed to chronic emotional inhibition. My one and only, beautiful daughter, Nyasha Tiffany Mandaba, I love you.

ABSTRACT

This study which was conducted in Hwange, Matabeleland North Province of Zimbabwe, sought through a descriptive design in nature to compare the age specific experiences of Gynaecomastia among men on ART of 15-35 age cohort and 36-56 age cohort in a bid to unpack their psychological experiences of Gynaecomastia. The research employed cognitive behavioural theory as the theoretical framework. The study followed a positivist paradigm which assumes a stable reality is one which can be explained by observation and experiment. The actual study sample consisted of 169 men with ART-Induced Gynaecomastia. As of July 2018, a total of 29900 men were on ART in Matabeleland North Province, 1700 in Hwange. Out of 1700, the total population of men on ART in Hwange, about 217 men were diagnosed with Gynaecomastia in Hwange. The study adopted the random or simple sampling technique for the population of men on ART. The researcher developed a questionnaire which encapsulated questions on negative and positive experiences of Gynaecomastia as well as questions that aimed at establishing the psychological effects of Gynaecomastia. Inferential statistics were utilised to check if there was significant differences on the measured variables where the significance level was fixed at a P value of <0.05 . The researcher distributed 217 questionnaires and 169 of the questionnaires were answered and returned giving this study a response rate of 78%.

The study concluded on a note where it agreed with previous researches especially on the aspect of men with Gynaecomastia experiencing stress and having challenges as far as social engagement is concerned. The uniqueness of this study is that, it brings to light the notion that the same challenges experienced by youths (15-35) as far as Gynaecomastia is concerned are the same challenges that are experienced by adults (36-56). Differences may however come in form of the coping strategies.

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It goes without saying that my immediate family did so much for me during my entire study at Midlands State University. It may be my name on the cover page of this research paper but, the following people inclusive of my dad Edward, beautiful daughter Nyasha Tiffany Mandaba, my sisters Sheron/Ncane and Tracy, were behind me all the way. My nephew Mpumelelo Jeremy Mathe equally contributed to the success of this prestigious academic research.

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CHAPTER ONE: INTRODUCTION

1.1 Introduction to the study

This study compares the experiences of Gynaecomastia in men on antiretroviral therapy (ART) between the age cohort of 15-35 and those between the age cohort of 36-56 in Hwange, Zimbabwe. The impetus behind this study stems from the dearth of comparative researches on the experiences of Gynaecomastia in men on ART of different age cohorts in Zimbabwe. Literature on such the issue has majorly been done in out of Zimbabwe and mostly from a medical standpoint. Furthermore, while the issue has received attention in the medical field, not much has been done on unpacking the psychological experiences of Gynaecomastia among men of different ages in Zimbabwe. The study aims to bridge this hiatus by comparing the psychological experiences of Gynaecomastia in men on ART between the age cohort of 15-35 and those between the age cohorts of 36-56 in Hwange, Zimbabwe.

By doing so, the research study aims to determine how men of different ages experience Gynaecomastia in Hwange. The study area is a predominantly black urban township area in Matabeleland North Province of Zimbabwe. A quantitative research design was adopted and a questionnaire was used to collect data.

1.2 Background of the Study

Male breast enlargement in the general populations does not seem to be an unusual finding, the estimated prevalence of true Gynecomastia is low (approximately 1% of adult men). Gynecomastia occurs rarely among men worldwide. It involves the proliferation of glandular ducts and periductal stroma, in contrast to the breast enlargement that can affect both women and men and does not distinguish between glandular and fat tissue (Biglia *et al.*, 2014). A number of breast enlargement (gynecomastia) cases particularly among men have been reported in HIV-infected men on treatment since the introduction of antiretroviral therapy (ART) (Toma & Therrien, 1998).

A research done in Spain by Biglia *et al.*, (2014), on Gynaecomastia among HIV-Infected patients revealed that 44 out of 2275 patients had breast enlargement, of which 40 out of 44 (1.8%) had Gynaecomastia. It was suggested in this study that Gynaecomastia among HIV-infected patients is related to Hypogonadism, rather than to an adverse effect of antiretroviral drugs. Another study done in Southern Spain on the frequency of Gynaecomastia in HIV-

infected men receiving ART and its association with antiretroviral drugs and hormone abnormalities by Mira *et al.*, (2004), revealed that Gynaecomastia was common in HIV-infected men undergoing ART. It was also noted that Efavirenz and Didanosine treatment are associated with the emergence of Gynaecomastia.

A study in Nigeria by Agbagi *et al.*, (2011), on Efavirenz-induced Gynaecomastia in HIV-infected men, noted that six patients in the treatment program were having varying degrees of Gynaecomastia following the use of efavirenz-based ART, despite adequate immunologic and virologic response. Gynaecomastia was concluded to be not an uncommon condition in HIV-infected men receiving efavirenz-based ART. Njuguna *et al.*, (2016), conducted a study on the causes of antiretroviral-associated Gynaecomastia reported to the National HIV and Tuberculosis Health Care Worker Hotline in South Africa. Out of 475 patients who were on ART, 51 (11%) had Gynaecomastia. Like the findings by other researchers, Gynaecomastia was linked to prolonged exposure to efavirenz, a drug that is part of the ART.

Upon consultation by the researcher, a number of health care workers countrywide and in Hwange revealed that Gynaecomastia is real though the prevalence of the condition is poorly documented. Some health care workers revealed that, even if they can determine the presence of the condition in some men on ART they cannot immediately tell the patient due to the fear that the patients may withdraw the treatment. Lack of alternative medication to the current ART has been sited to be the major reason why informing the patient may be hazardous since the hospitals have limited alternatives and cannot recommend withdrawal since its rendered more dangerous than Gynaecomastia. The information from health care workers and their behaviour in handling men on ART shows that they are aware of the mental consequences that may be caused by the revelation of the condition to men on ART; however there is no research into the nitty-gritty's of the mental health problems associated with the condition hence the purpose of this study.

The Provincial Medical Director (PMD) also revealed that the secretive nature of Gynaecomastia whereby most patients cannot open up to the condition and a few opening up when the condition has reached the climax, has made it difficult for hospitals to possess accurate statistics on the prevalence of Gynaecomastia. However the PMD consented that Gynaecomastia is real and its prevalence is perceived to be high despite the fact that official records on the condition are scarce. The scarcity of documentation on Gynaecomastia in Hwange as revealed by the PMD is in itself a worrisome phenomenon to both the Ministry of

Health and Child Care and men on ART since this might limit the invention of control measures to the condition and supports the persistence of the condition. In the light of persistence of the condition, there might also be increased pursuance in the mental repercussions of Gynaecomastia which are currently perceived but not known; therefore the dig by this study was a necessity.

Njuguna *et al.*, (2006) stated that there is limited data on clinical characteristics of patients with ART-associated Gynaecomastia in resource limited settings and there is little guidance on the optimal management of adverse drug reaction. The prevalence and risk factors associated with gynecomastia in a cohort of HIV-infected men are poorly understood (Biglia *et al.*, 2014). Most studies done on Gynaecomastia focused on the prevalence, the link of the condition to drugs involved in ART and control measures. Not much had been done on the correlation of Gynaecomastia to mental health or its psychological consequences to male patients on ART in Zimbabwe and Hwange, specifically. Therefore the current study sought to establish the correlation of mental health and Gynaecomastia in men on ART in Hwange, Zimbabwe.

1.3 Statement of the Problem

Men who are on antiretroviral therapy (ART) have exhibited a growth in their breasts, a condition known as Gynaecomastia. Gynaecomastia is usually not life threatening but it can affect a man's quality of life due to its psychological effects (Allan & Southwick, 2015). Records from the Ministry of Health Hwange hospitals that entail Lukosi hospital, Hwange district hospital, ST Patrick's hospital, and Hwange colliery hospital revealed that a number of cases of Gynaecomastia have been reported in HIV-infected men on treatment and little had been done to reveal its psychological consequences on victims' lives. Personal observations by the researcher revealed that many male patients on ART have their breasts enlarged and little is being done to cure or reverse the condition. The Ministry of Health and a range of non-governmental organisations had done justice in the provision of HIV testing services, HIV-AIDS education, counselling and provision of ART. However, little or no effort had been directed to the physiological effects of Gynaecomastia and the measures to curb this condition in men on ART. Therefore the current study sought to establish the correlation of mental health and Gynaecomastia in men on ART.

1.4 Significance of the Study

This comparison of experiences of Gynaecomastia among men in Hwange adds onto the existing knowledge on the psychological effects of Gynaecomastia in Zimbabwe and beyond.

Most studies on Gynaecomastia have a medical tilt and tend not to unpack the age-specific experience on the condition among men.

To the Government, Ministry of Health and Child Care, Investors and Policy Makers.

- The findings will enable the government through the Ministry of Health and Child Care and other health organisations to identify and adopt mechanisms to reverse or cure Gynaecomastia and its psychological effects in men on ART. The research also acts as a guide to policy makers, decision makers and investors to make well informed decisions about policies and investment in Gynaecomastia control practices through grounded understanding of the connection of mental health and Gynaecomastia in men on ART.
- **Victims of Gynaecomastia:** The findings of this study will probably help the target population to accept this condition as normal considering that other people have the same condition. While there may not be a cure yet, the realization that research in Zimbabwe is being conducted in relation to Gynaecomastia might help its victims develop hope as well as open up and have peer to peer discussion about it.
- **The Research:** In all intents and purposes, this study will most probably prompt more questions that will lead to further research, allowing the researcher a chance and opportunity to gain more knowledge. Under the circumstances that findings of this research have been accepted, the research might also benefit financially through copyright.
- **MSU:** This comparison of experiences of Gynaecomastia among men in Hwange will likely bring different taste onto the existing knowledge on the psychological effects of Gynaecomastia in Zimbabwe and beyond.

1.5 Research Objectives

- 1) To find out the mental health status of men on ART with Gynaecomastia, in different age cohorts
- 2) To establish the level of social participation in man on ART with Gynaecomastia, in different age cohorts
- 3) To find out the strategies employed in coping with Gynaecomastia in men on ART in varying age cohorts.

1.6 Research Hypotheses

- 1) There are no significant differences on the mental health status in men with Gynaecomastia on ART between the range of 15-35 age cohort and those of 36-56 age cohorts.
- 2) There are no significant differences in the level of social participation in men with Gynaecomastia on ART of 15-35 age cohort and 36-56 age cohort in Hwange.
- 3) There are no significant differences in the strategies, used to cope with Gynaecomastia in men on ART in the range of 15-35 age cohorts and 36-56 residing in Hwange.

1.7 Purpose of the study

The purpose of the study is to explore the largely ignored area in social science research on Gynaecomastia. Since most of the studies on Gynaecomastia have had a medical tilt, this study seeks to explore this issue by establishing the psychological effects of Gynaecomastia among men on ART. Secondly, the aim was to make a comparison on the mental health status/stress levels of men with Gynaecomastia on various age cohorts in Hwange. The study also explored the level of social participation in men with Gynaecomastia on ART of different age cohorts. Finally the research was sealed by providing recommendations to curb the psychological damages that come with it, Gynaecomastia.

1.8 Assumptions

The study is built on the following assumptions:

- That Gynaecomastia among men on ART alter their experiences, negatively affect them psychologically;
- That because of this alteration, their daily lives are affected negatively;
- That these changes of their daily life experiences impact them psychologically;
- That the methodology and theoretical framework underpinning this study allows a nuanced understanding of the age specific experiences of Gynaecomastia among men in Zimbabwe;
- That the distinctive experience of Gynaecomastia among men to be uncovered by this study can be synthesised into a nuanced and unified psychological study.

1.7 Delimitations

Access to men willing to share their experiences of Gynaecomastia can be a mammoth task given the sensitive nature of the issues. Most HIV positive men who are on ART seem to be generally reserved when it comes to sharing their personal experiences and this might cause difficulties when interacting with them. Language barrier can be a challenge since the

questionnaire is in English. The research area was selected for convenience purposes since the researcher works and resides in Hwange. The result from the study was limited to Opportunistic Infections Focal and HIV infected male patients on ART as these are the proposed sources of data that was utilised in this research.

1.8 Limitations

Access to men willing to share their experiences of Gynaecomastia can be a mammoth task given the sensitive nature of the issues. Most HIV positive men who are on ART seem to be generally reserved when it comes to sharing their personal experiences and this might cause difficulties when interacting with them. Language was one of the limitations to this research. Some respondents, mainly HIV-infected patients on ART were not in a position to understand English whilst the questionnaires were written in English. Since the all questions were written in English, those who did not understand would have failed to participate in this study or they would have spoiled the questionnaires by providing irrelevant information. However the researcher and her assistant translated or made use of translators to translate questions from English to native languages understood by respondents and to explain the questions for clarity to those that needed it, in order to increase the possibility of obtaining relevant information.

The study was also limited by financial constrains related to transport costs to and from the researcher's residence to hospitals in addition to printing costs associated with the production of questionnaires. Financial limitation had also caused the research to only focus on selected hospitals in Hwange only. Ideally, the research would have covered all the hospitals or other health facilities in Matabeleland North Province even beyond.

1.9 Definition of Terms

Gynaecomastia

Gynaecomastia is a benign, abnormal, growth of the male breast gland which can occur unilaterally or bilaterally, resulting from a proliferation of glandular, fibrous and adipose tissue (Derkacz *et al.*, 2011). For the purpose of this study Gynaecomastia will be defined as the abnormal increase of the glandular tissue in the male breast beneath the nipple.

Hypogonadism

Reduction or diminished functional activity of reproductive glands that may result in diminished sex hormone biosynthesis (Crawford *et al.*, 2007). In light of the current study

Hypogonadism was referring to the malfunctioning of reproductive glands that lead to Gynaecomastia.

Antiretroviral therapy (ART)

Antiretroviral therapy (ART) is the treatment of people Infected with human immunodeficiency virus (HIV) using anti-HIV drugs (WHO, 2018). In the context of this study ART refers to the medication or drugs given HIV-infected people to suppress the effects of the virus.

Immunologic

The branch of biology concerned with the components of the immune system, immunity from disease, the immune response and immune technique analysis (Janeway *et al.*, 2001). In the present study immunologic was referring to the response offered by a person's immune system with respect to medication

Virologic

The study of viruses and viral diseases (Glezen, 2001). In light of the present study virologic was defined as the response of the virus to treatment or drugs.

1.10 Chapter Summary

Chapter one introduced the research and identified research gaps around the research topic. It sets the boundaries for the research thereof by setting the background of the research, clearly defining the research objectives and the research hypotheses. It was also within this chapter that the significance of this research to relevant stakeholder groups was highlighted. The following chapter will look at the literature surrounding the current study, putting the research in perspective of what other researchers have found on the subject under study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The preceding chapter introduced the research and its objectives and hypothesis. Thus, in this chapter, literature from across the globe is reviewed first before cascading down to the African case studies. It starts off conceptualising what Gynaecomastia is before discussing the nexus between Gynaecomastia and ART. The main thrust of this chapter was to review studies done across the world, in Africa and then locally, bringing out the psychological experiences on the Mental health status or stress levels, level of participation in social activities, and strategies used to cope with Gynaecomastia in men with ART-Induced Gynaecomastia. Review of existing literature also helped with the designing of the study and the research instruments.

2.2 Gynaecomastia, HIV and Anti-Retroviral Treatment

Defined as hyperplasia, of the breast tissue in men, Gynaecomastia is generally not linked with the presence of malignant lesions (Keddi and Morris, 1967; Gikas and Mokbel, 2007; Czajka-Oraniec, and Zgliczyński, 2008). Gynaecomastia can be bilateral or unilateral. Characterised by breast enlargements, breasts enlargement as a result of Gynaecomastia are often bilateral (Bell, 1995). Gynaecomastia is a condition which can be seen in men in different periods of their lives. It is usually common in neonates, in pubertal boys between 12 and 15 years of age and in ageing men (Kasielstka and Antoszewski, 2011). Studies depict that Gynaecomastia which occur in these age groups is considered to be physiological and estimates show that about these cases constitute half of all Gynaecomastia cases (Braunstein, 1993; Mathur and Braunstein, 1997). The occurrence of physiological Gynaecomastia is linked to hormonal fluctuations in different periods of people's life. Thus, in neonates Gynaecomastia is associated with the presence of maternal oestrogens. During the puberty stage, Gynaecomastia is a result of increased secretion of chemical substances called Gonadotrophins which in addition to testosterone synthesis stimulate oestrogen production. Studies show that in elderly men, Gynaecomastia is driven by the reduction in the production of testosterone (Mathur and Braunstein, 1997).

Gynaecomastia may also be a clinical manifestation of hormonal disorders of diverse pathogenesis. This is the case in Klinefelter's syndrome, in familial or sporadic elevated aromatase activity, in total or partial insensitivity to androgens, in testicular or adrenal tumours, in hyperthyroidism and many other irregularities (Shozu *et al.*, 2003). The use of drugs which include *inter alia* steroids, sex hormones, spinorolactone, methyldopa, antiretroviral drugs,

Rosuvastatin, antifungal medicines, cancer drugs, diazepam, fenofibrate and ART drugs can cause Gynaecomastia. The use of stimulants such as alcohol, dagga, heroin, anabolic steroids and also food stuffs such as soy, tea oils can also cause Gynaecomastia. (Mathur and Braunstein, 1997). Gynaecomastia can also be as a result of an increased amount of sub areolaadipose tissue, which is referred to as lipomastia (Braunstein, 2007).

ART, its nemesis, has been causing Gynaecomastia among men. Perhaps it is important to define what anti-retroviral therapy is before discussing its nexus to Gynaecomastia. Abbreviated as ART, Anti-retroviral therapy is the treatment of people infected with human immunodeficiency virus (HIV) using anti-HIV drugs. ART is a standard treatment of HIV which consists of a combination of at least three drugs that suppress HIV replication. A total of three drugs are used in order to reduce the likelihood of the virus developing resistance. The drugs which are used for ART are grouped as reverse transcriptase inhibitors, protease inhibitors, entry inhibitors and HIV integrase inhibitors (World Health Organisation [WHO], 2018). Reverse transcriptase inhibitors are further classified as nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs) or non-nucleoside/nucleotide reverse transcriptase inhibitors (NNRTIs) (WHO, 2018). Table 2.1 captures the classes of drugs which make up ART

Reverse transcriptase inhibitors		Protease inhibitors	Entry inhibitors	HIV integrase inhibitors
NRTIs	NNRTIs			
<i>Emtricitabine</i>	<i>Etravirine</i>	<i>Ritonavir</i>	<i>Enfuvirtide</i>	<i>Raltegravir</i>
<i>Lamivudine</i>	<i>Efavirenz</i>	<i>Saquinavir</i>	<i>Maraviroc</i>	
<i>Zalcitabine</i>	<i>Nevirapine</i>	<i>Tipranavir</i>		
<i>Stavudine</i>	<i>Delavirdine</i>	<i>Amprenavir</i>		
<i>Zidovudine</i>		<i>Fosamprenavir</i>		
<i>Didanosine</i>				
<i>Tinofovir</i>		<i>Atazanavir</i>		
<i>Zalcitabine</i>		<i>Indinavir</i>		

Table 2.1: Classes of drugs used in ART (Source: Adapted from World Health Organisation: 2018).

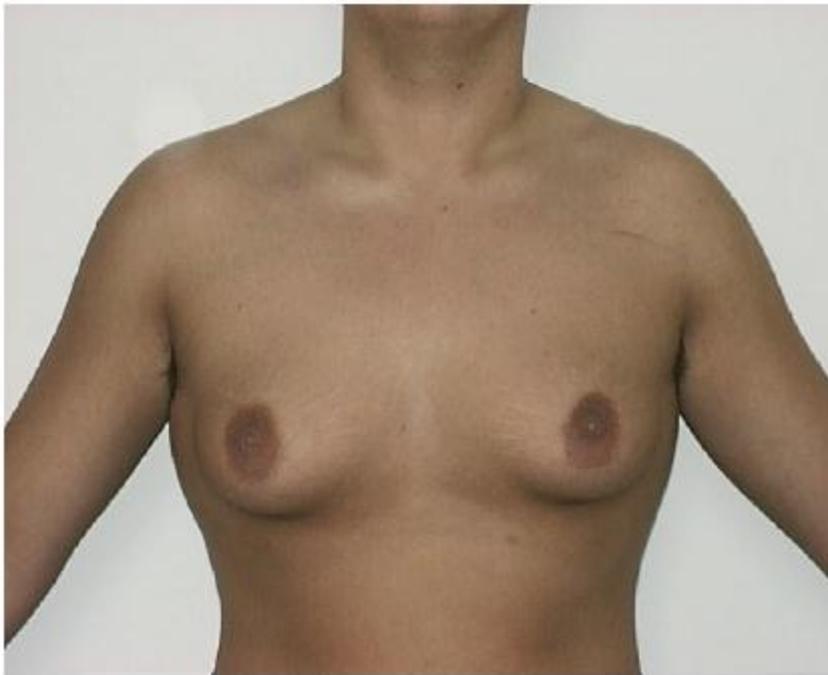


Figure 1: Patient with bilateral Gynaecomastia (Source: Kasielstka and Antoszewski, 2011: 616).

2.3 World views on the Mental Health Status or stress levels, level of social participation and strategies used to cope with Gynaecomastia in men with Gynaecomastia on ART.

Global views of the Mental Health Status of Men with Gynaecomastia on ART

Studies done in Europe depict that Gynaecomastia is a source of psychological problems. A study done in Poland by Kasielstka and Antoszewski (2011) show that in extreme cases, Gynaecomastia can even lead to mental trauma, notably in adolescent and young persons.

Discussing a condition that is not life threatening like Gynaecomastia or a serious sports injury is considered a weakness by most men in some societies and this has caused many men to keep a condition like Gynaecomastia a secret (Stromsvik *et al.*, 2010). However this chronic inhibition and keeping of emotion known to be a male characteristic can negatively impact health outcomes. Under extreme circumstances hypothalamic-pituitary-adrenal axis can be disturbed, leading to endocrine and emotional dysfunctions that lead to psychosomatic illness. Headaches, chronic fatigue, obesity and hypertension are consequences of prolonged emotional suppression (Pedersen *et al.*, 2010). These mental health consequences are inferred to Gynaecomastia in general, therefore the need to check if these consequences are not alien to

men suffering from ART-induced Gynaecomastia. It is upon such considerations that this study sought to reveal mental health effects of Gynaecomastia in men on ART with ART-Induced Gynaecomastia.

Based on the literature accessed by the researcher, little had been done on the mental health consequences of Gynaecomastia in men on ART. The studies also vested their main emphasis to boys as they reach adolescents (adolescence related gynecomastia). It is unfair to ignore the psychological reparations of Gynaecomastia in men on ART given the damaging effect the condition can have on mental and emotional health of individuals. Therefore the current study sought to explore the mental health status of men on ART with Gynaecomastia in Hwange, Zimbabwe.

2.3.1 World views on the level of Social Participation in men with ART-Induced Gynaecomastia

According to Kasielstka and Antoszewski (2011), Gynaecomastia usually leads to considerable social inhibitions such as avoiding physical education classes or abstaining from sports. This is mainly as a result of a sensation of embarrassment and teasing by the peers (Kasielstka and Antoszewski, 2011). Young men with Gynaecomastia can encounter hardships in having intimate relationships with women and may lack social acceptance and adaptation (Kasielstka and Antoszewski, 2011).

A study done by Allan and Southwick (2015) in Australia depict that, although Gynaecomastia is usually not life threatening, it can affect a man's quality of life as it causes most men to avoid some activities that they will normally do due to the embarrassment brought by Gynaecomastia. For Allan and Southwick (2015), few men openly discuss their concerns with their local doctor or family and can become distressed about altered body image. Gynaecomastia can be particularly embarrassing for most men and this has made its awareness, understanding and its treatment very difficult (Allan and Southwick, 2015). The secretive nature of the condition might be one of the driving force on the scarcity of studies related to Gynaecomastia and this study act as a barrier breakage where the researcher sought to boost knowledge related to the condition in line with its psychological consequences to men on ART.

In addition to these ideas a study done in Belgium by Derkacz *et al.*, (2011), also revealed that men suffering from Gynaecomastia usually avoid social contact, fear showing their bodies in public places such as pools and saunas and are in fear of developing breast cancer. Thus, men with such conditions usually attempt to hide Gynaecomastia through by wearing loose clothes

or chest bandaging. Some can also adopt an improper posture which leads to secondary spinal curvature (Derkacz *et al.*, 2011). For Derkacz *et al.*, (2011), the emotional stress attached to the condition makes most men depressed and as a result they cannot give their best in their duties. Shame, perceived stigma, vulnerability, sadness, anxiety, a sense of unfairness, loneliness and fear of being marginalised or subordinated within gender hierarchies are all associated with male breast problems (Derkacz *et al.*, 2011). Findings by Derkacz *et al.*, (2011), revealed that in extreme cases Gynaecomastia had been one of the reasons for withdrawing from medical treatment especially hormone treatment applied to prostate cancer patients. All these disclosures are amplifiers to the reality that Gynaecomastia has vast psychological effects in men. Therefore one would want to check if the same consequences are encountered by men on ART in Zimbabwe hence the focus of the present study

2.3.2 More world views on the differences in stress levels/ mental health status among men on ART with Gynaecomastia, in varying age cohorts.

Research in the United States of America shows that men with Gynaecomastia usually undergo various psychological traumas more than the physical consequences brought by the condition (Wassersug and Olliffe, 2009). Among an array of social traumatic experiences which are as a result of Gynaecomastia, teasing and feelings of embarrassment have been commonly reported (Wassersug and Olliffe, 2009). The emotional stress attached to the condition makes most men depressed hence affecting their social and economic lives (Wassersug and Ollife, 2009). These issues are inferred to Gynaecomastia outside Africa, therefore the need to check if these consequences are not alien to men suffering from ART-induced Gynaecomastia. It is upon such considerations that this study sought to unpack the psychological consequences of Gynaecomastia among in men on ART in Zimbabwe.

Sollie, (2012), conducted a systematic search of published literature to identify the psychological domains and how they are influenced by Gynaecomastia. The findings of the review revealed that a range of psychological domains including vitality, emotional discomfort, limitations due to physical aspects and limitations due to pain. Having a positive body image perception is one of the most important aspects of everyone's life. People with real or imagined defects, deficits or disfigurements in themselves usually comparing their physical features with those of their peers or those that they aspire to have. This situation may result in embarrassment, discomfort and stress. Gynaecomastia is one condition that can possibly cause discomfort in males. This discomfort is usually a result of the perceptions about the thoughts and reactions

of other people. Most men with Gynaecomastia in a study done in Germany usually described negative feelings (Kipling *et al.*, 2014). They report anxiety, embarrassment, emasculation and depression to be some of the major impacts of Gynaecomastia (Kipling *et al.*, 2014). These notions might be true to men with ART-induced Gynaecomastia and this can be ascertained through studies like the current study.

However, this chronic inhibition and keeping of emotion known to be a male characteristic can negatively impact health outcomes. Under extreme circumstances hypothalamic-pituitary-adrenal axis can be disturbed, leading to endocrine and emotional dysfunctions that lead to psychosomatic illness. Headaches, chronic fatigue, obesity and hypertension are consequences of prolonged emotional suppression (Pedersen *et al.*, 2010). All these revelations are yet to be proven within the Zimbabwean population and it is through research studies like the present study that they can be proven.

World views on the adopted coping strategies by men with ART-Induced Gynaecomastia of varying age cohorts.

Allan & Southwick (2015) recommended the provision of moral support to people with Gynaecomastia so as to deal with stigmatisation. They further suggested the education of patients on the important facts of the condition so as to deal with negative guessing since it cause mental stress and agony. It was also stated that the encouragement of patients to socialize has the potential to boost their self-confidence and keeps their minds off gloomy thoughts. These measures were suggested based on the fact that other recommendations such as surgery are expensive and some medicines may also lead to unexpected consequences. Accessibility and costs of some measures cannot be ignored considering the persistent economic crisis in Zimbabwe hence the need for this study to check on the appropriate ART-induced Gynaecomastia therapeutic measures

Meerkotter (2010) revealed that there are a few studies with small numbers addressing issues of Gynaecomastia management associated with ART and there was no definite treatment to the condition. It was further stated that discontinuation of certain antiretroviral drugs may reverse Gynaecomastia, surgery and use of percutaneous dihydrotestosterone gel (5g daily given once for 1-3 months) may be helpful. The use Tamoxifen 10-20mg twice daily for Gynaecomastia was also recommended but the problem was that there were limited studies that demonstrated the success of using Tamoxifen. Given the fact that there is no definite treatment of the condition, there is a possibility that some patients have to leave with it and this gives room for the need

of psychological help that will assist Gynaecomastia patients to live with the condition with limited mental constraints from the condition. Therefore it is in the light of the present study to sought psychological measures that will improve the quality of life of men on ART with Gynaecomastia.

Most of the treatment strategies revealed by most researchers were based on the general treatment of Gynaecomastia and they are not specifically directed to Gynaecomastia in men on ART. No information on practices that are directed and specific to Zimbabwe was accessed and this might be a revelation that such information on the subject is not available or it is scarce. Therefore the current study seeks to gather information on proper measures that can curb Gynaecomastia in men on ART so as to endorse them within the Zimbabwean confines.

African and National views on the mental health status, level of participation in social activities and stress levels on men with Gynaecomastia on ART.

In light of the foregoing, Gynaecomastia is a medical condition which has been scantily investigated in Africa. What then are the age specific psychological experiences of men with Gynaecomastia who are on ART in Zimbabwe? Perhaps studying the experiences of Gynaecomastia between men of 15-35 age cohort and those of 36-56 age cohort in Matabeleland North Province with Hwange as the case in point might help in bridging the schism in the literature base.

The secretive nature of the condition might be one of the driving forces on the scarcity of studies related to Gynaecomastia in Africa and Zimbabwe and this study act as a barrier breakage where the researcher sought to boost knowledge related to the condition in line with its psychological consequences to men on ART. Considering the pervasive effect that Gynaecomastia might have on the psychosocial functioning of some men on ART, some of which can result in death, it seems prudent to carry out studies like the present study to draw attention on the lives of men on ART with Gynaecomastia so as to surround them with appropriate psychological care.

2.4 Theoretical Framework

The theoretical framework is the blueprint for the entire research inquiry and it serves as the guide on which to build and support the study. It provides the structure to define how you will

philosophically, epistemologically, methodologically, and analytically approach the dissertation as a whole (Grant & Osanloo, 2014). Eisenhart, (1991) defined a theoretical framework as a structure that guides research by relying on a formal theory, constructed using an established, coherent explanation of certain phenomena and relationships. Thus, the theoretical framework consists of the selected theory (or theories) that undergirds thinking with regards to how one understands and plan to researcher particular topic, as well as the concepts and definitions from that theory that is relevant to the topic. Applying or developing theory to a research must be appropriate, logically interpreted, well understood, and aligned with the topic at hand (Lovitts, 2005). The cognitive behavioural theory underpins this study.

2.4.1 Cognitive Behavioural Theory

The cognitive behavioural theory describes how people's perceptions of, or spontaneous thoughts about, situations influence their behaviour (and often psychological behaviour). Individuals' perceptions are often distorted and dysfunctional when they are distressed. Distorted perceptions and beliefs influence the processing of information and give rise to distorted thoughts. Thus, the cognitive behavioural model explains individuals' emotional, psychological and behavioural responses as mediated by their perceptions of experience, which are influenced by their beliefs and their characteristic ways of interacting with the world, as well as by the personal experiences (Lane, 2016).

The cognitive behavioural model describes how people's thoughts and perceptions have an influence on their psychological well-being. Distress affect an individual's perceptions and that in turn lead to unhealthy emotions and behaviours (Nahyun & Seung, 2015). This theory was suitable for the underlying study due to its rest on the basis that a person's psychological well-being is linked to situations or conditions experienced by an individual which also lead to exhibition of certain physiological, emotional and behavioural traits by an individual. Since this study was aimed at obtaining psychological traits of men with Gynaecomastia the theory is applicable as it enables the researcher to unpack the psychological experiences. The assumption being that behavioural extracts from man with ART-induced Gynaecomastia are influenced by the situation or condition (suffering from Gynaecomastia in this instance).

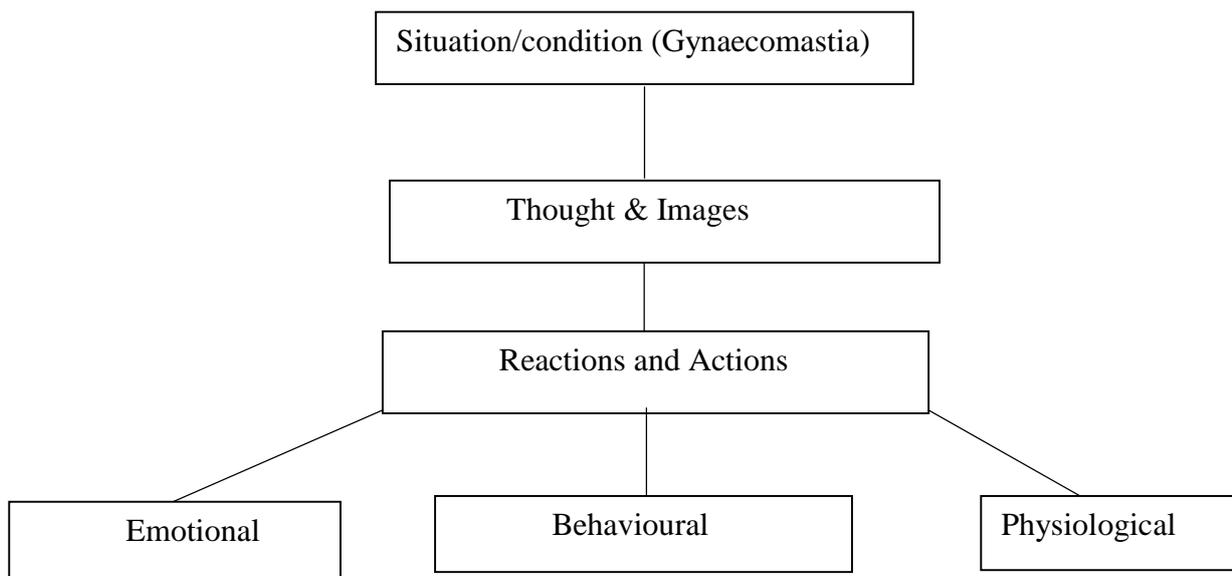


Figure 2: Behavioural Cognitive theory (Source Adapted from Lane, 2016).

2.5 Knowledge Gap

Based on accessed literature by the researcher most studies have revealed that Gynaecomastia is truly a side effect of antiretroviral therapy (ART) and continued provision of ART to HIV infected men is doing more harm than good in the light of the prevalence of the disease. However such revelations had not been proven scientifically or academically through research in Zimbabwe. Despite studies on prevalence and the relationships of Gynaecomastia and men on ART there is little research on the relationship of the condition to the mental health status or stress levels, the level of social participation and strategies of coping with stress, of men with Gynaecomastia on ART especially in Zimbabwe. Thus, albeit the literature reviewed provided rich data on experiences of Gynaecomastia, there is a paucity of comparative research on the age specific experiences of Gynaecomastia among men. Furthermore, the studies that have been conducted were not done in an African milieu, hence making a comparison of the experience in Zimbabwe worthwhile. Given that HIV-AIDS is incurable, it is certain than ART is unavoidable since it is the only way so far available for monitoring HIV infection and this also means Gynaecomastia is also going the persist. The psychological consequences of Gynaecomastia of men on ART can only be monitored when there are measures in place to monitor it but little is known on such measures on local grounds.

2.6 Summary

This chapter looked at existing literature on Gynaecomastia. Though some research has been done on the subject, literature revealed that Gynaecomastia continues to be a gap on the issue in an African milieu. The literature reviewed in this chapter provided guidance to the researcher on what to focus on and even possible methods and designs that are available to conduct similar studies. The literature reviewed assisted the researcher on how to analyse, interpret and discuss the findings from the current study. The following chapter will look at issues to do with the research methodology and the overall research design.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

The previous chapter primarily focused on the literature review, which did set this research as unique in so far as it sought to establish the psychological effect of gynaecomastia on men as opposed to the usual focus on the health domain of the condition. This chapter outlines the way in which the research will be undertaken and it depicts the research design, sampling techniques, research population and data collection methods. Thereafter, the researcher will conclude the chapter by addressing issues of research ethics and data presentation and analyses.

3.2 Research Paradigm

This study will follow a positivist paradigm which assumes a stable reality is one which can be explained by observation and experiment (Arghode, 2012). The positivist paradigm is rooted in objectivism and quantitative science, and epistemologically, it assumes that truth can be predicted and proven through experiments and observations (Alderson, 1998). The approach informs the methodology applied to collect and analyse data for this research and this should meet the stipulated objectives. It also involves the collection of data followed by the conversion of the data into numerical form so that statistical calculations can be made from which conclusions will be drawn (Alzheimer, 2009). For this research the positivist approach will be preferred because it resonates well with the objectives of the study which seek to tap on a social reality of the condition of men on ART with Gynaecomastia. Social reality is constructed by individuals who participate in it; hence, the target population will be men of age cohort 15-35 and men of age cohort 36-56 all on ART and having Gynaecomastia as a condition to grapple with as a health condition, social and psychological impact. The positivist approach enables the participants who are individuals to reveal their construction of social reality. Gynaecomastia is assumed to be affecting individuals in different ways and the reactions or coping strategies differs from an individual to the other and with different age strata, age cohort of 15-35 and age cohorts of 36-56. This research will contextualise positivist methodology through valuing the nature of reality. Reality consists of atomistic and independent events or experiences hence each selected cohort group had its own experiences but these experiences follow the deductive notion that events and experiences are ordered and interconnected and therefore the reality will be ordered and deducible. The target populations are from Hwange District but each one with his own life experiences on ART and the negative effects of gynaecomastia.

3.3 Research Design

This study will employ a descriptive design in nature to compare the age specific experiences of Gynaecomastia among men on ART and in a bid to unpack the psychological experiences of Gynaecomastia among men between men of the 15-35 age cohort and those of 36-56 age cohorts. The study will be both descriptive and explanatory since few comparative studies on the experiences of gynaecomastia have been done in Zimbabwe. Patton (1990) and Yin (2008) contended that a research design is a guide or blueprint of research that deals with at least four problems as: which pertinent questions to study, which data are relevant, how to collect the data and how to analyse the results. Leedeey (1980) posited that the data to be collected dictates the approach to be used study used. This method makes aggregating and summarising data easier and opens up the possibility of statistical analysis (Barbie 2008:25). It is of paramount importance to note that, this approach demands an observation of participants in their natural environment and not infer with their normal activities. This will probably serve as a precursor to future studies in the same area, the reason being that it brings to light variables that can be tested. The advantage of this approach is that it allows for generalizability of findings. On the contrary side, when using this approach, there are high chances of having participants not being truthful or not behaving normally because of the knowledge that they are being observed. It is an issue of concern that, a descriptive study may pose challenges of inapplicability to correlating variables or determining cause and effect.

3.4 Target Population

A population is made up of all the units of analysis in a certain study. According to Kish (1965:7) a “population entails an understanding of four dimensions: content, units, extent, and time” (Kish, 1965:7). Content defines the shared characteristics of the group under study. The units then refer to the level of analysis. These for instance include individuals, groups, organizations, or communities. For most researchers there is the targeted population but fundamentally, one has to deal with the accessible population, hence, the target population should be a realistic number lest the researcher will fail if the numbers are set too high. The researcher will adopt a random sampling method to choose the population for the current study and the population under study are men on ART since they are the ones who are more likely to be affected by ART-induced gynaecomastia. As of July 2018, a total of 29900 men were on ART in Matabeleland North Province, 1700 in Hwange. Out of 1700, the total population of men on ART in Hwange, about 217 men were diagnosed with gynaecomastia in Hwange.

The selection of hospitals to focus the study on was based on convenience. Convenience selection is a technique where subjects for a study are selected because of their expedient accessibility or proximity to the researcher (Saunders *et al.*, 2012). Out of 9 hospitals in Matabeleland North Province, the researcher focused on four (4) Hospitals, mainly located in Hwange and they were all chosen based on accessibility by the researcher. The 4 hospitals were Five Miles Hwange District Hospital, St Patricks Hospital, Lukosi Hospital and Hwange Colliery Hospital. Blanche *et al.*, (2014), states that the bigger the sample relative to the population size, the more the likelihood of using a sample that truly represent the whole population. However, they also recommended that ideally a good research sample should be made up of at least 10% of the research population. Considering that there are 9 hospitals in Matabeleland North Province, the choice of 4 hospitals represent 44% of all the hospitals in the province and this is well above the 10% mark. Furthermore, these Four (4) hospitals are evenly, strategically and well spread to cover the whole Hwange District from end to end. Whilst, this research would have desired to solicit, information from a wider cross-section of people under ART, there were some constraints to such an endeavour due to time, space, resources and practicality. The research population were 169 to which questionnaires were administered.

3.5 Sample and Sampling Technique

The study will adopt the random or simple sampling technique for the population of men on ART. According to Kish (1965) A Sample refers to a subset of a population that is used to study the population as a whole. A Sample can also be defined as the number of people or objects who are selected to represent a population according to some rule or plan (Haque, 1996). Simple Random Sampling (also referred to as Random Sampling) is the purest and the most straight forward probability sampling strategy. It is also the most popular method for choosing a sample among population for a wide range of purposes. In simple random sampling each member of population is equally likely to be chosen as part of the sample. It has been stated that the logic behind simple random sampling, is that it removes bias from the selection procedure and should result in representative samples(Gravette et al, 2011).If applied appropriately, simple random sampling can be associated with a minimum amount of sampling bias compared to other sampling method, (Gravette et al, 2011). Given the large sample frame is available, the ease of forming the sample group i.e. selecting samples is one of the main advantages of simple random sampling. Research findings resulting from the application of

simple random sampling can be generalized due to representativeness of this sampling technique and a little relevance of bias.

Members of the population will be targeted by the researcher on different review dates of collecting their monthly medication resupply days at their respective hospitals, for the sole purpose of eliminating bias. The fact that hospitals have men on ART who are diagnosed with Gynaecomastia; simple random sampling will be used to select a sample of men on ART with gynaecomastia. Simple random sampling is a technique that gives every member of the population with an equal opportunity to be selected for data collection (Samuels & Marshal, n.d). Men on ART with Gynaecomastia will be sampled spontaneously as they collect their monthly medication and sampling will be stopped when the sample reach a satisfactory number of men on ART with Gynaecomastia.

Based on the above procedure, the total sample of men with ART-Induced Gynaecomastia will be 169 men, 52 from Lukosi Hospital, 68 from Five Miles Hwange District Hospital, 30 from St Patricks Hospital and 19 from Hwange Colliery Hospital.

3.6 Research instruments

The researcher will develop a questionnaire which will be used in this study. The questionnaire will encapsulate questions on negative and positive experiences of Gynaecomastia as well as questions that are aimed at establishing the psychological effects of Gynaecomastia. All these are of vital importance in satisfying the objectives of this study. The questionnaire will be put in four categories. The first section will be aimed at gathering demographic characteristics, which include, age, marital status and level of education as well as the occupational status, respectively. The second part is of paramount importance considering that the questions to be asked aim to solicit information on the objectives underpinning this study. The participants will be asked how their mental aspects is compromised, precisely, addressing issues to do with the level of embarrassment, hopelessness due to the condition, feelings of self worth, level of stigmatisation and feelings of not belonging to the society due to Gynaecomastia. These questions will be answered on a Likert scale with the answers ranging from strongly disagree, disagree, neutral, agree and strongly agree.

Another section will address social engagements aspects. Questions addressed include the level of social engagement with significant others, if they show off their bodies in public places like saunas and swimming pools, if they engage in intimate relationships and also if they wear tight fitting clothes. These will equally be indicated on a Likert scale.

The third section aim at understanding the vitality of the coping strategies adopted to deal with ART-Induced Gynaecomastia stress; these questions are of paramount importance in determining the experiences of gynaecomastia among men in Hwange. Questions that seek to establish their behaviour seeking tendencies, if they actively seek for surgery, if they have lost hope to an extent that they cannot do anything about it will be addressed.

3.7 Pre-testing

Pre-testing involves a variety of activities designed to evaluate a survey instrument's capacity to collect the desired data, the capabilities of the selected mode of data collection, and the overall adequacy of the field procedures (Casper *et al.*, 2016). In regard to the current study the questionnaire will be tested for validity and reliability by ensuring that they measure what the researcher intended them to measure so as to yield accurate results. Two pretesting methods will be adopted for this study, namely a pilot study and expert review to ensure that all the questions are worded correctly and mean what the researcher intended for them to mean (Noble and Smith, 2015).

For the sake of a pilot study, a sample of 4 men on ART, all with Gynaecomastia, two from the 15 to 35 age cohort and 2 from 36 to 56 age cohort, will be drawn from Lukosi Hospital and ushered with questionnaires. The hospital will be chosen for convenience so as to minimise costs, since the researcher works at that very Hospital. The sample of men in the 36 to 56 age cohort will answer the questionnaires well with little assistance. In relation to the 15-35 cohorts, social activities like swimming and football will be added to the list.

Expert review will be done through the conduction of in-depth discussions with Opportunistic Infections Focal Persons from all the hospitals. The motivation is to check whether or not the whole study is going to proceed according to the plan or there is need for change in some of the components before the instigating the study (Cadete, 2017).

3.8 Data collection Procedure

The research will only commence after the researcher seeks permission from the relevant authorities in the Ministry of Health and Child Care. These are inclusive of, the Provincial Medical Director of Matabeleland North Province, the Provincial Nursing Officer, equally, of Matabeleland Province, The Provincial OI Focal Person, Hwange District Nursing Officer, Hwange District Community Sister, the Sister in Charge of the respective (4) four Hospitals and the Hospitals OI focal Persons(Nurses), respectively. These relevant authorities will be assured of less or no interference of duties to those who would assist with soliciting information

from the participants during the proceedings of the research. Taking cognisance of the ethical issues, a letter of consent will be presented to the researcher by the relevant people within the Ministry of health to enhance the smooth running of the study.

Upon being granted permission, the researcher will make phone calls to the OI focal persons of each hospital to set an appointment, so that the intent of the study could be discussed at face value. Dates to visit each OI clinic in a bid to share the intent of the visit to the OI focal persons, per Hospitals, will then be arranged.

Appointments will be made on agreed dates for each respective hospital. Prior to the arrival of the arranged dates, OI Focal Persons will send letters with the Village Health Workers (Community Workers) to disseminate the information to those participants who may be perceived to be inaccessible, so that they avail themselves at the OI facilities on the days in question. The researcher will visit some hospitals namely Hwange District Hospital, St Patrick Hospital, Lukosi Hospital and Hwange Colliery Hospital to distribute questionnaires to men on ART with the help of the respective OIFPs for each hospital and an assistant researcher.

Some men on ART of varying age cohorts with gynaecomastia will be visited at their respective homes (a few disabled) to complete the questionnaires. Those who have challenges with English will be assisted by the assistant researchers who will interpret the questions to them, to prevent errors. The focal OI persons will equally assist with the distribution and interpretation of questionnaires in the respective native language to the participants, respectively.

3.8.1 Ethical Considerations

Issues of ethics are very important in research, all researches must be done ethically and in ways that will not put researchers, research findings and organisations into disrepute. The researcher will ensure that this research will fall within the confines of the code of ethics for researchers. Most importantly the researcher should ensure that all research participants should not be exposed to any form of harm, whether psychological or physical because of or through their participation in this research (Zikmund et al., 2013). The researcher will assure the respondents that their privacy and confidentiality is safeguarded by making sure that all the information collected through this study will only be used for this research unless prior explicit permission to do otherwise is granted by the respondents. The relevant authorities will be consulted before the commencement of any data collection, particularly with respect to

researches conducted at health facilities or hospitals and patients. It is the hope of this research that, the use of questionnaires will guarantee voluntary participation and utmost confidentiality.

3.9 Data Presentation

After the data has been collected, it will be summarised on Microsoft Excel, coded and entered on Statistical Package for Social Sciences (SPSS) version 20 where descriptive and inferential statistical tools will be utilised to analyse the data. The data of this study will be presented in terms of graphs, pie charts and table of values.

3.10 Data Analysis

Inferential statistics will be utilised to check if there was significant differences on the measured variables where the significance level was fixed at a P value of <0.05 (Vasudevan et al., 2015). The T test for independent samples to check for differences between the two age cohorts. The T test was used because the nature of the data collected fitted into the interval scale of measurements and Random sampling was used to select the respondents.

3.11 Chapter Summary

This chapter expounded on the research methodology. It covered areas of research design such as research type and form. It then went on to look at research population and sampling issues and the research instruments to be used for the research. It also expounded on the procedure on how the gathered data for the research was sorted, coded and analysed. The following chapter presents a synopsis of the data presentation and analysis.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND PRESENTATION

4.1 Introduction

The chapter will provide readers with the presentation and analysis of the findings from the study. The findings from the study will be presented in the form of descriptive and inferential statistics that is graphs, frequency distribution tables and charts. These presented findings will focus on demography such as age, marital status, occupational status and level of education. The inferential statistics will present on whether there are or no significant differences in the experiences of stress, social engagement and adoption of coping strategies based on age groups of the participants.

4.2 Response Rate

The researcher distributed 217 questionnaires and 169 of the questionnaires were answered and returned giving this study a response rate of 78%.

4.3 Demographic Characteristics

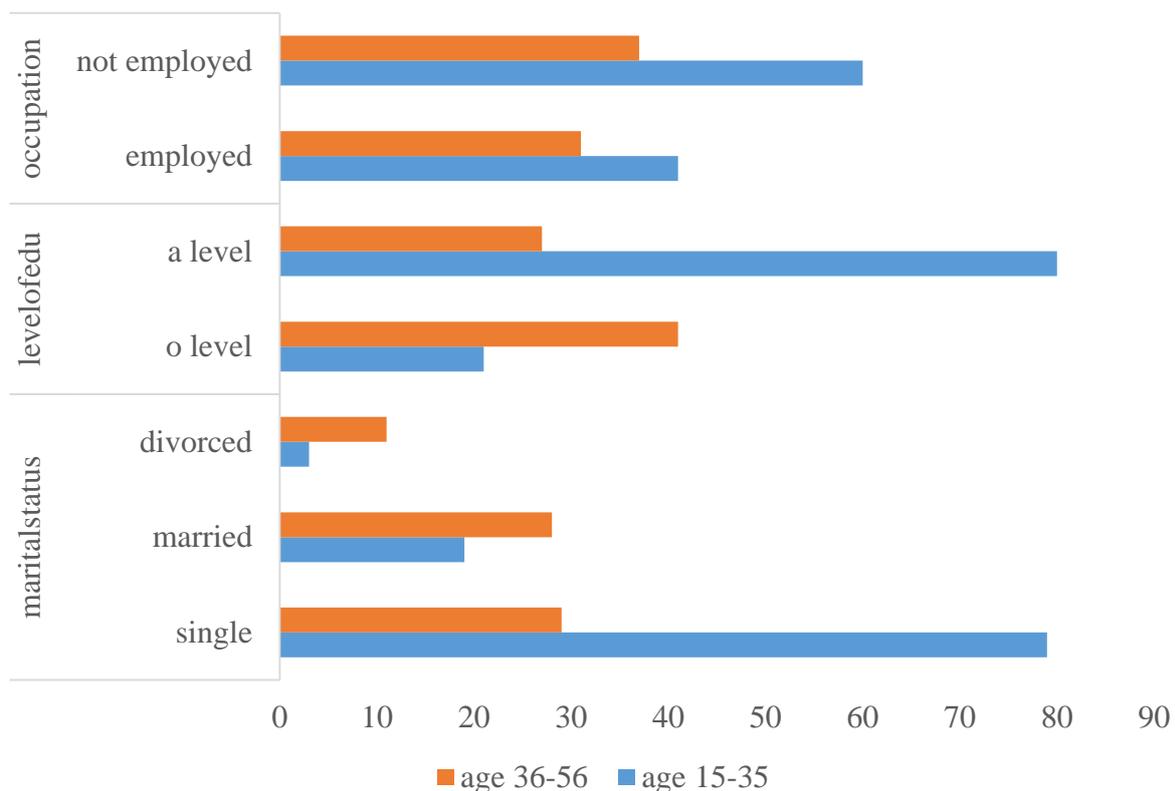


Figure 4.1 Characteristics of Respondent

Figure 4.1 above shows that out of 169 respondents 79 of them were single and within the age of 15-35 years whilst 29 of the single respondents were within the age 36-56. It was noted that

19 respondents within the age 15-35 were married whilst 28 respondents within the age 36-56 were married. Eleven (11) respondents within the age class 15-35 were divorced whilst 3 respondents within the age class 36-56 were divorced.

The findings also presented that the majority of participants were those that had done “A” level. However respondents within the age class 15-35 (80) dominated the population of respondents who had done “A” level as compared to those within the age class 35-60 (27). More respondents (41) within the age class 36-56 had done “O” level as compared to 21 who reached the same level but within the age class 15-35.

With regard to employment status many respondents were unemployed that is 97 respondents as compared to 72 who were employed. Of the 97 unemployed respondents 60 of them were within the age class 15-35 whilst 37 were within the age class 36-56. Out of 72 employed respondents 41 were within the age class 15-35 with 31 aged within the class 36-56.

4.3.1 Age Distribution

Table 4.1 Age distribution of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-35	101	59.8	59.8	59.8
	36-56	68	40.2	40.2	40.2
	Total	169	100.0	100.0	100.0

As indicated on table 4.1 above the findings of this study revealed that respondents of the age class 15-35 constituted a large proportion (59.8%) of the study sample population of men on ART with gynaecomastia. On the other hand 40.2% of the respondents were within the age class 36-56.

4.3.2 Marital Status Distribution

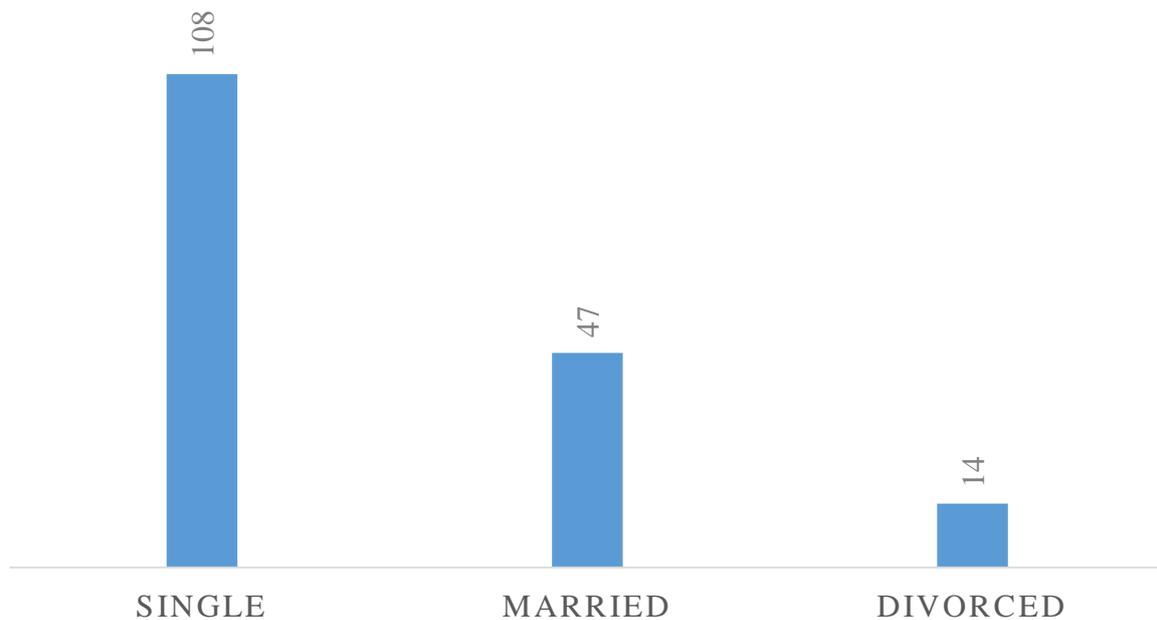


Figure 4.2 Marital status distributions

The findings from figure 4.2 on marital status distribution demonstrated that out of 169 participants of ages 15 to 56 that participated in the study on the implications of gynaecomastia on psychological wellbeing of males living with HIV, 108 individuals were single, 47 married and 14 participants were divorced.

4.3.3 Level of Education

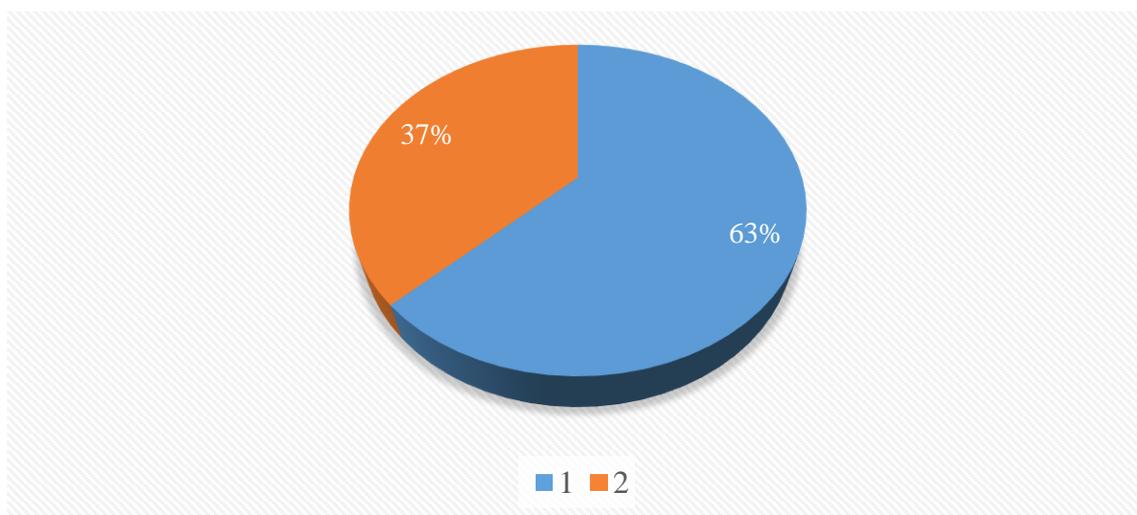


Figure 4.3 Level of education

The findings of the study on the implications of gynaecomastia on psychological well-being of males living with revealed that 107 out of 169 (63.3%) participants had done “A” level making up the majority of the participants to this study, there were also 62 (36.7%) participants that had an “O” level education. These findings are illustrated on figure 4.3 above.

4.2.3 Employment Distribution

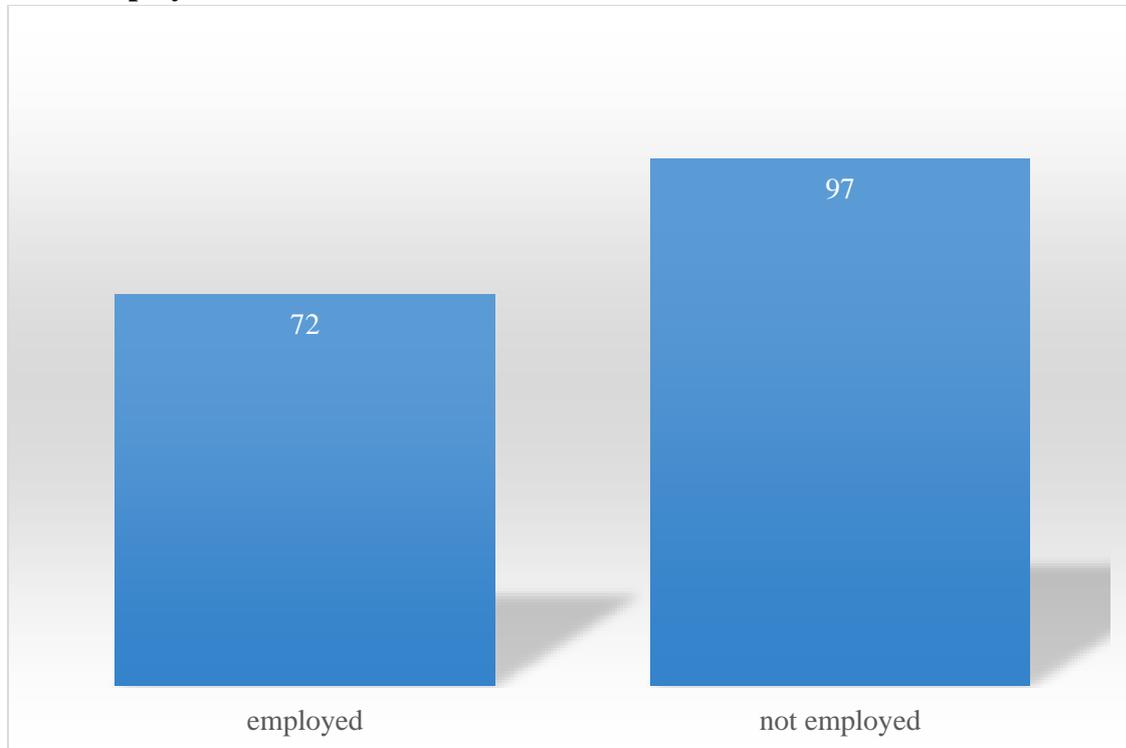


Figure 4.4 Employment Distribution

The findings shown on figure 4.4 on the employment status of the 169 participants of ages 15 to 56 that participated in the study on the implications of gynaecomastia on psychological well-being of males living with HIV revealed that 97 (57.4%) participants were unemployed whilst 72 (42.6%) were engaged in gainful employment.

4.4 Mental Health Status of Men on ART with Gynaecomastia

Table 4.2 Null hypotheses (Ho); There are no significant differences in the stress levels amongst men with varying age cohorts with ART-Induced Gynaecomastia.

The research had aimed to find out if there are any differences in stress levels imposed by Gynaecomastia. The T test for independent samples was used and the following are the findings were established in the study.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Stress level	Equal variances assumed	4.815	.030	-1.265	167	.208	-.11721	.09266	-.30015	.06573
	Equal variances not assumed			-1.304	157.467	.194	-.11721	.08992	-.29481	.06039

The T test above was administered at 95% degree of confidence interval with the test assessing if there were significant differences in experiences of stress amongst individuals of ages 15 to 35 and those of ages 36 to 56 amongst males suffering from ART induced gynaecomastia. The test indicated no significant differences in experiences of stress, with participants of both age cohorts showing similarities in experiences of stress as presented by the F value = .208 in table 4.2 above. This evidence suggests that psychological well-being is negatively affected by ART induced gynaecomastia amongst males regardless of their age category.

4.5 Participation in Social Activities in Men with ART Induced Gynaecomastia

Table 4.3 Null Hypotheses (Ho) There are no significant differences in social engagement in men with ART-Induced gynaecomastia of varying age cohorts.

The research had aimed to establish any significant differences in social participation amongst men with

gynaecomastia. T test for independent samples were used and the following findings were established in the study.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
social activities	Equal variances assumed	3.707	.056	-.405	167	.686	-.03553	.08768	-.20863	.13757
	Equal variances not assumed			-.420	159.751	.675	-.03553	.08456	-.20252	.13147

The T test above was administered at 95% degree of confidence interval with the test assessing if there were significant differences in social engagement amongst individuals of ages 15 to 35 and those of ages 36 to 56 amongst males suffering from ART induced gynaecomastia. The test indicated no significant differences in social engagement, with participants of both categories showing social withdrawn tendencies towards social engagement as presented by the F value = .686 in table 4.3. This evidence suggests that social engagement is negatively affected by ART induced gynaecomastia amongst males of all age classes in this research.

4.5 Strategies Used to Cope with Gynaecomastia in Men on ART

Table 4.5 Null Hypotheses (Ho); There are no significant differences in coping strategies adopted by men with ART-Induced Gynaecomastia amongst men of varying age cohorts.

The research had aimed to find out if there are significant differences in social participation amongst men with ART-Induced Gynaecomastia. T test for independent samples were used and the following findings were established in the study.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.428	.514	4.781	167	.000	.98704	.20647	.57942	1.39466
Equal variances not assumed			4.889	154.379	.000	.98704	.20188	.58824	1.38584

The T test above was administered at 95% degree of confidence interval with the test assessing if there were significant differences in strategies that were adopted by the participants to the study amongst males suffering from ART induced gynaecomastia. The given copying strategies were education, provision of moral support to reduce stigmatisation and the acceptance of incurability of the disease. The test indicated significant differences in copying strategies as was presented by the F value = .000 shown on table 4.4. This evidence suggests that copying strategies are widely varied and induce varied effects on men of different age

cohorts who are affected by ART induced gynaecomastia. The data presented in this section of the paper seem to concur with the hypothesis and hence, we fail to reject the hypothesis.

4.6 Summary

The chapter presented the findings from the study through the use of graphs, pie charts and tables from which trends and patterns were noted from the data collected. The chapter highlighted on the response rate and other demographic information of the participants. The chapter also demonstrated that there were no significant differences based on age in areas such as social involvement and experiences of stress amongst the participants of varying age groups. These findings also illustrated that there were significant differences in the coping strategies that participants used in dealing with gynaecomastia in HIV infected participants.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter the findings of the research are discussed in synopsis of the literature reviewed to confirm or refute the existing global findings and at the same time providing the validity of this research. This chapter also offers a hem to the research study through making conclusions arising from the findings of the study regarding the nexus between mental health aspects and gynaecomastia in men on ART of varying age cohorts. This chapter will also proffer recommendations that may be used as copying strategies for men of varying age cohorts affected by gynaecomastia as a result of being on ART, precisely, in Hwange

5.2 Overview of The Research

The main thrust or impetus of the research was to explore the largely ignored area in social science research, that of finding the correlation of Gynaecomastia in men on ART of age cohort 15-35 and age cohort 36-56 in Hwange district and account for the overall negative psychological effects that the condition has on these men and postulate the copying strategies given the various stress levels, the mental health status and social participation. The underlying hypothesis was that Gynaecomastia among men on ART alter their experiences negatively and affect them psychologically.

The methodology, research design was presented in this study. The positivist approach was adopted and the descriptive survey design was utilised. Data was solicited from 169 participants through questionnaires that encapsulated questions on negative and positive experiences. All these were relevant in satisfying the objective of the study. Random Sampling was utilised for soliciting participants of the study in view of research bias. Chapter four was dedicated to the presentation of the data by the above mentioned instrument. The presentation took into account the use of pictures, bar and pie charts, tables and statistics qualifying the quantitiveness of the research. Ethical considerations highlighted in chapter three were observed when the instruments were administered to participants who volunteered to partake of the research. The study was hitched on the following research objectives:

- 1) To find out the mental health status or stress levels of men on ART with Gynaecomastia, in different age cohorts
- 2) To establish the level of social participation in man on ART with Gynaecomastia, in different age cohorts

3) To find out the strategies employed in coping with gynaecomastia in men on ART in varying age cohorts.

5.2 Discussion Of The Findings

5.2.1 Response Rate and Demographic Characteristics

The response rate of 78% was very good for this study. Finchman (2008) states that an ideal response rate for a standard research is 60% and at this response rate a research is more likely to extract valid information that can be inferred to the whole population under study. Given this notion the response rate for this study was well above the 60% mark hence the findings for this study can be rendered valid and reliable. However HIV and gynaecomastia are rendered secretive conditions in most Africa and other societies worldwide (Allan and Southwick, 2015) and this might be the reason for not getting a 100% response rate in this study since some respondents could have succumbed to this notion.

Men within the age cohort 15-35 constituted the large part (59.8%) of the respondents' population as compared to men within the age cohort 36-56 who constituted 40.2%. Generally men within the age class 15-35 is the most sexually active group, a characteristic that put them at risk of contracting HIV (Delvin and Webber, 2016) and in turn gynaecomastia hence the dominance of individuals within the age cohort 15-35 in this study as the most prominent age of contracting HIV and be on ART. Since this study could not discriminate individuals below the age of 20 from the age cohort 15-35, the study might have bunched those suffering from adolescence induced gynaecomastia together with those suffering ART induced gynaecomastia since the condition is common in boys as they reach adolescence (Kasielstka and Antoszewski 2011). The incurable nature of HIV/AIDS and its history with regard to being the most death causative disease in Africa (Akwei, 2017) might also be a justifying factor to fact that more respondents were within the age cohort 15-35. HIV/AIDS might be killing individuals within the age 15-35 more frequently such that they won't survive to the age cohort 36-56 hence the reduced number of individuals within the cohort 36-56 in this study.

Many men who had gynaecomastia and participated in this study were single (108) followed by the married (47) and finally the divorced (14). Gynaecomastia is known of being an embarrassing condition that most men cannot open to their families and friends (Gretchen, 2012). According to Kasielstka and Antoszewski (2011) younger men with gynaecomastia are known to have hardships in having intimate relationships with women and may lack social acceptance and adoption. Notions by these authors can be true for the population under study

as many respondents were single, a sign that they might be failing to secure marriages due to gynaecomastia. This is also amplified by the fact that individuals within the age cohort of 15-35 dominated (79 out of 108) the population of the single men on ART with gynaecomastia hence the revelation that they might be failing to marry due to the embarrassing nature of the disease.

The findings of the study revealed that 107 out of 169 (63.3%) participants had done “A” level making up the majority of the participants to this study and 62 (36.7%) participants had done “O” level education. The literacy level of a person plays a pivotal role in influencing a participant to read, comprehend and follow instructions before performing any task (Read Education Trust, 2017). This could be the reason why the response rate for this study was not 100% since all the respondents had reached at least ordinary level which might mean respondents who did not reach this level could be the ones who did not return the questionnaires. On the other hand the fact that all respondents had done “O” level and a large part of them did “A” level can be a plus to the study as it might mean that they comprehended the questions and answered the questionnaires accurately.

The findings shows that a large proportion of participants (97 out of 169) participants were unemployed whilst 72 out of 169 were engaged in gainful employment. Derkacz *et al.*, (2011) revealed that the emotional stress attached to gynaecomastia makes most men depressed which result in them not giving their best in their duties at home or at work and in some cases men will shun some duties and activities that they normally do as a result of the embarrassment that comes by the disease. Therefore this might be a causative agent as to the reason most participants were unemployed. They might be afraid of stigmatisation at work places thereby a quench in their appetite to hunt for employment. On the other hand unemployment is rampant in Zimbabwe (Trading Economics, 2018) and it’s hard to ignore the fact that this might also be a contributing factor to the reason most of the respondents to this study were unemployed. Some jobs in Zimbabwe require medical examination before entry and in some cases require HIV/AIDS testing. Once one has tested positive to HIV some companies will consider the proponent not suitable for the job, so some participants might have suffered this hence their unemployment.

5.2.2 Mental Health Status of Men on ART with Gynaecomastia

The results of the present study indicated no significant differences in experiences of stress, with participants of both categories showing similarities in experiences of stress regardless of their age category. These findings concurs with a survey study that was conducted by Kipling

et al,(2014) where 78 men with breast disorder were sampled and all described negative feelings and revealed that they do not want to be seen in all men breast assessment clinic. They reported anxiety, embarrassment, emasculation and depression to be some of the impacts of gynaecomastia. That study, in essence, is an amplifier to the reality that ART-induced Gynaecomastia has similar negative mental health implications on both age cohorts. Both these age cohorts are affected the same.

The findings from this study antagonised findings by Allan and Southwick (2015) who noted that Gynaecomastia was particularly embarrassing and stressful in adolescence boys and young men in Australia. However their study was not particularly focussing on ART induced gynaecomastia. Since the present study was focussing on the mental impacts of gynaecomastia to men on ART of varying age cohorts, one need to consider that HIV/AIDS on its own have the potential to compromise the mental health of an individual and having gynaecomastia might be an additional nuisance to an already mentally disturbed individual (AVERT, 2017). Therefore the lack in significant difference on stress levels despite the patient's age can be a result of the nexus of HIV infection and Gynaecomastia as stress causing agents.

Williams and Wilkins (2013) reported that Gynaecomastia negatively affect self-esteem and other areas of mental health of adolescence and young men more than the same condition affect elderly males. It was further revealed that merely having gynaecomastia is sufficient to cause significant deficits in the general health, mental health, self-esteem, eating behaviours and attitudes of younger male patients than it does for elderly patients. These revelations are not tallying with the findings of the present study that revealed that the mental health of ART induced gynaecomastia patients similarly experience stress regardless of age.

Another study done in the United States of America revealed that men with Gynaecomastia usually undergo various psychological trauma more than physical consequences brought by the condition,(Wassersug and Office, 2009). The emotional stress attached to the condition makes most men depressed hence affecting their social and economic lives (Wassersug and Ollife, 2009). The revelation of this very study does not reveal any significant difference in some mental health status of men with gynaecomastia. It merely, does not differentiate the stress level difference. However, it could be an amplifier to the reality that all men of varying age cohorts in the study are mentally affected the same, hence concurring with the findings of this research. Although these issues are inferred outside Africa, the findings of this study indicated

that the consequences of ART, its nemesis are not alien to men suffering from ART-Induced gynaecomastia here in Zimbabwe.

The chronic inhibition and keeping of emotions known to be a male characteristic can negatively impact mental health outcomes. Under extreme circumstances hypothalamic-pituitary adrenal axis can be disturbed, leading to endocrine and emotional dysfunctions that lead to psychosomatic illness. Headache, chronic fatigue, obesity and hypertension are consequences of prolonged emotional suppression (Perdesen et al, 2010). All these revelations do not unearth nor segregate the age cohort which is more affected mentally. Perhaps this could be an indicator that all men with ART-Induced gynaecomastia, experience mental health challenges the same.

Despite the ubiquity of the problem, gynaecomastia is a secretive condition which has been rooted in the culture of silence since most men find it embarrassing to talk about it (Breast Cancer Care, 2015). From this notion, one can depict that the secretive nature of the condition could be a suppressing factor of validating whether all men of varying age cohorts are mentally affected the same.

5.2.3 Participation in Social Activities in Men with ART Induced Gynaecomastia

The findings of the present study revealed that there were no significant differences in social engagement amongst individuals of 15-35 age cohort and those of 36-56 age cohorts amongst males suffering from ART induced gynaecomastia. The findings indicated no significant differences in social engagement, with participants of both categories showing social withdrawn tendencies towards social engagement. These findings concurred with a study done by Allan and Southwick (2015) in Australia who depicted that gynaecomastia can affect a men's quality of life as it causes most men to avoid social activities that they will normally do due to the embarrassment brought by gynaecomastia. For Allan and Southwick (2015), few men openly discuss their concerns with their local doctors and family and can become distressed about altered body image. Shame, perceived stigma, vulnerability, sadness, anxiety, a sense of unfairness, loneliness and fear of being marginalised nor subordinated with gender hierarchies are all associated with gynaecomastia and this is the reason for shunning social activities by affected males (Derkacz et al., 2011). From the aforementioned global views, one can relate such withdrawal tendencies to this very study. These notions are an amplifier to the reality that withdrawal tendencies are a universal psychological challenge to the victims of ART-Induced gynaecomastia.

According to Wiesman *et al.*, (2004), Gynaecomastia can bring with it feelings of shame, low self-esteem, dissatisfaction with one's body, a sense of loss of masculinity, and a feeling of not being accepted in one's environment and social life. In addition to these ideas Derkacz *et al.*, (2011), also revealed that men suffering from gynaecomastia usually avoid social contact, afraid of showing their bodies in public places such as pools and saunas, and are in fear of developing breast cancer. The findings by these authors were universal for all Gynaecomastia patients regardless of age and it might be true as revealed by the findings of the current study that gynaecomastia patients of all age cohorts are invariably withdrawn from social activities.

It is a truism that physiological modifications to maleness constitute an extreme challenge to masculinity. Studies done in France depict that Gynaecomastia as an example of physiological body modification that represent a significant threat to male identity. Studies in France have it that gynaecomastia leads most men to feel robbed of natural aspects of masculinity leading to social withdrawal tendencies (Monaghan, 2002). Although there is a paucity or dearth of comparative studies on the social engagement levels in men with ART-Induced gynaecomastia, such global views are an indicator that, despite the age cohorts, men with Art-Induced gynaecomastia experience social withdrawal tendencies the same.

5.2.4 Strategies Used to Cope with Gynaecomastia in Men on ART

The present study indicated significant differences in coping strategies, a sign that the available coping strategies were widely varied and induce varied effects on men of different age classes who are affected by ART induced gynaecomastia. The given coping strategies were education, provision of moral support to reduce stigmatisation and the acceptance of incurability of the disease and it was evident from the findings of the study that these strategies had varied effects to patients of different age class.

The findings of the present study were contrary to findings by other authors who universalise the effect of coping strategies to patients of all ages. Allan & Southwick (2015) revealed that the provision of moral support to people with gynaecomastia can deal with stigmatisation regardless of their age. They further suggested the education of patients of all age classes on the important facts of the condition so as to deal with negative guessing since it cause mental stress and agony. Therefore the findings of the present study apposes their findings as they reveal differences in the effect of ART induced gynaecomastia coping strategies to men of varying ages.

5.3 Conclusion

CONCLUSIONS ON THE MENTAL HEALTH STATUS OF MEN WITH ART-INDUCED GYNAECOMASTIA OF VARYING AGE COHORTS.

Based on the findings of this study, ART-Induced Gynaecomastia psychologically affect men of all age cohorts the same, with respect to the level of stress they succumb due to the condition. In relation to the hypothesis, this is a confirmation of the hypothesis and hence we fail to reject the null hypothesis. Bakan (1996) suggests that, null hypothesis is a prediction of no difference under the circumstances that two populations have been juxtaposed. The research confirmed that Gynaecomastia is a mental health status which is similar in men in different cohorts and the men are negatively affected by the condition to the effect of exhibiting low self-esteem, suffer rejection, emotional stress, and psychological torment and are stigmatized. Given these findings, one can allude that Mental Health correlates with Gynaecomastia in men on ART as it was noted that the condition induce stress to men on ART despite their age. The stress levels among men on ART with Gynaecomastia in varying age cohorts are generally the same since the defining rejection is gynaecomastia and not the age cohorts. While it is true that the findings of this research are in sync with global worldviews on how men with Gynaecomastia suffer mentally and are victims of stress because of the condition, this study is unique in that it does not give a generalized perspective of the situation. Rather this study brings to light a comparative view of men who belong to different cohorts. The findings again coincide with the ideals of the adopted Cognitive Behavioural Theory of this study, which is that, depressed people in most instances develop a negative schema of the world. As the point in case, people with Gynaecomastia suffer from depression because of the condition and the end result is that they develop a negative appreciation of the world.

CONCLUSIONS ON THE LEVEL OF SOCIAL ENGAGEMENT/ PARTICIPATION IN MEN WITH ART-INDUCED GYNAECOMASTIA.

Participation in social activities by men of all age cohorts who are on ART with gynaecomastia is compromised due to the condition and this is an attribute associated with the embarrassment, stigmatisation and secretive nature of the disease. Given such a revelation, per the findings, one can actually allude that Mental Health correlates with Gynaecomastia in men on ART since it was unearthed that the condition causes social withdrawal tendencies. The implication thereof is that in this stance, we fail to reject the null hypothesis. As alluded to by, Bakan

(1996), with the null hypothesis there is relatively no difference between two variables or populations. The research also affirmed that the level of social participation in men on ART with gynaecomastia in varying age cohorts is limited because of their condition hence the majority remain withdrawn from social participation and some face rejection by their female partners and become divorced. Traditionally, Gynaecomastia is associated with a bad omen and Gynaecomastia victims (men) become outcasts in the family talks or men gathering fire points or cultural dance gatherings. Even men who are in the industry of coal production where it is hot like in Hwange, these men shy away from gatherings or work areas that expose them to people.

The findings of this research to a greater degree, affirms with what was postulated by other researchers cited in Chapter two of this paper. Preceding researches and this particular study agree on the sentiments that men with Gynaecomastia have withdrawal tendencies from the greater population which in some way they could have benefited from. Reiterating on the same notion of Gynaecomastia affecting the social life of an individual with it, Wassersug and Olliffe, (2009) argue that the condition is associated with emotional stress which influences not only the economic life of an individual but the social life as well. Bringing it all in perspective, it is justifiable to argue that both the study and the theory agree on one thing which is, withdrawal from social setups is not necessarily an issue caused by segregation but rather by mentally held notions and irrational thoughts.

CONCLUSIONS ON THE ADOPTED COPING STRATEGIES TO STRESS IMPOSED BY ART-INDUCED GYNAECOMASTIA.

Coping strategies that are available are widely varied and induce varied effects to men of different age cohorts suffering from ART-induced Gynaecomastia. Given these findings, the strategies being employed by in coping with Gynaecomastia in men on ART in varying age cohorts is different as the cohort 36-56 seems to cope well and not fall to the victim of the stress level which is too high. In light of this revelation, we reject the null hypothesis. The alternative hypothesis therefore is that, the degree to which men of different cohorts adopt coping strategies as far as Gynaecomastia is concerned is different. The available Gynaecomastia coping strategies have varying effects to men on ART of varying ages, therefore the need to dig on the effect of each strategy and its appropriateness for patients of particular age cohorts.

However, the observation was that these 36-56 cohort have had a long history of the challenges of the psychological pressure hence they tend to develop adaption mechanisms. The tolerance

level of cohorts 36-56 is high as compared to cohorts 15-35. In Hwange District there are no coping modalities in place that are provided by Government or any other institution, serve for hospital counselling which is however limited due to the working hours of the nurses who administer ART.

The obtaining scenario is that there are no support groups either at family level to cater for the people suffering from Gynaecomastia and no one has been spared because of the cohort otherwise the lack of moral support cut across the cohorts. The findings of this research are in correlation with previous researches as far as the effects of gynaecomastia are concerned. Contrary to that, this study brings in a unique flavour which is basically on the need for community assistance to people who have Gynaecomastia so that they cope well with the condition. In relation to Cognitive Behavioural Theory as the theory that form the basis of this research, this particular study agree with Cognitive Behavioural Theory in that both the research and theory acknowledge the positive implications of dealing with a problem as a group in order to help one individual or more.

GENERALIZED CONCLUSIONS

This study seem to concur with previous researches especially on the aspect of men with Gynaecomastia experiencing stress, having challenges as far as social engagement is concerned and them trying to come up with coping strategies. The uniqueness of this study is that, it brings to light the notion that the same challenges experienced by men of the age cohorts 15-35, as far as Gynaecomastia is concerned are the same challenges that are experienced by those of the age cohorts 36-56. Differences may however come in form of the coping strategies. The study, in all intents and purposes, confirm what Cognitive Behavioural Theory postulates which is, individuals' emotional, psychological and behavioural responses are mediated by their perceptions of experience, which are influenced by their beliefs and their characteristic ways of interacting with the world, as well as by the personal experiences (Lane, 2016). It should be noted with concern that the study was limited to a specific target population and a target District. The findings may in some cases not be representative of all the population that is affected by Gynaecomastia.

5.4 Recommendations

The study revealed that Gynaecomastia lead to compromised mental health, an attribute that requires the Nation's Health Sector to invest resources and energy towards the digging and implementation of the best possible strategies that will reduce mental health problems to men with ART induced gynaecomastia. Subsidising the health system to allow ART induced Gynaecomastia patients to access counselling facilities or even access to expensive procedures such as surgery can help patients to heal from the mental problems due to Gynaecomastia.

The fact that Gynaecomastia can be a result of the intake of ART by HIV infected patients is in itself a justification that if HIV-infection is reduced, intake of ART is reduced, hence Gynaecomastia is also reduced. Therefore there is need for the utilisation of all available strategies to mitigate the spread of HIV as this will in turn reduce ART induced Gynaecomastia.

Varying Gynaecomastia copying strategies have varying effects to men of different age cohorts, therefore the researcher recommend the assessment of all available strategies and their effectiveness to men of varying ages such that age specific copying strategies can be employed to men with ART induced Gynaecomastia.

This research has by no means looked at all issues affecting men with ART induced gynaecomastia in Zimbabwe; it only looked at the mental health aspects within a single District. There is a scope for other researchers to look into other issues pertaining to Gynaecomastia in men on ART or the same study can be done in other Districts or at National level so as to get in-depth information regarding Gynaecomastia.

Given that HIV/AIDS has so far, no available cure, it is certain that ART is unavoidable since it is the only way so far available for monitoring HIV infection and this also means Gynaecomastia is also going to persist. As a measure to alleviate ART-Induced gynaecomastia, there is need for health care providers to consistently monitor the new ART patients in the first several month of commencing ART, before fibrous tissue replaces glandular tissue (a case that makes Gynaecomastia irreversible) so that pharmacologic therapy is rendered to reverse breast enlargement.

Perhaps setting up some male clinics in a bid to introduce some medicines proposed by Alagaratham (1987), who suggest that the use of some medicines like Tamoxifen that block the action of oestrogen, increasing testosterone levels and alter the oestrogen testosterone balance in order to reduce Gynaecomastia in some men, may be an ideal measure to curb such a challenge as Gynaecomastia. In support of this, it will be ideal to the Government to consider

procuring Tamoxifen, which is taken in the doses of 10- 20mg twice daily by those affected by ART-Induced Gynaecomastia.

There is also a scope for other researchers to look into the efficacy of the only drug of choice, meanwhile, Tamoxifen, since there were limited studies that demonstrated the success of using Tamoxifen.

There should be some support systems and institutes that provide moral support to people with gynaecomastia so as to deal with stigmatisation (Allan and Southwick, 2015). Educating of patients on the important facts of the condition so as to deal with negative guessing in such institutions would be an ideal measure (Allan and Southwick, 2015). In view of moral support, encouraging of patients to socialise has the potential to boost their self-confidence and keep their minds off gloom thoughts. Given that there is no definite treatment of the condition, there is some possibility that some patients may have to live with it; this will give room for the need of psychological help that will assist Gynaecomastia patients to live with the condition with limited mental constraints from the condition.

Comprehensive history taking, assessment and complete physical breast examination to all patients that have been newly commenced on ART should be taken seriously by all health facilities in Zimbabwe for early diagnosis of ART-Induced gynaecomastia.

From the study conducted, the researcher depicted that there was poor documentation of the Gynaecomastia cases which, perhaps could be a propelling factor of a paucity of studies, locally or even globally. In light of this, it will be ideal for the Ministry of Health to take, recording of such cases of concern, seriously and on their monthly return forms, to include a portion that will account for all identified cases. This, along with it, identification and early diagnosis of ART-Induced gynaecomastia patients, will help alleviate the Gynaecomastia.

Handschien et al, (2008) states that surgery can be useful for men with long standing gynaecomastia where medicine has not been successful. Adopting such measures in such an economically depressed country can be a challenge, especially considering that (from the research findings); most of the affected are unemployed. It is in light of this that the Government and other non- governmental organisations should possibly offer free surgical services to the affected, so as to curb this condition, which comes with it, ART, its nemesis.

Apart from surgical correction, the Government and other non-governmental organisations must also work hand in glove to offer Suction Liposculpture which works well to remove excess fatty tissue, especially in older men with Gynaecomastia.

In some cases, some of the rubbery solid breast tissue found behind the nipple can be removed and the use of percutaneous dihydrotestosterone gel (5g daily given once for 1-3 months) may be adopted to help curb this condition.

There is need to sensitize the nation at large on Gynaecomastia so as to create awareness on its chronic negative psychological implications it has on the affected. Incorporating the client, families of the affected and significant others, as well as Spiritual workers and in some cases, Traditional healers in health education can be of importance in fighting the stigmatisation that comes with it Gynaecomastia.

There is need for National Campaigns to be upheld, this will to a larger extent, help with the demystification. Awareness creation is in this case a vital strategy in demystifying the myths that comes with it, Gynaecomastia.

5.5 Chapter Summary

This chapter concluded the study on the correlation of mental health with Gynaecomastia in men on ART. It looked at the discussion of the research findings, research conclusion and recommendations that were made thereof. It looked at the potential for further studies within the broad area of Gynaecomastia in men on ART and this marked the concluding chapter of the current study.

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APPENDIX A: RESEARCH INSTRUMENT

Questionnaire

My name is Leah Chuma and I am a fourth year student at Midlands State University studying towards a BSc Honours Degree in Psychology. I am conducting a research on the correlation of mental health and Gynaecomastia in men on ART. I kindly ask you to assist me in my research by completing this questionnaire in full and as truthfully as you can. Please do not indicate your name or any other method of identifying yourself on this questionnaire. All information submitted on this questionnaire will be strictly used for this research only and will be treated with the strictest of confidence. Your responses will go a long way in the successful conclusion of this research.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

Please select ONE answer for each question by using 'X'.

Please do not write your name on the questionnaire.

a) AGE (please enter your age in the blank space provided)

15-35 yrs	
36 -56yrs	

b) Marital status

Single	
Divorced	
Married	

c) LEVEL OF EDUCATION

A Level	
O Level	

d) OCCUPATIONAL STATUS

Employed	
Unemployed	
Other specify	

SECTION B

Mental health status

Indicate your answer by ticking in the relevant box of the following statements:

Statement	Strongly disagree	Disagree	neutral	Agree	Strongly agree
a) Do you sometimes feel hopeless due to gynaecomastia					
b) Do you feel embarrassed of yourself in relation to your condition					
c) Can you say the condition has reduced the feeling of your self-worth					
d) How often do you feel stigmatised by others					
e) Do you sometimes experience the feeling of not belonging to society?					

Level of social participation in men with gynaecomastia

Indicate your answer by ticking in the relevant box of the following statements:

Statement	Strongly disagree	Disagree	neutral	Agree	Strongly agree
a) Do you sometimes show off your body in public places like swimming pools or saunas?					
b) Do you engage in intimate relationships?					
c) Does your peers accept you and understand your condition					

d) Do you wear chest bandaging clothes?					
e) Does gynaecomastia limit you to socialize with significant others					

SECTION C

Strategies employed in coping with gynaecomastia

Indicate your answer by ticking in the relevant box of the following statement.

Statement	Strongly disagree	Disagree	neutral	Agree	Strongly agree
a) Do you actively seek for surgery					
b) Have you considered seeking psycho- social support from friends to deal with stigmatization					
c) Do you think education can help deal with the condition					
d) Have you lost hope to an extent that you cannot do anything about the condition					
e) How often have you visited a doctor or health facility to get solution to the condition?					

APPENDIX B

SECTION A

Level of social participation in men with gynaecomastia

Indicate your agreement/disagreement for the following statements:

Statement	Strongly disagree	Disagree	neutral	Agree	Strongly agree
f) Do you have any sporting activities that you are limited to, due to gynaecomastia					
g) Do you have any problems in dating with girls of your same age group					
h) Does your peers accept you and understand your condition					
i) Do you have any partner that you are dating right now					
j) Does gynaecomastia limits you to socialize with other significant					

SECTION B

To establish differences in stress levels amongst men with gynaecomastia

Indicate your agreement/disagreement for the following statements:

Statement	Strongly disagree	Disagree	neutral	Agree	Strongly agree
a) Do you often feel depressed due to gynaecomastia					
b) Does your friends laugh at you due to the condition					
c) Do you feel or experience any pain					
d) Does discrimination affect your personal life					
e) Do you feel depressed due to lack of social support					

SECTION C

Strategies employed in coping out with gynaecomastia

Indicate your agreement/disagreement for the following statements:

Statement	Strongly disagree	Disagree	neutral	Agree	Strongly agree
f) Due to the fact that they is no definite treatment of gynaecomastia is it possible to accept and live on with the condition					
g) Does moral support from friends helps to deal with stigmatization					

h) Do you think education can help deal with the condition					
i)					
e)					