KNOWLEDGE, ATTITUDES, PERCEPTIONS, AND PRACTICES TOWARDS HIV TESTING AMONGST ADULT MALES VISITING HEALTHCARE FACILITIES IN THE UGU DISTRICT OF KWAZULU-NATAL

By

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PREFACE

This study was undertaken to identify the knowledge, attitudes, perceptions, and practices amongst adult males visiting healthcare facilities in order to identify any barriers deterring HIV Voluntary Counseling and Testing uptake with intent to implement strategies, where required, to promote HIV Voluntary Counseling and Testing uptake amongst adult males in the light of the UNAIDS 90-90-90 target by 2020.

DECLARATION

I, Mrs. Yumna Cassim Salejee declare that:

(i) The work described in this dissertation has not been previously submitted to UKZN or any other tertiary institution for purposes of obtaining a degree or any other academic qualification, whether by herself or any other party

(ii) The research reported in this dissertation, except where otherwise indicated, is her original work.

(iii) I drafted the article and together with my supervisor's guidance, input and support submitted the article to the journal. I have completed the dissertation with the guidance and support of my supervisor.

(iv) This dissertation does not contain another person's data, graphs, tables or other information, unless specifically acknowledged as being sourced from other persons.

(v) This dissertation does not contain other person's writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, the information used has been referenced accordingly.

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Date: 17 January 2020

Signature: _____

Supervisor:

Name: Prof. Panjasaram Naidoo

Date: 17.1.2020

Signature: ___ _____

DEDICATION

To my family and friends for their continuous support.

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- The UGU District Health facilities and study participants

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral therapy
ARV	Antiretroviral
CHC	Community Health Centre
HIV	Human Immunodeficiency Virus
HTC	HIV testing and counseling campaign
KAPP	Knowledge, Attitude, Perception and Practice
KZN	KwaZulu-Natal
NDoH	National Department of Health
PICT	Provider Initiated Counseling and Testing
SPSS	Statistical Package for Social Sciences
UNAIDS	Joint United Nations Program on HIV/AIDS
UKZN	University of KwaZulu-Natal
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

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ABSTRACT

Background

HIV and AIDS is a significant health concern in South Africa, where the epidemic is rampant. A reduced HIV prevalence has been noted with HIV testing scale-up, and in this regard, the UNAIDS is making progress amongst females in reaching the first 90 target for HIV testing, while males are falling behind in reaching the goal. This is despite the widespread availability of HIV testing services. Many factors have been shown that prevent males from testing for HIV. This study, therefore, aimed to investigate the knowledge, attitudes, perceptions, and practices towards HIV testing amongst adult males visiting healthcare facilities in the UGU district, Port Shepstone, KwaZulu-Natal (KZN), where HIV-TB co-infection is very high.

Methods

A quantitative cross-sectional descriptive study was undertaken with 679 male participants. Approval to conduct the research was granted by the Biomedical Research Ethics Committee (BREC). Data were collected from adult male participants using a closed-ended anonymous questionnaire at selected healthcare facilities after obtaining their consent. Data were then analyzed using SPSS version 26 with Pearson's chi-square test, where a p-value of less than 0.05 was considered to be significant.

Results

HIV testing practices were high, with the majority (89.4%) of respondents claiming to have tested for HIV. Knowledge amongst the participants was satisfactory (median score=71%). A significant finding showed that knowledge was directly linked to practices ($p=0.015$) and that the difference in knowledge score between those who tested and those who did not was also significant ($p=0.001$). Participants who tested for HIV had higher knowledge scores. Significant differences between mean knowledge scores of those with more positive perceptions regarding HIV ($p<0.001$) were also found in the study with positive testing practices being associated with positive perceptions ($p<0,001$). Most participants implored positive attitudes towards HIV testing with respondents (86.8%), agreeing that everybody needs to test for HIV. Participants (69.0%) had positive perceptions towards HIV testing, identifying it as a benefit to themselves, with over ninety-five percent of participants (96.0%) highlighting the importance of screening for HIV.

Conclusions

The study demonstrated that the majority of the participants have tested for HIV. Their knowledge is satisfactory, with knowledge having an association with testing practices. The

attitude amongst the participants was good, with perceptions being adequate.
The results from this study can be used to target adult males by dissemination of HIV knowledge, to empower them in making informed decisions, thus promoting HIV testing.

CHAPTER 1

1. INTRODUCTION

1.1 BACKGROUND INFORMATION AND LITERATURE REVIEW

In South Africa (SA), around 7.35 million people (13% of the population) were living with HIV in 2017, of which 89 000 people died of AIDS-related causes.[1] This was a downward trend from 270 000 people who died from HIV-related illnesses in 2005, made possible by the nationwide rollout of antiretroviral therapy (ART) in the country.[1 2]Although ART is available, one can only access ART after being tested for HIV. HIV testing is widely available in South Africa, with the UNAIDS 90–90–90 targets already implemented, whereby 90% of people living with HIV are expected to know their HIV status, 90% of people that are diagnosed with a positive HIV result receive ART, and 90% of people on HIV treatment achieve viral suppression by 2020.[3]Options for testing for HIV includes Voluntary Counseling and Testing (VCT) which involves individuals having the choice to undergo HIV testing by making an informed decision on whether or not to test for HIV.[4]Although VCT is readily available in South Africa (SA) there is still concern that males are not testing for HIV with HIV status awareness being low among men.[56]SA has been previously noted for disadvantaging woman and children with regards to HIV care due to vulnerabilities that include their social and economic status.[7] However recent studies have revealed that men are less likely than woman to have tested for HIV.[8] Deterrents to males not testing for HIV includes, HIV-related stigmas and discrimination with misunderstandings about HIV discouraging individuals from accessing services.[5]In SA at-risk men presented fear and trauma, towards HIV testing and care, as a result of a previous loss of relatives and friends to AIDS-related illnesses before the full availability of HIV treatment and care[5]. Some males have also expressed difficulty in accessing testing facilities, such as long traveling times to clinics or unsuitable clinic operating hours. [3] Also, the long waiting times at clinics posed a problem.[5]Food insecurity, health-care costs, transport costs, low income, and opportunity costs contributed to individuals testing for HIV at a later stage and subsequently delayed treatment commencement, lower treatment adherence, and higher rates of AIDS-related mortality. [5]Furthermore, the anxiety of a possible positive result and individuals' concern over others knowing their status discouraged VCT uptake by males. Some men believe that they are negative since their blood has been taken previously in the hospital. This indicates a lack of knowledge on VCT, as patient consent is required for an HIV test. Still, many agree that almost always (failure may be mechanical) using a condom guarantees safety, not knowing that there are other ways HIV may be transmitted. Some men also believe that a lack of recent intercourse means they remain HIV free.[9]However, depending on the test, HIV can be

detected if taken 3 months after suspected exposure, due to seroconversion.[5] High rates of HIV seroconversion found in a study by Kihunrwa et al., in Tanzania suggests that HIV re-testing should be an enduring exercise.[10] The barriers to testing can be overcome if males are knowledgeable on HIV, as shown by studies, which in turn will allow an increase in HIV testing.[5 11]

According to UNAIDS, – knowledge is power. It is an essential component that is required to make informed decisions going forward, for individuals who may or may not have been exposed to HIV.[5]In a study conducted in Nigeria, the third-highest population living with HIV; it was found that "more than half of the respondents had adequate knowledge of HIV/AIDS," with willingness, despite low uptake, to undergo VCT. [12]In Gauteng, South Africa, findings were suggestive of high HIV/AIDS knowledge, positive attitudes towards HIV infected persons, and less perceived associated stigma.[13] Furthermore, according to a study done in Lesotho, known to have one of the worst HIV epidemics worldwide, women were shown to have more HIV/AIDS knowledge than men (38% vs. 29%). Hence they were more likely to have tested for HIV than men (68.6% vs. 39.3%). [14]The study also suggested that men's persistence in maintaining masculinity results in poor health outcomes for both genders. Therefore by enhancing knowledge among adult males, poor attitudes and perceptions will change, improving HIV testing practices amongst adult males.[11]Other studies have also shown that many barriers prevent men from testing for HIV, which resulted in poor attitudes and perceptions, including men viewing health facilities as being 'women's places' and that testing for HIV is non-masculine.[9]Another common perception by men is related to the attendance of HIV testing facilities, where they feel that attendance implicates them as being HIV positive. [15]

Strategies have been implemented with the aim to promote HIV testing. Knowledge of these testing modes are thus likely to overcome barriers to HIV testing as expressed by men. Rapid test kits are a type of HIV antibody screening test, which can detect HIV antibodies in blood or oral fluid samples in 20 minutes or less. The National HIV Counseling and Testing guidelines in South Africa utilizes the use of rapid test kits in key populations including children older than 18 months; adolescents; and adults, including pregnant women and males. They are used to overcome vast logistical barriers, among others, to HIV testing in the hope that they alleviate stigmas and discrimination that looms over HIV testing and positive diagnoses.[5] Rapid test kits can be used via many strategies. HIV self-testing is a strategy that may prove useful at increasing male population levels of HIV-screening. [16] Self-test kits enable individuals to collect and test their own specimen, alone or with someone they trust, in privacy at a convenient time. Self-tests are targeted at populations with low access and high risk for HIV infection, in order to increase testing uptake, frequency and early diagnoses.

Three test kits are approved in South Africa, viz., I-Test HIV Self-Screen test, OraQuick HIV Self-Test, and Biosure HIV Self-Test. These test kits may be available for sale in pharmacy front shops to persons aged 12 and older. The National HIV Testing guidelines for HIV self-testing adhere to the WHO 5Cs: Consent, Confidentiality, Counseling, Correct test results and Connection. Guidelines for self-testing in South Africa include the reliability and ease of the testing device, patient consent and confidentiality, access to confirmatory diagnosis post a reactive result, access to information and counseling where required. Furthermore pharmacists must ensure they have adequate knowledge on relevant aspects of HIV and self-tests.[17]

Community-based HIV testing and counseling campaign (HTC) strategies also provide services outside healthcare facilities, and this may be more sought by men, may prove cost-effective, and serve as a route for delivery of prevention interventions including condoms and pre-exposure prophylaxis (PrEP), which is a pill taken daily by at risk individuals. [16 18] Further to this, workplace-HTC may also be of benefit for employers' convenience to test.[16]

Another strategy is home-based testing, Population Effects of Antiretroviral Therapy to reduce HIV Transmission, has shown a 30% reduction in new infections with test and treat strategies, focused on home-based voluntary HIV testing by health workers.[19 20]A review study conducted in high-income countries concluded that most gay men and other men who have sex with men (MSM) favoured home testing, based on convenience, ease of accessibility, privacy and quick results as some stated reasons.[21] Where health-care users are accessing health facilities for other purposes, Provider Initiated Counseling and Testing (PICT) may be implemented. PICT involves health care providers advocating HIV testing to individuals attending health care facilities as a medical care routine. Thus men already linked with health services may welcome PICT. [16]

Another promoter is Couple-HIV testing and counseling (couple-HTC) as few men attend clinics and may include voluntary medical male circumcision (VMMC) clinics. Settings such as these may be more acceptable to men.[22]

Index testing is also another strategy, which involves peer delivery of HIV testing, which enhances testing uptake and acceptability. Index testing has proven to successfully reach men who are less likely to approach HIV counseling and testing services themselves. Women at high risk of HIV may be targets in promoting HIV testing among their sexual partners through the provision of self-tests.[23]

A study done at selected clinics at the eThekwini district, KZN, SA, revealed that many health care users, of which 30.1% were male respondents, expressed knowledge of HIV self-testing through having heard about it. [24] Male respondents in the study were keen on the idea and showed positive attitudes towards self-testing and linkage to care. They did not perceive difficulty with its use, and they accepted that the privacy of testing is ensured. Many users

agreed that self-testing would assist those who fear to go to clinics. Although self-testing does come with concerns of coerced testing, abuse associated with self-testing especially in woman and children, and social harm following partner status awareness, reports on such activities have been minimal and men may be better candidates to self test.[3] [24]Although HIV self-testing is a screening modality and will require confirmatory testing to confirm a diagnosis, it is noted that due to the privacy and convenience of using this test, there were more positive attitudes towards its use.[25]

Although adult males express varying knowledge, attitudes, and perceptions, in different populations, towards HIV/AIDS, VCT in general, and towards the different testing modes, educational campaigns and improved services can encourage more people to test for HIV through avenues they prefer. In turn, barriers to HIV testing may be alleviated. Regular VCT and frequent HIV testing is highly recommended and could help reduce the late diagnosis of HIV, improving the linkage to care and reduce HIV transmission rates.[26]

1.2 STATEMENT OF THE RESEARCH PROBLEM

The UGU district has one of the highest HIV infection rates in the world and has been the focus for ensuring that the 90-90-90 targets are reached. Furthermore the UGU district is ranked amongst the 10 worst performing districts for TB incidence, TB HIV co-infection and TB treatment success rate. Statistics reveal HIV related and TB deaths account for 35% of total deaths in the district. The high TB rate is the most important opportunistic infection in sub-Saharan Africa and is due to a compromised immune system, which in turn is very likely due to HIV infection; therefore, if one has tested for HIV, health measures can be taken to prevent TB and other co-morbidities. Thus urgent testing and scale up of ART is required. However, no studies have been done in the UGU district to determine if adult males are testing for HIV and if they are, the extent of HIV testing practices of these males. Since knowledge, attitudes, and perceptions have been shown to have an impact on HIV testing, it would be beneficial to document these attributes as well. Thus this study was undertaken to investigate their knowledge, attitudes, perceptions, and practices towards HIV testing.

1.3 STUDY SIGNIFICANCE

This study is envisaged to give information on the knowledge, attitudes, perceptions, and practices of adult males visiting selected healthcare facilities in the UGU district, where co-infection of TB and HIV is high. The information obtained will help develop strategies to improve HIV testing practices of adult males generally and to sustain good practice by what

is reported by participants that have tested for HIV. Furthermore, it could highlight factors associated with HIV testing practices in terms of non-testing.

1.4 AIM OF THE STUDY

To investigate the knowledge, attitudes, perceptions and practices towards HIV testing amongst adult males visiting healthcare facilities in the UGU district of KZN.

1.5 OBJECTIVES OF THE STUDY

- To describe the demographics of adult males visiting health care facilities in the UGU District of KZN.
- To determine the number of male participants who have tested for HIV.
- To relate the demographics of the participants to their' testing practices.
- To ascertain the knowledge of adult males on HIV and HIV testing.
- To describe the attitudes and perceptions of adult males towards HIV testing.
- To examine if barriers exist that prevent adult males from testing.

1.6 RESEARCH QUESTIONS

General research question

What are the knowledge, attitudes, perceptions, and practice of adult males visiting healthcare facilities in the UGU District of KZN, South Africa?

Specific research questions

- What are the demographics of adult males visiting health care facilities in the UGU District of KZN?
- How many male participants have tested for HIV?
- Do the demographics of adult males affect their testing practices?
- What is the knowledge of adult males to HIV and HIV testing?
- Is there a relationship between knowledge amongst adult males and their behavior towards HIV testing?
- What are the attitude and perceptions of HIV testing among adult males?
- Is there a relationship between knowledge, attitude, perceptions, and practices amongst adult males towards HIV testing?
- Are there barriers preventing adult males from testing from HIV?

1.7 METHODOLOGY

Study design

This study was a descriptive cross-sectional quantitative study.

Study sites/setting

The study was conducted in selected healthcare facilities situated in the UGU District of KwaZulu-Natal, South Africa. The sites included were one public hospital, one community health center, and one primary health care clinic, viz. Port Shepstone Regional Hospital, Gamalakhe Community Health Centre, and Marburg Clinic, respectively. Convenience sampling was used to obtain the study sites.

Study population

Respondents in this study were all adult males, 18 and above, that attended the selected healthcare facilities.

Inclusion criteria

This study included all adult males, 18 and above, that attended the healthcare facilities and gave consent to participate in the study.

Exclusion criteria

All females were excluded from this study.
All males below the age of 18 and adult males that did not consent to be part of the study were excluded.

Sampling strategy

Adult males attending the selected sites were approached, and after applying the inclusion criteria, the study was explained to them. Those males who were willing to participate were included in the study after obtaining written consent. This process was repeated in each selected site over one week.

Sample Size (Estimating the proportion of men who have tested for HIV)

The sample size was calculated using the formula, $n = Z^2(1-\alpha/2)pq/d^2$ (where $Z(1-\alpha/2) = 1.96$

at 95% confidence; p = proportion of males who have been tested for HIV, q = 1-p; d = absolute allowable error (precision around the proportion to estimate i.e. how wide the 95% confidence interval should be). For this study, it is assumed the maximum variability, hence p = 0.5;q = 0.5 with a desired precision (*d)* ±5%. Giving a sample size of 384 with a minimum of 128 from each site to give valid results.

However, a larger sample size was targeted to allow for dropouts or where the information on the questionnaires was minimal, with over 90% being missing information.

Over a week, whoever was willing to participate was included in the study with a minimum of 128 per site. A final sample size of 679 was obtained**.**

Instrument and Data collection

An anonymous closed-ended Questionnaire consisting of 35 questions was administered to the participants. [Appendix 1]

The questionnaire included variables on knowledge, attitudes, perceptions, and practices towards HIV testing. The researcher was available to answer any queries the participants had. The participants were given as much time as they needed to fill the questionnaire. On completion, the surveys were handed to the researcher.

Data capture and analysis

Data was captured on an Excel spreadsheet and imported into Statistical Packages for Social Sciences (SPSS) version 26 (IBM Corp. Released 2018. IBM Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp.). Continuous variables were summarized using mean, standard deviation, and range (minimum-maximum). Skewed data were presented by medians and interquartile ranges. Categorical explanatory variables were cross-tabulated against participation and significant association identified using the standard Pearson's chi-square ($\chi 2$) test. A p-value of less than 0.05 was deemed statistically significant. Knowledge was scored by summing up the number of correct answers to 7 knowledge items. The raw score was expressed as a percentage out of 7. Knowledge score was compared between groups using one-way ANOVA testing or t-tests. Testing practices were compared between groups using Pearson's chi-square tests.

1.8 ETHICAL CONSIDERATION

Ethical approval was obtained from the Biomedical Research Ethics Committee (BREC) of UKZN. [BREC Reference: BE290/19][Appendix 2]

1.9 STRUCTURE OF THE DISSERTATION

Chapter 1: Background and literature review
Statement of the research problem
Study significance
Formulation of aims, objectives and research questions of the study
Research Methodology

Chapter 2: Presentation of the manuscript entitled: Knowledge, Attitudes, Perceptions, and Practices towards HIV testing amongst adult males visiting Healthcare Facilities in the UGU District Of KZN.

Chapter 3: Dissemination of the research findings
Limitations
Conclusions
Recommendations

CHAPTER 2

"Knowledge, Attitudes, Perceptions, and Practices towards HIV testing amongst adult males visiting Healthcare Facilities in the UGU District of KZN."

This article is being prepared for submission to the journal AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV.

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Abstract

Background

The UNAIDS 90-90-90 target by 2020However, there is concern that males are falling behind while females has set goals to achieve, which aims for 90% of the population to know their status, 90% of people diagnosed to receive ART, and 90% of the population to be virally suppressed. are forging ahead to test for HIV. Without awareness of HIV status, these goals cannot be realized. Despite the widespread availability of HIV testing services, males still do not test for HIV for various reasons. Hence a study was conducted to investigate the knowledge, attitudes, perceptions, and practices towards HIV testing amongst adult males visiting healthcare facilities in the UGU district of KwaZulu-Natal (KZN).

Methods

This study was a quantitative cross-sectional descriptive study implemented at selected healthcare facilities in the UGU District, KZN. Approval to conduct the study was granted by the Biomedical Research Ethics Committee (BREC). Data was collected from 679 adult male participants using a closed-ended anonymous questionnaire after obtaining their consent. Data were then analyzed using SPSS version 26 with Pearson's chi-square test and multivariate analysis.

Results

The study achieved 100% response rate. HIV testing practices were high with the majority (89.4%) of respondents claiming to have tested for HIV. Knowledge among the respondents in this study was fair (median score=71%). Findings revealed that knowledge was directly linked to practices ($p=0.015$). There was a significant difference in knowledge scores between those who tested and those who did not ($p=0.001$). Those who tested had higher knowledge scores. There were significant differences between mean knowledge scores of those with more positive perceptions regarding HIV ($p<0.001$). Positive testing practices were also associated with positive perceptions ($p<0,001$). Most participants implored positive attitudes towards HIV testing with respondents (86.8%), agreeing that everybody needs to test for HIV. Participants (69.0%) had positive perceptions towards Voluntary Counseling and Testing (VCT), identifying it as a benefit to themselves, with many respondents (96.0%) highlighting the importance of testing for HIV.

Conclusions and Recommendations

VCT uptake appeared to have progressed well among males visiting healthcare facilities in the UGU District of KZN. Adult males had a fair knowledge of HIV testing. Knowledge

amongst adult males was directly linked to testing practices and perceptions. Perceptions were also directly related to testing practices. Attitudes and perceptions amongst adult males were satisfactory. To promote and increase HIV testing among adult males, the study recommends education at schools and health facilities to increase knowledge towards VCT, provision of support to attend to the fear of a positive result deterring testing, coupled with home-based testing or self-testing to increase HIV testing uptake amongst adult males.

Key concepts

HIV testing, Voluntary Counseling, and testing, knowledge, attitudes, perceptions, practices, males, healthcare facilities, UGU District

1. INTRODUCTION

Human Immunodeficiency Virus (HIV) is amongst the leading epidemics in the world. In 2018, 37.9 million people were living with HIV, with 21.7 million people on antiretroviral therapy (ART). [1 2]South Africa (SA) has the biggest HIV epidemic in the world, with an estimated 7.2 million people having HIV, accounting for a third of all new HIV infections in Southern Africa.[3]HIV prevalence is high among the general population, in the age group 15-49 at 18.9%. [4] This, however, varies between regions. HIV prevalence is almost 12.2% in KwaZulu-Natal (KZN), directly influencing a high incidence of TB in the province. [4] The UGU District of KZN has been ranked amongst the 10 worst performing districts in the country in terms of TB HIV co-infection.[5]

Globally, 75% of the HIV population in 2018 knew their HIV status, with 9.4 million people unaware they had HIV.[1 2] This indicates that HIV testing is the most substantial gap in the management of the epidemic.[2]Men throughout the world comprise barely less than half of the adults having HIV, yet they account for almost 60% of AIDS-related deaths.[6] Voluntary Counseling and Testing (VCT) is an avenue for testing for HIV allowing individuals the choice to undergo HIV testing to make an informed decision on whether or not to test for HIV.[7] VCT is important as testing is the only way to know one's HIV status, VCT remains a priority intervention and any motivation for testing needs to be investigated so has to remove any barriers that prevent HIV testing. The Joint United Nations Program on HIV&AIDS (UNAIDS) places effort in this regard, aiming to achieve zero-AIDS- related deaths.[2]The UNAIDS have underway the 90–90–90 target by 2020, where 90% of people living with HIV are expected to know their HIV status, 90% of people diagnosed with HIV to receive antiretroviral therapy (ART) and 90% of people on HIV treatment to achieve viral suppression, aiming to control the AIDS epidemic by 2020.[8]However, despite the HIV test being quick, painless and almost always free, many people remain skeptical and fear the reality of a positive result.[9]Woman are known to be more inclined to test for HIV, to begin earlier treatment, and live longer. There are too many missing men in this regard.[10]The risk of HIV transmission is also known to be higher among males, as this group is more likely to have more sexual partners and to have sexually transmitted infections (STIs) compared to females.[11 12]Studies suggest that notions of masculinity increase the risk of HIV infection, prevent men from getting tested for HIV, and accepting their positive status, it also hinders them from taking instructions from their healthcare providers and partaking in health-enabling behaviors.[13] Besides, men expressed reluctance to test as they view health facilities as being 'women's' places. Men also perceived that standing in queues at HIV testing facilities could construe them as being HIV positive.[13] These barriers relate to inadequate knowledge, negative attitudes, and poor perceptions about HIV and VCT, directly affecting men's practice

towards HIV testing.

Appropriate knowledge, attitudes, and perceptions will enable men to make informed decisions about testing for HIV. This may lead to a reduction in HIV transmission by allowing more HIV-infected individuals to be aware of their HIV status, assisting males in seeking HIV care and treatment thereby curbing the spread of the disease.[14 15 16]Camlin et al., 2016 stated that "Men's uptake of HIV testing is critical to the success of "test and treat" strategies in generalized epidemics."[8] Removing the men's HIV health gap can advantage men, woman, and children.[13]

In the UGU district where HIV-TB co-infection is very high, no studies were done to determine the testing practices of adult males and the subsequent barriers if they were not testing.

Hence this study was undertaken to investigate the knowledge, attitudes, perceptions, and practices amongst adult males towards HIV testing and the reasons behind not testing. The results of this study will help impact the UNAIDS's first target of 90 by 2020, for HIV testing.

Objectives

The objectives included describing the demographics of adult males visiting health care facilities in the UGU District of KZN and relate this to their' testing practices. To determine the number of male participants who have tested for HIV, the knowledge of adult male participants on HIV and HIV testing, and the attitudes and perceptions of adult male participants towards HIV testing. To finally examine if barriers exist that prevent adult males from testing.

Methodology

A quantitative cross-sectional descriptive study was undertaken with 679 male participants. Approval to conduct the research was granted by the Biomedical Research Ethics Committee (BREC). Data were collected from adult male participants through a closed-ended anonymous questionnaire at selected healthcare facilities after obtaining their consent. Data were then analyzed using SPSS version 26 with Pearson's chi-square test, where a p-value of less than 0.05 was significant.

2. METHODOLOGY

2.1 Study design

This study is a descriptive, cross-sectional, quantitative study.

2.2 Study sites/setting

The study was conducted in selected healthcare facilities situated in the UGU District of KwaZulu-Natal, SA. The sites included were one public hospital, one community health center, and one primary health care clinic.

2.3 Study population

Respondents in this study were all adult males, 18 and above, that attended the selected healthcare facilities.

2.4 Inclusion criteria

This study included all adult males, 18 and above, that attended the healthcare facilities and gave consent to participate in the study.

2.5 Exclusion criteria

All females were excluded from this study.
All males below the age of 18 and adult males that did not consent to be part of the study were excluded.

2.6 Sampling strategy

Participants were selected randomly based on voluntary willingness to participate in the study.

2.7 Sample Size (Estimating the proportion of men who have tested for HIV)

The sample size was calculated using the formula, $n = Z^2(1-\alpha/2)pq/d^2$ (where $Z(1-\alpha/2) = 1.96$ at 95% confidence; p = proportion of males who have been tested for HIV, $q = 1-p$; d = absolute allowable error (precision around the proportion to estimate i.e. how wide the 95% confidence interval should be). For this study, it is assumed the maximum variability, hence $p = 0.5$;$q = 0.5$ with a desired precision (d) ±5%. Giving a sample size of 384 with a minimum

of 128 from each site to give valid results.

However, a larger sample size was targeted to allow for dropouts or where the information on the questionnaires was minimal, with over 90% being missing information.

Over a week, whoever was willing to participate was included in the study with a minimum of 128 per site. A final sample size of 679 was obtained**.**

2.8 Instrument/tool

An anonymous closed-ended Questionnaire was used.

The questionnaire included variables on knowledge, attitudes, perceptions, and practices towards VCT.

2.9 Data collection technique

The study was explained to the males attending the healthcare facility, and after obtaining their consent; the questionnaire was administered to them.

2.10 Data capture and analysis

Data were captured on an Excel spreadsheet and analyzed using Statistical Packages for Social Sciences version 26 (IBM Corp. Released 2018. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp.). Continuous variables were summarized using mean, standard deviation, and range (minimum-maximum). Skewed data were presented by medians and interquartile ranges. Categorical explanatory variables were cross-tabulated against participation and significant association identified using the standard Pearson's chi-square ($\chi 2$) test. A p-value of less than 0.05 was deemed statistically significant. Knowledge was scored by summing up the number of correct answers to 7 knowledge items. The raw score was expressed as a percentage out of 7. Knowledge score was compared between groups using one-way ANOVA testing or t-tests. Testing practices were compared between groups using Pearson's chi-square tests.

2.11 Ethical consideration

Ethical approval was obtained from the Biomedical Research Ethics Committee (BREC) of UKZN. [BREC Reference: BE290/19].

3. RESULTS

3.1 Response rate

A sample size of 679 adult male participants that were willing to participate in the study completed the questionnaire.

3.2 Demographics of participants

Table 1: Demographics of the participants (N=679)

Variables		N=	N (%)
Age	18-23	72	10.6%
	24-29	130	19.1%
	30-35	145	21.4%
	36-41	88	13.0%
	42-47	94	13.8%
	48-53	49	7.2%
	54-59	47	6.9%
	60 above	54	8.0%
With whom participant lives	children	50	7.3%
	alone	83	12.2%
	father and mother	99	14.6%
	father only	25	3.7%
	mother only	104	15.3%
	grandparent and mother	1	0.1%
	grandparent only	67	9.9%
	mother and sibling	2	0.2%

	mother, sibling, and children	1	0.1%
	mother and children	1	0.1%
	partner and children	4	0.6%
	partner only	171	25.1%
	sibling only	71	10.4%
Marital status	missing	1	0.1%
	married	233	34.3%
	single	445	65.5%
Level of education	primary school	219	32.2%
	secondary school	304	45%
	tertiary education	156	22.9%

Over 40% of the participants were in the age group 24-35. Over twenty-five percent (25.1%) lived with their partners. At the same time, two-thirds stated that they were single (65.5%) and not married. Most participants (45%) completed secondary school, and only a few (22.9%) had tertiary education (Table 1).

3.3 Knowledge of participants to HIV testing

The median knowledge score of the participants was 71% within a range from 0 to 100%, and an interquartile range from 57% to 86%.

The majority of the participants had heard of VCT (81.4%), with 65.3% agreeing that VCT is performed by one's own will. Many participants (78.5%) agreed that VCT is essential to prevent HIV. In addition to this, 79.9% knew that VCT involved pre-test counseling, testing and post-test counseling. The majority of the participants (81.0%) felt that VCT should be confidential, with over 73% (73.4%) stating that they knew where VCT services were being offered.

While most participants reported that everybody should test for HIV (86.8%), only a few believed that the sick (4.6%) and only females (3.1%) should test..

Just less than two thirds (63.3%) of participants stated that HIV is transmitted through unprotected intercourse only, with 16.9 % stating that HIV is transmitted through blood products only. When asked whether HIV is transmitted from mother to baby during pregnancy, labor, or breastfeeding, only 1.3% of the participants responded positively to this question. Overall, only 12,3% of participants believed that HIV could be transmitted through all three routes.

3.4 Attitude of adult males to HIV testing

Table 2: Attitude towards HIV testing amongst adult males

Variable		Total	Total (%)
Does participant think it is necessary to test for HIV	missing	5	0.7%
	no	67	9.9%
	yes	607	89.4%
Reasons were given by participants that will motivate them to test	if a cure is available	28	4.1%
	to get a job	14	2.0%
	if they get money	8	1.1%
	if home-based testing	17	2.4%
	if for marriage purposes	14	2.1%
	if they get money and if a cure is available	1	0.1%
	if work-based testing	7	1.0%
Would participants recommend HIV testing to others	missing	1	0.1%
	no	36	5.3%
	yes	642	94.6%

Response by participants if they were tested positive for HIV	missing	2	0.3%
	would lead a healthy life	95	14.0%
	would kill themself	21	3.1%
	would take medication and lead a healthy life	4	0.5%
	would take medication	359	52.9%
	would not believe the result	80	11.8%
	would not spread HIV	35	5.1%
	would spread the result	35	5.1%
Participants preferred person/facility to seek information and testing	missing	1	0.1%
	pharmacy only	7	1.0%
	family member only	13	1.9%
	health teacher and hospital	1	0.1%
	health teacher only	154	22.7%
	hospital and private clinic	8	1.1%
	hospital only	300	44.2%
	private clinic only	180	26.5%
	health teacher, hospital and private clinic	1	0.1%
	school health club only	14	2.1%

The majority of participants (89.4%) agreed that testing for HIV is essential. The 9.9% of

participants that disagreed that VCT is important indicated motivating reasons to test, which included if a cure for HIV is available (4.1%). A vast majority of the participants noted that (94.6%) they would recommend HIV testing to others. Over half the participants reported taking medications if found to be positive, with over 78% and over 44% of participants preferring to seek information on HIV testing from a hospital and private clinic. (Table 2)

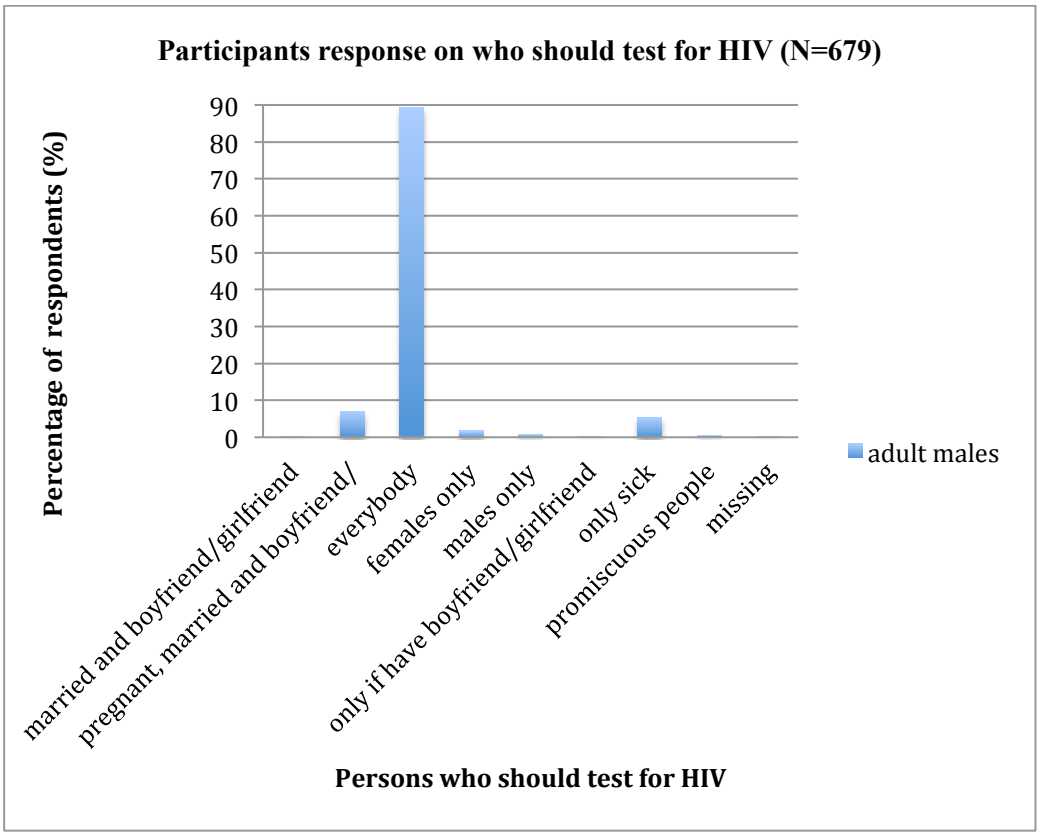

Figure 1: Participants response on who should test for HIV

The majority of participants (89.2%) agreed that everybody should test for HIV (Figure 1).

3.5 Perceptions of adult males to HIV testing

Table 3: Perceptions of HIV testing among adult males

Question	Response	Total	Total (%)
Does the participant believe themselves to be at risk for HIV	no	226	33.3%
	yes	453	66.7%

Does participant believe themselves to benefit from HIV testing	missing	1	0.1%
	no	64	9.4%
	yes	614	90.4%
Does participant believe it is important to test for HIV	no	27	4.0%
	yes	652	96.0%
Does participant feel privacy is ensured when testing for HIV	no	71	10.5%
	yes	608	89.5%
Does participant think it takes a lot of time to test for HIV	no	352	51.8%
	yes	327	48.2%
Does participant feel that more people will know their' status if they test for HIV	no	109	16.1%
	yes	570	83.9%
Does participant know if one is scared, one can do a self-test at home	no	220	32.4%
	yes	459	67.6%
Does participant think one can take ARV before getting more sick	no	113	16.6%
	yes	566	83.4%
Does participant agree that there will be less transmission of HIV if more people knew their status	missing	1	0.1%
	no	96	14.1%
	yes	582	85.7%

A third of participants (33.3%) perceived themselves not to be at risk for HIV, with most participants (90.4%) having had positive perceptions towards VCT identifying it as a benefit to them. The majority of participants (89.5%) agreed that privacy is ensured during testing, with many participants (48.2%) having perceived testing to take a lot of time. Most participants (85.7%) understand that if more people knew their status, there would be less transmission of HIV. (Table 3)

3.6 HIV Testing Practices of adult males

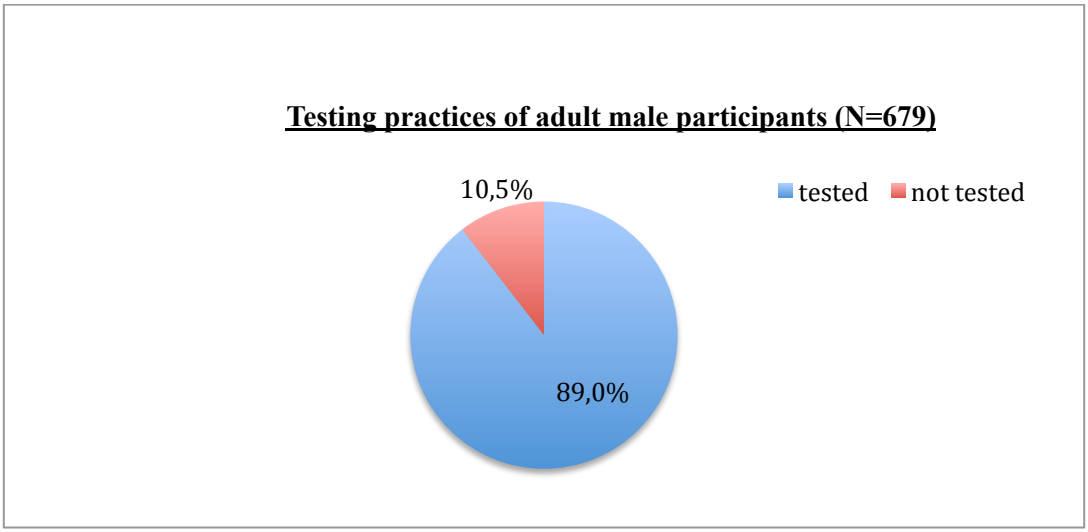

Figure 2: Pie chart depicting HIV testing practices of adult male participants

The majority of participants (89.4%) had tested for HIV (Figure 2).

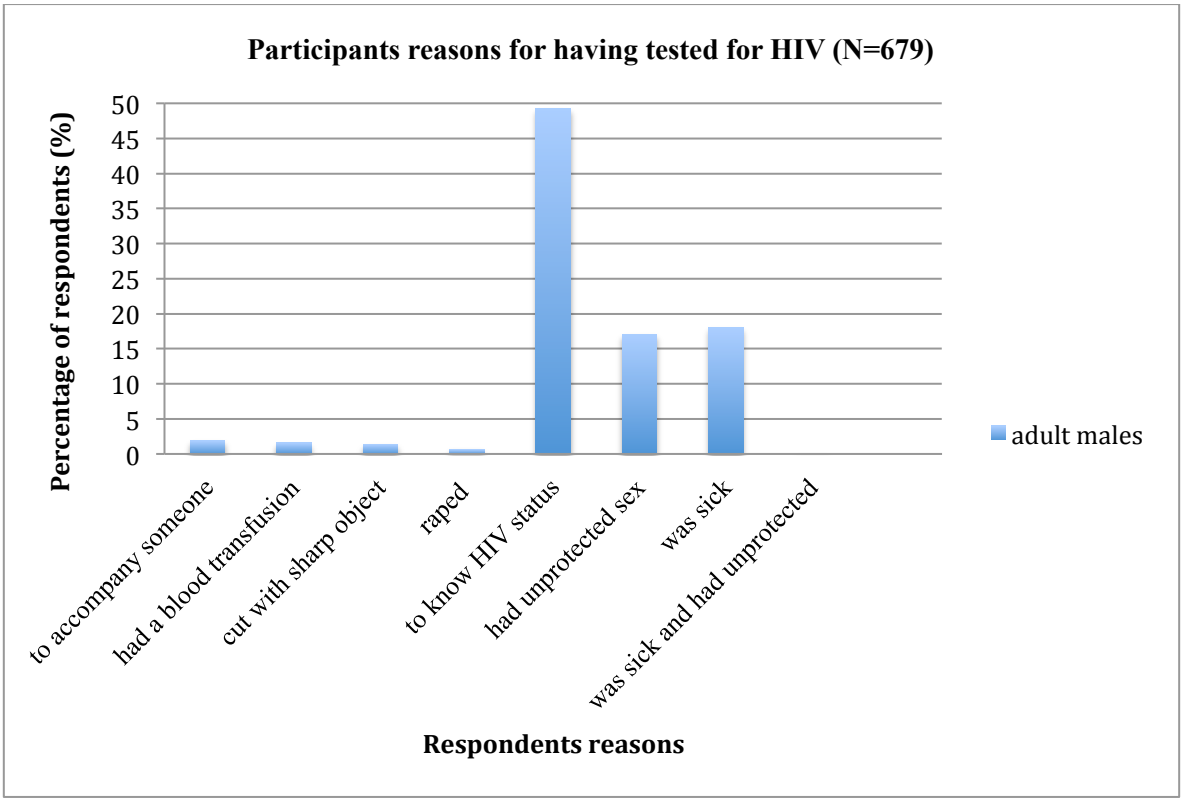

Figure 3: Bar Graph depicting HIV testing practices of adult male participants

Participants' most preferred reason for having tested for HIV was the need to know one's HIV status (49.3%), followed by participants (18.0%) being ill or participants (17.1%) having had unprotected intercourse (Figure 3).

Reasons that deterred adult males from testing for HIV included the fear of a positive result (3.5%), the belief of certainty that one does not have HIV (4.1%), no time to test (1.6%), while others (0.7.%) did not know where to test, and some (0.8%) believed the test to be expensive.

Majority of participants (76.3%) stated that they would test for HIV if it were available at work. In addition to this, the majority of participants (89.4%) reported that they would test if testing was free.

Many participants (48.2%) preferred to test at health facilities, while others preferred home-based testing (19.0%), self-testing (13.4%), couple testing (9.4%), and mobile tests (8.2%).

3.7 Association of knowledge, perceptions, attitudes to practices

There is a relationship between knowledge and testing practices as participants who had high knowledge scores tested for HIV.
There was a significant difference in knowledge score between those who claim to have tested for HIV and those who did not test for HIV (p=0.001).

Most participants that have tested fall within the age group 24-35 (41.2%), corresponding with most participants who have not tested for HIV to be within the same age group 24-35 (35.2%). Participants' age groups between those who have tested and those who have not tested were very similar. There was no statistical difference (p=0.391), noted between the age groups of those who tested and those who did not. Age did not affect testing practices

Majority of participants who have tested for HIV were single (66.0%) and majority of participants that have not tested for HIV were also single (62.0%). Although most participants were single, there was no statistical association and relationship between marital status and testing practices for HIV (p=0.498).

There was a statistically significant overall difference between the three categories of schooling (i.e., primary school, secondary school, and tertiary education) and knowledge score (p=0.015). Multiple comparison tests show that participants with tertiary education scored higher than both primary and secondary schooled adult males. However, there was no difference in knowledge scores between male participants with primary and secondary schooling.

Table 4: Comparison between participant's knowledge and participants perceptions

Question.	Response	Knowledge		P-value
		Mean	Standard Deviation	
Is participant at risk for HIV	no	64	28	0.005
	yes	70	22	
Will participant benefit from VCT	no	56	29	<0.001
	yes	69	23	
Does participant believe it is important to test for HIV	no	46	28	<0.001
	yes	69	24	
Does participant believe privacy is ensured when testing for HIV	no	57	28	<0.001
	yes	69	23	
Does participant believe it takes a lot of time to test	no	66	23	0.037
	yes	70	26	
Does participant believe more people will know their status if test for HIV	no	56	26	<0.001
	yes	70	23	
Does participant know that if scared, one can test at home	no	62	27	<0.001
	yes	71	22	
Does participant know that one can take ARVs before getting more sick	no	57	29	<0.001
	yes	70	23	
Does participant know there will be less transmission of HIV if more people know their status	no	53	28	<0.001
	yes	71	23	

There are significant differences between the mean knowledge scores of those participants with more positive perceptions regarding HIV for most of the perception-based questions ($p<0.001$). (Table 4)

Table 5: Comparisons between participant's perceptions and participants practices

Question	Response	Participant tested or not for HIV				
		No		yes		
		Total	Total (%)	Total	Total (%)	P-value
Is participant at risk for HIV	no	34	15.1%	191	84.9%	0.005
	yes	37	8.2%	416	91.8%	
Will participant benefit from VCT	no	23	35.9%	41	64.1%	<0.001
	yes	48	7.8%	565	92.2%	
Does participant believe it is important to test for HIV	no	10	37.0%	17	63.0%	<0.001
	yes	61	9.4%	590	90.6%	
Does participant believe privacy is ensured when testing for HIV	no	17	23.9%	54	76.1%	<0.001
	yes	54	8.9%	553	91.1%	
Does participant believe it takes a lot of time to test	no	34	9.7%	317	90.3%	0.489
	yes	37	11.3%	290	88.7%	
Does participant believe more people will know their status if test for HIV	no	18	16.7%	90	83.3%	0.022
	yes	53	9.3%	517	90.7%	
Does participant know that if scared, one can test at home	no	33	15.0%	187	85.0%	0.008
	yes	38	8.3%	420	91.7%	

Does participant know that one can take ARVs before getting more sick	no	20	17.7%	93	82.3%	0.006
	yes	51	9.0%	514	91.0%	
Does participant know there will be less transmission of HIV if more people know their status	no	29	30.2%	67	69.8%	<0.001
	yes	42	7.2%	539	92.8%	

There were significant associations between perceptions and testing behavior for almost all the perceptions questions except one (p<0,001). A positive testing practice was associated with positive perceptions. (Table 5)

4. DISCUSSION

This study has suggested that the majority of adult males visiting the selected healthcare facilities in the UGU district are likely to be testing for HIV. Their knowledge was found to be satisfactory, with a median score of 71 percent while most share positive attitudes.

HIV testing, being voluntary, allows individuals the freedom of choice on whether or not to test for HIV, however, increase in their knowledge does contribute to persons making an informed decision to test as evidenced in this study where there was a significant difference in knowledge score between those who tested and those who did not ($p=0.001$). Those who tested expressed higher knowledge scores. This finding is consistent with a study done by Scott-Sheldon et al., in Cape Town, South Africa.[17] Furthermore, as agreed by Low, knowledge directly affects VCT practices positively.[18] Therefore knowledge being the driving force towards VCT uptake requires a higher knowledge score among adult males to achieve the UNAIDS 90-90-90 target by 2020.[2]

Over 65 percent of the participants related to the fact that HIV testing involves testing by one's own will, but a small percentage disagreed [17.1%] or did not know [17.6%]. Confidentiality is a significant concern when it comes to HIV testing, sometimes acting as a deterrent to testing. In this study, however, over eighty percent of the participants believed that VCT is confidential [81%] and that privacy is ensured [89.5%]. This could account for the high percentage seen in the HIV testing practices of these adult males in the UGU district. A study done by Scott-Sheldon et al. found that male respondents were concerned about a breach of confidentiality. [17] Another survey by Conserve et al., found that many men perceived a lack of privacy and confidentiality in testing clinics.[19]

Of interest was that the majority of the participants (86.8%) concurred that everybody should test for HIV; however, some males still perceived that only the sick should test (4.6%) and that only females should test (3.1%). This perception by the participants in this study is consistent with findings by Camlin et al., where the majority of respondents agreed that men will only visit hospitals when sick and that seeking care is an activity for women and children.[8] Similarly, Conserve et al. found that a minority of men believed they were healthy, thus did not need to test for HIV. [19] Furthermore another study by Schatz and Knight in Cape Town, also suggested that men tested for HIV in relation to TB screening.[20] There were significant differences between mean knowledge scores of those with more positive perceptions regarding HIV for all the perception-based questions ($p<0.001$) and significant associations between perceptions and testing behavior for all questions except one. These findings are similar to a German study by Marcus et al., where it was found that among men

who have sex with men (MSM) knowledge and reasons reflecting HIV related stigma affected testing decisions among respondents rather than their risk perceptions.[21] This is also consistent with a South African study by Chimoyi et al., where positive testing behavior was associated with positive perceptions ($p<0.001$). [22]

Interestingly in this study, many respondents (67.7%) perceived themselves to be at risk for HIV, with similar findings by Conserve et al. where men had high-risk perceptions of acquiring HIV due to previous risky sexual experiences.[19] Encouragingly a vast majority of participants (90.4%) identified VCT as a benefit to themselves, with a more significant majority (96.0%) highlighting the importance to test for HIV. However, the study by St. Lawrence et al., showed little evidence that suggested men were aware of HIV testing benefits.[23] Another positive perception was noted where many respondents (83.4%) agreed that taking ARVs can prevent one from getting sick further. However, this was inconsistent with a study by St. Lawrence et al. where despite medication being available some men still doubted that they could live long, healthy lives post a positive HIV result.[23]

Overall in this study, it could be stated that the participants demonstrated positive attitudes and perceptions towards HIV testing,

Concerning where or what will be preferred for HIV testing nearly half of the participants (48.2%) preferred to test at health facilities; while others preferred home-based testing (19.0%), self-testing (13.4%), couple testing (9.4%) and mobile testing (8.2%). Therefore it is essential that health care facilities continue to encourage HIV testing and ensure that confidentiality and privacy is protected and people are made aware that HIV testing/ VCT services are offered in the facility since in this study it was found that more than a quarter (25.8%) of the participants stated that they did not know where VCT services were offered. In contrast, the study by St. Lawrence et al. found that all men were aware of where VCT services were provided.[23] No knowledge of where VCT services are offered could directly impact poor HIV testing practices amongst the SA population, which could cause the failure of realizing the UNAIDS 90-90-90 target goals.

In this study, a few participants (4.1%) believed a cure to be a motivating reason to test for HIV. St. Lawrence et al., had similar findings where fears on HIV being a death sentence led to respondents testing for HIV.[23]

Many barriers to HIV testing were cited in this study such as the fear of being tested positive; this finding was consistent with the research done by Conserve et al. [19]

A tiny percentage of participants [4.1%] in this study 1%), even though not tested, felt that

they do not have HIV. This could be because they do not believe themselves to be at risk of contracting HIV. A study by St. Lawrence et al. demonstrated that men convinced themselves that becoming HIV positive couldn't happen to them.[23]In this study, possible reason for this belief could be since 63.3% of the participants understood HIV to spread through unprotected intercourse only, disregarding other means of transmission. This lack of knowledge on HIV transmission could lead to further transmission of HIV, further fueling the epidemic more. Poor knowledge is a leading barrier to HIV testing practices. It is, therefore, essential to devise strategies to improve knowledge on HIV amongst the population, maybe following examples of how this is done in other countries. A study done in Bangladesh by Yaya et al., found knowledge amongst men regarding the mode of HIV transmission to be high. [24] To overcome the barriers cited, health care professionals and all other personnel involved in the HIV testing procedure need to be engaged in providing support to those who fear a positive result. VCT services should ensure that proper counseling is provided before testing for HIV, and the available services, including ART, should be stressed. Reassuring people that the HIV condition is a chronic manageable condition and not a death sentence can further assist these persons in testing and accepting a positive result.

Another barrier was related to the time taken to test for HIV. Participants in this study (48.2%) perceived HIV testing to take a lot of time. This finding is consistent with the UNAID 2018 report, where many males believed testing for HIV takes time.[2]A suggestion could be encouraging home testing where lack of time was noted as a barrier. This is recommended in a study by Mashoeu et al. were home-based HIV testing and counseling proved successful in usage and was highlighted as recommended by the World Health Organization (WHO) in targeting men for HIV testing.[25] More awareness campaigns may be adopted to target the minority that expressed negative attitudes, perceptions, and barriers towards HIV testing through mediums such as media, health facilitators, and school programs. This study showed a significant overall difference ($p=0.015$) between the three categories of schooling and knowledge score; respondents with tertiary education scored higher than both primary and secondary schooled men. This is in agreement with a descriptive study by Lucas and Wilson, where results suggested that without completion of secondary school, HIV transmission might not be mitigated.[26] However, a study in Malaysia by Bahrin et al., suggests that schools are targets for HIV knowledge dissemination.[27] A stronger focus on education at schools is thus emphasized, as this crucial population is most likely to benefit at this point before reaching the critical age of adolescents where HIV is rife. As advised by De Wet et al., the general communities also need to be educated through campaigns on HIV to target unemployed youth on HIV.[28] This will enable people to make informed decisions about HIV testing and their health.

By targeting barriers expressed by participants towards HIV testing, it may enhance the knowledge, attitudes, and perceptions towards HIV testing among adult males and, in turn, increase HIV testing uptake by males.

LIMITATIONS OF THE STUDY

Due to the relatively small sample size, concentrated only in the UGU district of KZN, the results of this study cannot be generalised to all adult males in the province of KwaZulu Natal. In addition, this being a self-reported study, the reliability of the information collected cannot be substantiated and the direction of the association may not be causal in this cross-sectional study.

CONCLUSION AND RECOMMENDATIONS

From this study adult males' uptake of HIV testing was found to be high in the UGU District. The study has revealed that there are fair knowledge, positive attitudes, and satisfactory perceptions towards HIV testing and its importance among adult males, with many respondents having agreed that everyone needs to undergo VCT to prevent HIV transmission. Participants also expressed the necessity to test for HIV and its benefits.

This study revealed a positive association between knowledge, perceptions, and practices. Thus strategies need to be devised to increase knowledge and awareness of HIV and HIV testing practices.

Further studies should be encouraged and undertaken such as,

A quantitative comparative study amongst males from different districts of KZN to establish factors that influence HIV testing uptake in different areas;

A quantitative comparative study among males and females to ascertain any causal relationship between gender in knowledge, attitudes, and perceptions towards HIV testing practice;

A quantitative and qualitative survey amongst males at schools is also recommended to target adolescent participants below age 18.

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CHAPTER 3

3. SYNTHESIS

3.1 DISCUSSION

In this study, the majority of respondents were in the age groups 30-35 (21.4%) and 24-29 (19.1%). This is significant as HIV statistics in South Africa 2018 marked the HIV prevalence as approximately 13.1%. [27]According to Kanabus, the statistics revealed that men aged 20-24 had the highest prevalence of HIV (4.8%) compared to other age groups, and men aged 15-49 presented with the most number of new HIV infections as compared with different age groups.[27]This significance indicates that men aged 24-35 are a target population for testing and treating. Furthermore, 45% of respondents, have matriculated, proving a target population, i.e., the critical ages 24-35 where HIV is rife, as emphasized by Lucas et al., whereby matriculating was identified as protective.[28] A focus on HIV prevention efforts in men aged 25-35 is also required, as their potential for income gives them an advantage over vulnerable women who have low rates of HIV.[28] With age being a factor to consider, the age group 30-35 in this study, had the highest HIV testing rates (22.1%). This indicates that males in the HIV susceptible age group realize the need to undergo HIV testing. However, compared to the same age group for males who have not tested for HIV, there was no statistical difference (p=0.391). This is worrying as males in the mentioned age groups testing for HIV may be rendered insignificant if males not testing comprise an almost equal portion of the respective population age groups. This is in agreement with statistics by Kahn et al., where globally, half of all HIV positive males that did not know they were HIV positive were aged 15 to 35 years.[11]

Overall this study has suggested that the majority of adult males visiting the selected healthcare facilities in the UGU district are likely to be testing for HIV. Their knowledge is satisfactory, with a median score of 71 percent while most share positive attitudes.

HIV testing, being voluntary, allows individuals the freedom of choice on whether or not to test for HIV, however, increase in their knowledge does contribute to persons making an informed decision to test as evidenced in this study where there was a significant difference in knowledge score between those who tested and those who did not (p=0.001). Those who tested expressed higher knowledge scores. This finding is consistent with a study done by Scott-Sheldon et al. in Cape Town.[29] Where most respondents (25.1%) resided with their partners, 65.5% remain single. With this being noted, there was no association between marital status and HIV testing (p=0.498) which is in disagreement with a study by Shisana et al., in South Africa.[30]Furthermore, as agreed by Low, knowledge directly affects VCT practices positively.[2] Therefore knowledge being the driving force towards VCT uptake

requires a higher knowledge score among adult males to achieve the UNAIDS 90-90-90 target by 2020.[5]

Of importance is that the majority of respondents (81.4%) were aware of VCT, which is in agreement with a study by Sanga et al..[31] This was expected, as one expects all adults to be aware of HIV. Over 65 percent of the participants related to the fact that HIV testing involves testing by one's own will, but a small percentage disagreed [17.1%] or did not know [17.6%]. Confidentiality is a significant concern when it comes to HIV testing, sometimes acting as a deterrent to testing. In this study, over eighty percent of the participants believed that VCT is confidential [81%] and that privacy was ensured [89.5%]. This could account for the high percentage seen in the HIV testing practices of these adult males in the UGU district. A study done by Scott-Sheldon et al. found that male respondents were concerned about a breach of confidentiality. [29]Another study by Conserve et al., found that many men perceived a lack of privacy and confidentiality in testing clinics.[32]

Of interest was that the majority of the participants (86.8%) concurred that everybody should test for HIV. However, some males still perceived that only the sick should test (4.6%) and that only females should test (3.1%). This perception by the participants in this study is consistent with findings by Camlin et al., where the majority of respondents agreed that men will only visit hospitals when sick and that seeking care is an activity for women and children.[6] Similarly another study by Schatz and Knight in Cape Town, South Africa, also suggested that men tested for HIV in relation to TB screening. [33] There were significant differences between mean knowledge scores of those with more positive perceptions regarding HIV for all the perception-based questions ($p<0.001$) and significant associations between perceptions and testing behavior for all questions except one. These findings are similar to a German study by Marcus et al., where it was found that among men who have sex with men (MSM) knowledge and reasons reflecting HIV related stigma affected testing decisions among respondents rather than their risk perceptions.[34] This is also consistent with a South African study by Chimoyi et al., where positive testing behavior was associated with positive perceptions ($p<0.001$). [35]

Interestingly in this study, many respondents (67.7%) perceived themselves to be at risk for HIV, with similar findings by Conserve et al. where men had high-risk perceptions of acquiring HIV due to previous risky sexual experiences.[32] Encouragingly a vast majority of participants (90.4%) identified VCT as a benefit to themselves, with a more significant majority (96.0%) highlighting the importance of testing for HIV. However, the study by St. Lawrence et al., showed little evidence that suggested men were aware of HIV testing benefits.[36] Another positive perception was noted where many respondents (83.4%) agreed

that taking ARVs can prevent one from getting sick further. However, this was inconsistent with a study by St. Lawrence et al. where despite medication being available some men still doubted that they could live long, healthy lives post a positive HIV result.[36]

Overall in this study, it could be stated that the participants demonstrated positive attitudes and perceptions towards HIV testing.

Concerning where or what will be preferred for HIV testing, nearly half of the participants (48.2%) preferred to test at health facilities; while others preferred home-based testing (19.0%), self-testing (13.4%), couple testing (9.4%) and mobile testing (8.2%). Therefore it is vital that health care facilities continue to encourage HIV testing and ensure that confidentiality and privacy is protected. Facilities where HIV testing/ VCT services are offered need to make certain that people are made aware of these services, since in this study it was found that more than a quarter (25.8%) of the participants stated that they did not know where VCT services were offered. In contrast, the study by St. Lawrence et al. found that all men were aware of where VCT services were provided.[36] A lack of knowledge of where VCT services are offered could directly impact poor HIV testing practices amongst the SA population, which could cause the failure of realizing the UNAIDS 90-90-90 target goals. Furthermore, self-test preferences may also indicate negative attitudes towards facility testing and would require further investigation. In this study, participants (89.4%) also reported that they would test for HIV should testing be free; this shows a lack of knowledge that the testing provided in public sector hospitals are free. There is a need to engage with the community in disseminating such information, so it has to promote HIV testing at public healthcare facilities. Tibbels et al. also identified the concern about the financial cost in a study, where participants perceived addressing their health concerns to be expensive.[37]

In this study, a few participants (4.1%) believed a cure to be a motivating reason to test for HIV. St. Lawrence et al., had similar findings where fears on HIV being a death sentence led to respondents testing for HIV.[36]

Many barriers to HIV testing were in this study, one such being the fear of being tested positive. This finding was consistent with the research done by Conserve et al., where respondents expressed apprehension to test for HIV due to the fear of a positive result. [32]To overcome this barrier, cited health care professionals and all other personnel involved in the HIV testing procedure need to be engaged in providing support to those who fear a positive result. VCT services should continue to ensure that proper counseling is given before testing for HIV and that the available services, including ARV medicines, should be stressed. Reassuring people that the HIV condition is a chronic manageable condition and not a death

sentence can further assist these persons in testing and accepting a positive result.

Another barrier cited was related to the time taken to test for HIV. Participants in this study (48.2%) perceived HIV testing to take a lot of time. This finding is consistent with the UNAID 2018 report, where many males believed testing for HIV takes time.[5]A suggestion could be encouraging home testing where lack of time was noted as a barrier. This is recommended in a study by Mashoeu et al. where home based HIV testing and counseling proved successful in usage by users and was highlighted as recommended by the World Health Organization (WHO) in targeting men for HIV testing.[38]

Of concern is where although a minimal percentage of participants did not test for HIV [4.1%], they still felt that they do not have HIV. This could be because they do not believe themselves to be at risk for HIV. A study by St. Lawrence et al. demonstrated that men convinced themselves that becoming HIV positive couldn't happen to them.[36] In this study, a possible reason for this belief could be because 63.3% of the participants understood HIV to spread through unprotected intercourse only, disregarding other means of transmission. This lack of knowledge on HIV transmission could lead to further transmission of HIV, fueling the epidemic further. Poor knowledge is a leading barrier to HIV testing practices. It is, therefore, essential to devise strategies to improve knowledge on HIV amongst the population, maybe following examples of how this is done in other countries. A study done in Bangladesh by Yaya et al., found knowledge amongst men regarding the mode of HIV transmission to be high. [39] ARV medications are available, providing HIV positive individuals the opportunity to lead a healthy life. Most respondents have understood this, whereby respondents agreed to take medicine (52.9%) and to lead a healthy life (14.0%) should one have had a positive result post testing for HIV. This is in disagreement with a study by Mambanga et al., where participants showed a negative attitude towards testing with men not wanting to be responsible for medication.[40]

More awareness campaigns may be adopted to target the minority that expressed negative attitudes, perceptions, and barriers towards HIV testing through mediums such as media, health facilitators, and school programs. This study showed a significant overall difference ($p=0.015$) between the three categories of schooling and knowledge score, where respondents with tertiary education scored higher than both primary and secondary schooled men, This is in agreement with a descriptive study by Lucas and Wilson, where results indicated completion of secondary school to be essential in reducing HIV transmission, suggesting that knowledge on HIV is realized in high school.[41] A study in Malaysia by Bahrin et al. suggested schools as targets for HIV knowledge dissemination.[42] A stronger focus on education at schools is thus emphasized, as this crucial population is most likely to benefit at

this point before reaching the critical age of adolescents where HIV is rife. As advised by De Wet et al., the general communities also need to be educated through campaigns on HIV to target unemployed youth on HIV.[43] This will enable people to make informed decisions about HIV testing and their health. [1]

3.2 LIMITATIONS OF THE STUDY

This study was conducted amongst adult males visiting healthcare facilities in the UGU District of KZN. However males are not particularly found in suitable numbers visiting healthcare facilities. Furthermore, males are not willing to participate in research, especially with the topic surrounding HIV. Therefore caution should be exercised in reporting the results of this study, as it cannot be generalized to all adult males. Secondly, since data was collected from self-reporting, the reliability of the information collected cannot be substantiated, and the direction of the association may not be causal in this cross-sectional study.

3.3 CONCLUSIONS

This study has revealed that testing practices are high, as most males claimed to have tested for HIV. Findings revealed that males expressed fair knowledge, positive attitudes, and satisfactory perceptions towards HIV testing and its importance amongst adult males, with many respondents agreeing that everyone needs to undergo VCT to prevent HIV transmission. The study revealed knowledge and perceptions to be directly related to practices where positive knowledge and perceptions were associated with positive testing outcomes. Thus recommendations to continue education and awareness campaigns need to be emphasized so that adult males get to know their status and further improve the testing rate amongst them, impacting positively on the HIV epidemic.

3.4 RECOMMENDATIONS.

Education and awareness campaigns relating to HIV, its transmission, and free testing in public sector hospitals should be ongoing.

Recommendation for further studies

- A similar study should be done amongst secondary school children from the age of 15 years to assess HIV testing uptake rates amongst this group that was not included in this study.
- A quantitative comparative study amongst males from different districts of KZN and

other provinces is recommended to establish factors that influence HIV testing uptake in different areas.

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APPENDICES

Appendix 1: Questionnaire

QUESTIONNAIRE

SECTION A: BACKGROUND INFORMATION

Please tick (√) the appropriate code that corresponds to your chosen answer. Read all the options before you mark your answer. Where more than one response applies please tick all applicable responses.

Q/no	Questions	Response option							
1	What is your gender?	Male			Female				
2	What is your age in years?	18-23	24-29	30-35	36-41	42-47	48-53	54-59	60 and above
3	With whom do you live?	Partner	Grandparents	Father and mother	Father alone	Mother alone	Brother/sister	Children (self/other)	
4	What is your marital status?	Married			Single				
5	What is your highest level of education?	Primary school (junior and senior)			Secondary school (matriculated)			Tertiary education (interim/complete)	

SECTION B: HIV TESTING KNOWLEDGE

Q/no	Questions	Response option	
6	Have you ever heard about Voluntary HIV Counseling and testing (VCT) before today?	Yes	No

	If answer is No, go to question 8						
7	If **yes**, through which medium?	Mass media (including social networking)	Friend or family	Health worker	Church/Mosque	Internet	
8	VCT involves individual being tested on their own will?	Yes	No	Don't know			
9	VCT is important to prevent HIV?	Yes	No	Don't know			
10	VCT process involves pre-test councelling, testing and post-test counseling?	Yes	No	Don't know			
11	VCT involves confidentiality?	Yes	No	Don't know			
12	Do you know where VCT services are offered?	Yes	No				

13	Who should test for HIV?	Only sick people	Every body	Only females	Only males	Only Promiscuous people	Pregnant woman only	Couples in marriage only	Only people who have a boyfriend/girlfriend	Only people who engage in intercourse
14	How can HIV be transmitted?	Unprotected sexual intercourse		Through blood products (sharing unclean needles, unclean shavers, unscreened blood)			Mother to baby through by pregnancy, labour or nursing			

SECTION C: HIV TESTING ATTITUDES

Q/ no	**Questions**	**Response option**	
15	Do you think it is necessary for you to go for VCT?	Yes	No

	If answer is Yes, go to question 17. If, No proceed to question 16						
16	What reason will motivate you to go for VCT?	To get money	To get a job	For marriage purposes	If there is a cure for HIV	If testing is available at work	If testing is available at home
17	Would you recommend it to friends and relatives?	Yes			No		
18	If I test positive for HIV after going for VCT?	I will kill myself	I will not believe the result	I will spread the result to others	I will take my medication	I will take steps to lead a healthy life	I will be careful not to spread it to other people
19	Who should test for HIV?	Only sick people	Every body	Only females	Only males	Only Promiscuous people	Pregnant women only	Couples in marriage only	Only people who have boyfriends/girlfriends
20	I will prefer to seek sexual information and get tested through?	Health teacher	Hospital	Private clinic	School health club	Drug store	Family member		

SECTION D: HIV PERCEPTIONS

Q/no	Questions	Response option	
21	Do you think you are at risk for HIV infection?	Yes	No

22	Do you think you will benefit from HIV testing and councelling?	Yes	No
23	Do you think it is important to test for HIV?	Yes	No
24	Do you think privacy is ensured when undergoing HIV testing and councelling?	Yes	No
25	Do you think it will take a lot of time spent in clinics and hospitals to test for HIV?	Yes	No
26	Do you think more people will know their HIV status if they test?	Yes	No
27	Do you know that people who are scared to go to clinics can test at home?	Yes	No
28	Do you know people can get ARV's before they get sicker?	Yes	No
29	Do you think there would be less transmission of HIV to other people if people knew their HIV status?	Yes	No

SECTION E: HIV TESTING PRACTICES

Q/ no	**Questions**	**Response option**						
30	Have you ever tested for HIV before? **If Yes, go to question 31 but if No go to 32**	Yes			No			
31	Why did you decide to test?	Was sick	Had unprotected sex	Raped	Had blood transfusion	Cut with sharp object	Just want to know my HIV	To accomp any someon

							status	e	
32	Why have you not tested?	Scared of a positive result	The test is expensive	Afraid of stigmatization	I don't know where to test	I don't have time to test	Afraid other people will know my status	Fear people will think I am less masculine if I test	I am scared to talk to the doctor/nurse	Public transport is hard to find	I am sure I don't have HIV
33	Will you test for HIV if it is available at your place of work?	Yes					No				
34	Will you go if the test is free?	Yes					No				
35	Which route of testing would you prefer?	VCT at healthcare facilities	Home-based test	Mobile test			Self-test	Couple-HIV testing and counseling	Provider-Initiated Testing and Counseling		

Thank you for completing the questionnaire.

Appendix 2: BREC approval letter

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

12 July 2019

Mrs YC Salejee (214512913)
School of Health Sciences
College of Health Sciences
y.moosa26@gmail.com

Dear Mrs Salejee

Protocol: Knowledge, attitudes and perceptions and practices towards HIV Testing amongst adult males visiting healthcare facilities in the UGU district of KwaZulu-Natal
Degree: M. Pharm **BREC Ref No: BE290/19**

EXPEDITED APPLICATION: APPROVAL LETTER

A sub-committee of the Biomedical Research Ethics Committee has considered and noted your application received on 05 April 2019.

The study was provisionally approved pending appropriate responses to queries raised. Your response received on 03 July 2019 to BREC letter dated 24 May 2019 has been noted by a sub-committee of the Biomedical Research Ethics Committee. The conditions have been met and the study is given **full ethics approval** and may begin as from 12 July 2019. **Please ensure that site permissions are obtained and forwarded to BREC for approval before commencing research at a site.**

This approval is valid for one year from **12 July 2019.** To ensure uninterrupted approval of this study beyond the approval expiry date, an application for recertification must be submitted to BREC on the appropriate BREC form 2-3 months before the expiry date.

Any amendments to this study, unless urgently required to ensure safety of participants, must be approved by BREC prior to implementation.

Your acceptance of this approval denotes your compliance with South African National Research Ethics Guidelines (2015), South African National Good Clinical Practice Guidelines (2006) (if applicable) and with UKZN BREC ethics requirements as contained in the UKZN BREC Terms of Reference and Standard Operating Procedures, all available at http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx.

BREC is registered with the South African National Health Research Ethics Council (REC-290408-009). BREC has US Office for Human Research Protections (OHRP) Federal-wide Assurance (FWA 678).

The sub-committee's decision will be noted by a full Committee at its next meeting taking place on **13 August 2019.**

Yours sincerely

Prof V Rambiritch
Chair: Biomedical Research Ethics Committee

cc: Postgrad administrator: nenep1@ukzn.ac.za Supervisor: naidoopj@ukzn.ac.za

Biomedical Research Ethics Committee
Professor V Rambiritch (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 2486 **Facsimile:** +27 (0) 31 260 4609 **Email:** brec@ukzn.ac.za
Website: http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx

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Appendix 3: TRREE Certificates

Zertifikat
Certificat
Certificado
Certificate

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

Clinical Trials Centre
The University of Hong Kong

Certificat de formation - Training Certificate

Ce document atteste que - this document certifies that

yumna salejee

a complété avec succès - has successfully completed

Introduction to Research Ethics

du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

Release Date: 2018/02/09

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

FMH Continuing Education Program (5 Credits)
Programme de Formation continue (5 Crédits)

Foederatio Pharmaceutica Helvetiae FPH Continuing Education Programme
Programmes de formation continue

Ce programme est soutenu par - This program is supported by :

[REV : 20170510]

Zertifikat
Certificat
Certificado
Certificate

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

Clinical Trials Centre
The University of Hong Kong

Certificat de formation - Training Certificate

Ce document atteste que - this document certifies that

yumna salejee

a complété avec succès - has successfully completed

South Africa

du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

Release Date: 2019/02/04

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

FMH Continuing Education Program (5 Credits)
Programme de Formation continue (5 Crédits)

Foederatio Pharmaceutica Helvetiae FPH Continuing Education Programme
Programmes de formation continue

Ce programme est soutenu par - This program is supported by :

[REV : 20170510]

Appendix 4: Permission letter- UGU District Health Department

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
UGU HEALTH DISTRICT OFFICE

Physical Address: 41 Bisset Street, Nelson Mandela Drive
Postal Address: P/Bag X 735 Port Shepstone 4240
Tel: 0396883000 Fax: 0396826296 Email: ntokozo.mkhize@kznhealth.gov.za
www.kznhealth.gov.za

Enquiries: Mrs NC Mkhize
Date: 20 June 2019

To:
Ms Yumna Cassim Salejee

Permission to Conduct Research in Ugu District

Dear Salejee

I have the pleasure in informing you that permission has been granted to you by Ugu District Office to conduct research on "Knowledge, attitudes, perceptions and practices towards HIV testing amongst adult males visiting healthcare facilities in the Ugu district of KZN."

Please note the following:

a) Please ensure that you adhere to all the policies, procedures, protocols and guidelines of the Department of Health.

b) Please endure that this office is informed before you commence with your research

c) The District office/ facility will not provide any resources for this research.

e) You will be expected to provide feedback on your findings to the District office /facility

Thank You

.....
Mrs NC Mkhize
Ugu District Director

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 5: Permission letter- KZN Department of Health

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

PORT SHEPSTONE REGIONAL HOSPITAL
Private Bag X5706, PORT SHEPSTONE, 4240
11 Bazley Street, PORT SHEPSTONE 4240
Tel: 039-6886208 Fax: 039-6821514

KWAZULU-NATAL DEPARTMENT OF HEALTH
PORT SHEPSTONE REGIONAL
HOSPITAL

Reference: HRKM140/15
Enquiries: Mr. LI Hlabe
Date: 02 July 2019

Dear Mrs. YC Salejee
Pharmacist
(UKZN)

RE: PERMISSION FOR RESEARCH STUDY – KNOWLEDGE, ATTITUDES, PERCEPTIONS, AND PRACTICES TOWARDS HIV TESTING AMONGST ADULT MALES VISITING HEALTHCARE FACILITIES IN THE UGU DISTRICT OF KZN TO BE CONDUCTED BY MRS. YC SALEJEE.

Your application dated 27/06/2019 refers

Authority to conduct the above mentioned research has been approved by the Department of Health Research Committee. You are therefore granted the permission to access the institution and consult with the relevant supervisors on the dates when you will avail yourself for the research. You are also requested to communicate your findings with the institution

Kind regards

Mrs. TG Mkhize
Acting Chief Executive Officer
Port Shepstone Regional Hospital

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 6a: Permission letter- Port Shepstone Hospital and Marburg Clinic

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

PORT SHEPSTONE REGIONAL HOSPITAL
Private Bag X5706, PORT SHEPSTONE, 4240
11 Bazley Street, PORT SHEPSTONE 4240
Tel: 039-6886208 Fax: 039-6821514

KWAZULU-NATAL DEPARTMENT OF HEALTH
PORT SHEPSTONE REGIONAL
HOSPITAL

Reference: HRKM140/15
Enquiries: Mr. LI Hlabe
Date: 02 July 2019

Dear Mrs. YC Salejee
Pharmacist
(UKZN)

RE: PERMISSION FOR RESEARCH STUDY – KNOWLEDGE, ATTITUDES, PERCEPTIONS, AND PRACTICES TOWARDS HIV TESTING AMONGST ADULT MALES VISITING HEALTHCARE FACILITIES IN THE UGU DISTRICT OF KZN TO BE CONDUCTED BY MRS. YC SALEJEE.

Your application dated 27/06/2019 refers

Authority to conduct the above mentioned research has been approved by the Department of Health Research Committee. You are therefore granted the permission to access the institution and consult with the relevant supervisors on the dates when you will avail yourself for the research. You are also requested to communicate your findings with the institution

Kind regards

Mrs. TG Mkhize
Acting Chief Executive Officer
Port Shepstone Regional Hospital

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Appendix 6b: Permission letter- Gamalakhe CHC

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
GAMALAKHE CHC

Physical Address: Off Ray Nkonyeni rd, corner Michael Ntsimbi & Rev Sithole streets
Postal Address: Private bag x 709 Gamalakhe 4249
Tel: 0393181113 Fax: 0393182835 Email: Mbuyi.kayembe@kznhealth.gov.za
www.kznhealth.gov.za

Tuesday 04/07/2019

Dear Mrs Y C SALEJEE
Pharmacist
UKZN

RE : PERMISSION FOR RESEARCH STUDY : KNOWLEDGE, ATTITUDE, PERCEPTIONS AND PRACTICES TOWARDS HIV TESTING AMONGST ADULT MALES VISITING HEALTHCARE FACILITIES IN THE UGU DISTRICT OF KZN TO BE CONDUCTED BY MRS Y C SALEJEE

I am please to inform you that you have permission to conduct your interviews at Gamalakhe as part of your research study on 21/08/2019.
Feel free to contact us for any further assistance you might need.

Kind Regards
Dr JM KAYEMBE
Acting CEO

Dr J.M.M. Kayembe
MP0604283
Signature

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 7: Informational letter

Informational letter

To whom it may concern:
I am a Masters of Pharmacy student with the following particulars:
Yumna Cassim Salejee (y.moosa26@gmail.com) 076 980 2626

This letter serves as an invite to you to consider your voluntary participation in a masters research study among males with regards to HIV testing and treatment. The aim of this study is to investigate HIV testing and treatment adherence among males in South African health facilities. The study is expected to include 384adult males from health facilities in Port Shepstone, UGU, District, KwaZulu-Natal. The study will consist of self-administered questionnaires whereby participants will voluntarily complete questionnaires. The duration of participation to enter and complete the interview in this study should you accept participation is expected to be 15minutes.

This study envisages to, investigate the extent of HIV testing and treatment adherence among men, which will subsequently lead to proposed strategies to address the problem of "missing men". The study aims to increase awareness into HIV testing and treatment adherence among males in order to contribute to the UNAIDS 90-90-90 target where males are lagging behind females.

Only authorized personnel will have access to data. Participation is voluntary and the participant may choose to leave the study/interview at any given time without further consequence.

This study has been ethically reviewed and approved by the UKZN Biomedical research Ethics Committee (approval number BE290/19).
Please forward any queries or concerns about the study to supervisor Prof. P Naidoo, email: naidoopj@ukzn.ac.za; Tel: 031 260 7030 or the postgraduate office, Thulisile Khumalo email: khumalot@ukzn.ac.za, Tel: 031 260 7906.

Kind Regards
Yumna Cassim Salejee (y.moosa26@gmail.com)

Appendix 8: Informed consent form

CONSENT FORM TO PARTICIPATE IN A RESEARCH STUDY

Researcher: Yumna Cassim Salejee (y.moosa26@gmail.com)
Aim of research: To investigate the knowledge, attitudes, perceptions and practices among adult males visiting healthcare facilities in the UGU District towards HIV testing.

This consent form may contain words or information that you do not understand. Please express any queries or ask for assistance from the researcher should you require such.

You, as an individual, are being asked to participate in a research study. The research is being conducted to investigate HIV testing and treatment adherence among males in health facilities in Port Shepstone, UGU District, KwaZulu-Natal, South Africa.
You, as an individual, have the right to be informed about the study procedures so that you can decide whether you want to consent to participation. Your participation is **voluntary- you do not have to participate in the study if you do not want to. Furthermore, you are free to leave the study at any point without further consequence.**

All information gathered by this study will remain confidential, and will not be shared with unaffiliated personnel that could identify you, as an individual. The information will be safeguarded and only authorized personnel will have access to it.

This research study requires you fill in background information on yourself and then answer a series of questions. Each question has multiple responses of which you will be asked to choose one, the one you believe is most correct/describes your immediate response the best.

Please contact the researcher regarding, your rights as a participant in this research and/or concerns about the study should you have any.
RESEARCHER:
Yumna Cassim Salejee (214512913) – y.moosa26@gmail.com - 0769802626
BIOMEDICAL RESEARCH ETHICS ADMINISTRATION (UKZN)
Research Office, Westville Campus
Tel: 27 31 2604769 - Fax: 27 31 2604609
Email: BREC@ukzn.ac.za

I have read this consent form and my questions have been addressed. My signature hereunder indicates that I want to voluntarily participate in this study and I accept that
I may withdraw from this study at any given time without suffering any penalties or prejudice.

Participant Date