

**KNOWLEDGE, ATTITUDE AND PRACTICES OF DOCTORS  
TOWARDS HIV TESTING AND COUNSELLING IN A  
PRIVATE TERTIARY HOSPITAL IN KENYA**

By

Dr Linnet Atieno Juma

W64/64530/2010

**SUPERVISORS**

Dr. David Bukusi

Head of VCT and HIV Prevention, KNH. /Hon Lecturer, Department of  
Psychiatry, University of Nairobi.

Prof. James Machoki M'Imunya

Director, Institute of Tropical and Infectious diseases (UNITID), University of  
Nairobi.

Dr. Jacob Shundi Shabani

Interim Chair, Family Medicine Department. Assistant Professor of Family  
Medicine, Aga Khan University

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## DECLARATION

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it contains no material previously published or produced by another party in fulfilment, partial or otherwise, of any other degree or diploma at another University or institute of higher learning, except where due acknowledgement is made in the text.

Signature:.....

Date:.....

Dr. Linnet Juma

W64/64530/2010

Email; [jumalinet@gmail.com](mailto:jumalinet@gmail.com)

Tel: 0722838778

This thesis has been submitted for examination with the approval of my appointed supervisors:

- 1) Dr. David Bukusi

Head of VCT and HIV Prevention, KNH. /Hon Lecturer, Department of Psychiatry,  
University of Nairobi.

P.O Box 20723-00202 Nairobi

Signature *David E. Bukusi*

Date: 11/11/2018

- 2) Prof. James Machoki M'Imunya

Director, Institute of Tropical and Infectious diseases (UNITID), University of Nairobi.

P.O Box 19676-00202 Nairobi

Signature .....

Date .....

- 3) Dr. Jacob Shundi Shabani

Interim Chair, Family Medicine Department. Assistant Professor of Family Medicine.

Aga Khan University

P.O Box 30270-00100

Signature 

Date 11/11/2018

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**TABLE OF CONTENTS**

**DECLARATION..... ii**

**ACKNOWLEDGEMENTS ..... iii**

**TABLE OF CONTENTS ..... iv**

**LIST OF TABLES ..... vii**

**LIST OF FIGURES ..... viii**

**ACRONYMS AND ABBREVIATIONS..... ix**

**DEFINITION OF TERMS..... x**

**ABSTRACT..... xi**

**CHAPTER ONE:INTRODUCTION ..... 1**

1.1 Background of the Study ..... 1

1.2 Statement of the Problem..... 3

1.3 Significance of the Study ..... 4

1.4 Justification ..... 5

1.5 Research Questions ..... 6

1.6 Broad Objective ..... 6

    1.6.1 Specific Objectives ..... 6

**CHAPTER TWO:LITERATURE REVIEW..... 8**

2.1 Introduction..... 8

2.2 Elements of Counseling in HIV Testing ..... 9

    2.2.1 Pre-test Counseling ..... 9

    2.2.2 HIV Testing ..... 10

    2.2.3 Post-test Counseling..... 11

2.3 Attitude, Knowledge and Practices of Providers towards HIV Testing and Counseling .....	12
2.4 Challenges of Providers in HIV Testing and Counseling .....	17
2.5 Providers Offering HIV Testing and Counseling .....	19
<b>CHAPTER THREE: METHODOLOGY .....</b>	<b>22</b>
3.1 Study Design .....	22
3.2 Study Site .....	22
3.3 Study Population .....	23
3.3.1 Inclusion Criteria .....	23
3.3.2 Exclusion Criteria .....	24
3.4 Sample Size Determination .....	24
3.5 Sampling Procedure .....	25
3.6 Study Tools .....	25
3.7 Data Collection Methods .....	25
3.8 Validity and Reliability of the Study Tools .....	26
3.9 Data Management .....	27
3.10 Data Analysis .....	27
3.11 Ethical Clearance/Considerations .....	28
RESULTS .....	29
DISCUSSION .....	39
CONCLUSIONS .....	44
RECOMMENDATIONS .....	44
STUDY LIMITATIONS .....	45

<b>REFERENCES</b> .....	46
<b>APPENDICES</b> .....	51
APPENDIX 1: QUESTIONNAIRE .....	51
APPENDIX 2: KEY INFORMANT INTERVIEW: DOCTORS AT PRIVATE TERTIARY HOSPITAL .....	59
APPENDIX 3: STUDY PARTICIPATION CONSENT FORM .....	61
APPENDIX 4: ETHICAL LETTER.....	64

## LIST OF TABLES

Table 1: Demographic characteristics.....	29
Table 2: Proportion of doctors offering HIV testing services.....	31
Table 3: Knowledge of HIV testing.....	33
Table 4: Attitudes and practices towards delivery of HIV testing services .....	35
Table 5: Factors associated with delivery of HIV testing services .....	36
Table 6: Key informants' responses about delivery of HIV testing services in the hospital.....	37

## **LIST OF FIGURES**

Figure 1: Duration of practice and as a doctor in the hospital .....	30
Figure 2: Departments where doctors were interviewed .....	30
Figure 3: Core principles during provision of HIV testing and counseling.....	34
Attitudes and practices towards delivery of counseling in HIV testing services.....	34



## **ACRONYMS AND ABBREVIATIONS**

**HCT:** HIV Counselling and Testing

**HIV:** Human Immunodeficiency Virus

**CITC:** Client Initiated Counselling and Testing

**SOPs:** Standard Operating Procedures

**CCC:** Comprehensive Care Clinic

**PITC:** Provider Initiated Counselling and Testing

**UNAIDS:** Joint United Nations Programme on HIV/AIDS

**AIDS:** Acquired Immunodeficiency Syndrome

**ART:** Anti-retroviral treatment

**HTS:** HIV Testing and Services

**NASCOP:** National AIDS and STI Control Programme

**PITC:** Provider-Initiated Testing and Counselling

**USA:** United States of America

**STD:** Sexually Transmitted Disease

**ARV:** Antiretroviral drug

## DEFINITION OF TERMS

**Counselling:** A confidential interaction between the HIV testing and counselling service provider and the client aimed at allowing for informed decisions and benefit from HIV service package by the client. It can be conducted by a trained counsellor or health worker who helps the client deal with any negative thoughts or feelings they have and make informed decisions.

**Pandemic:** An epidemic of infectious disease that has spread through human populations across a large region; for instance multiple continents, or even worldwide.

**Prevalence:** The proportion of a population found to have a disease or a risk factor such as smoking or seat-belt use. In this case the proportion of a population having HIV/AIDS.

**Mortality:** The measure of the number of deaths (in general, or due to a specific cause) in a particular population, scaled to the size of that population, per unit of time.

**Stigma:** This refers to a mark of disgrace that sets a person apart. When a person is labelled by their illness they are seen as part of a stereotyped group. Negative attitudes create prejudice which leads to negative actions and discrimination.

**Incidence:** The number of new cases of a condition, symptom, death, or injury that develop during a specific time period, such as a year. Incidence shows the likelihood that a person in that population will be affected by the condition.

## ABSTRACT

**Background:** Counselling is one of the core principles in HIV testing service package which may be provided as a part of general healthcare or as a specific specialized service. With involvement of doctors, there is an opportunity to increase uptake of HIV testing services in the private sector.

**Objective:** To establish knowledge, attitude and practices of doctors towards HIV counselling and testing for patients at the private tertiary Hospital in Kenya.

**Method:** This was a cross-sectional study conducted among doctors in private tertiary hospital. Quantitative data was collected by pretested online questionnaires whilst in depth interviews were done with key informants. A consecutive sampling was done to obtain 100 doctors from amongst residents and senior house officers working in the hospital. Data storage and protection was done in Microsoft Access 2013. Data was analysed using statistical software SPSS version 21.0. The quantitative analysis was done using descriptive statistics and the results presented using graphs and figures. Inferential statistics were based on cross tabulations (chi square statistic). The qualitative data was analysed based on patterns or themes identified and related to the study objectives.

**Results:** The doctors interviewed were 57% females, 60% were aged between 31 and 40 years old, 66% had undergraduate qualification and 68% were senior house officers. Most (80%) of the doctors reported offering HIV testing services to their patients though 63% had never attended any training in counseling. Awareness of HIV testing guidelines was low at 16%. The challenges in offering HIV testing services included lack of training (87%) and time (77%) among doctors. There was a high likelihood to offer HIV testing services among doctors who were older than 30 years [OR 3.2 (95% CI 1.2-8.8),  $p=0.023$ ] and those who had worked for more than 1 year in the hospital; 1 -4 years [OR 3.8 (95% CI 1.2-11.5),  $p=0.021$ ] and 5 years [OR 10.8 (95% CI 2.1-56.3),  $p=0.005$ ].

**Conclusions:** A high proportion of doctors in private hospital provided HIV testing services though there was a widespread lack of training and inaccessibility to national guidelines. Most of the testing was guided by the presenting symptoms of patients.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) remains a public health concern having claimed more than 25 million lives over the past three decades (NACC, 2015). In the year 2015, approximately 37 million had been infected with HIV worldwide. Sub-Saharan Africa is worst hit with 69% of all people with HIV living in the region. In Sub-Saharan Africa Kenya has the third largest number of individuals living with HIV estimated at 1.6 million by end of 2014 (NACC, 2015).

Identification of HIV infected individuals is a crucial step in managing the disease in the population. HIV testing and counselling plays a key role in identification process and it has been an integral part of HIV prevention and care programs in Kenya and around the world. HIV testing coverage has been on the increase in Kenya, estimated at 85% in 2014 (KDHS, 2014) up from 34.3% in 2007 (KAIS, 2012). Underutilization of HIV testing is a major obstacle to effective implementation of HIV prevention and treatment programs (Silvestri *et al.*, 2011). Acceptance rate of HIV testing has been shown to be as high as 91.5% of those offered tests (KAIS, 2012). However, approximately 80% HIV-infected adults in Kenya may not be aware of their serostatus. In addition, fewer people receive such testing and counselling annually (Silvestri *et al.*, 2011). Counselling in HIV testing plays an integral part in acceptability of HIV tests and preparation of individuals to cope with outcomes of the tests.

Prompt diagnosis of people living with HIV infection through counselling is critical to providing treatment, care and appropriate referral linkages (Topp *et al.*, 2012). The new HIV testing services guidelines launched in Kenya in 2015 recommend the use of two approaches, namely client-initiated testing and counselling (CITC) and provider-initiated testing and counselling (PITC) to identify HIV infected persons. CITC entails the client seeking and initiating HIV testing and counselling service either in community or health facility settings based on their own volition, while PITC refers to HIV testing offered by a service provider to clients within a facility, regardless of the reason for the visit in an “opt-out” option based on informed choice (NASCOP, 2015). Before the introduction of complementing approaches of HIV testing, awareness of HIV status was uncommon with the majority of people being diagnosed towards the disease’s end stage. Voluntary Counselling and Testing (VCT) was regarded as insufficient for raising people’s awareness of their HIV status hence the development of PITC (Baggaley *et al.*, 2012).

A sub-Saharan systematic review showed that PITC policies provide for interventions that effectively identify many previously undiagnosed individuals. These policies provide a way to provide an intervention that will assist identifying HIV-positive individuals among patients who already access health services without having to motivate them to attend a health facility to be tested (Roura *et al.*, 2013). PITC has been reported as acceptable by ANC attendees in various studies. A review of these studies suggested that in ANC settings, PITC implementation as a standard component of clinical care resulted in more opportunities to test pregnant women for HIV (Hensen *et al.*, (2012). In 42 African

countries, PITC is recommended in antenatal clinics, as a universal coverage of every adult and also coverage that includes tuberculosis clinics and patients (Baggaley *et al.*, 2012).

Assessing health workers' perspectives towards testing is important because it gives a comprehensive assessment of how HIV testing is accepted (Chersich *et al.*, 2008). Doctors are part of the healthcare workers that play an integral part in HIV prevention and treatment. They are sometimes involved in providing HIV testing services in which counselling is one of the core principles. Both PITC and CITC can be provided by doctors in hospital setups. The present study assesses the knowledge, attitude and practices of doctors towards HIV counselling and testing in a private tertiary hospital.

## **1.2 Statement of the Problem**

Counselling is an integral part of HIV testing and should be offered to all those seeking to know their HIV status. All those involved in HIV testing and counselling should have training in what is expected in the process and be able to have confidence in delivering the results (NASCO, 2015). HIV testing and counselling is a major entry point to HIV prevention, treatment and care. The HIV testing service package is an integral component in the overall strategies to reduce the HIV prevalence and mortality rate in the country. There are few studies that have been done but there have been attempts to determine knowledge and practices of doctors towards HIV counselling in private sector (Tao *et al.*, 2003; Massiah *et al.*, 2004; Vinita Datyne *et al.*, 2006). A study among physicians to explore the level of provision of counselling while offering STD and HIV testing at physicians' offices, hospitals or outpatient departments failed to outline the challenges

related to counselling and interventions (Tao *et al.*, 2003). Another study revealed that 76% of the doctors interviewed lacked knowledge of HIV counselling (Massiah *et al.*, 2004). In addition, a study in India focused on the private practitioners' communication with patients around HIV testing and focused on the guidelines of HIV testing and counselling such as consent and confidentiality (Vinita Datyne *et al.*, 2006). This current study is designed to investigate the knowledge, attitude and practices of physicians towards counselling in HIV testing in private health facilities.

### **1.3 Significance of the Study**

In the fight against HIV, knowledge opens the door to better health. Individuals with knowledge of their own HIV status are empowered in the management of their own health. HIV testing and counselling plays a critical role in enhancing the awareness of HIV status. Doctors are part of the health worker fraternity that plays an important role in the prevention, treatment and care of HIV infection starting with provision of HIV testing and counselling. Counselling provides knowledge and information on preventive measures, options in referral for treatment and opportunities for enhancing adherence to treatment.

There are gaps that include availability and access of HIV testing and counselling, the guaranteed confidentiality of HIV test results and the need for interventions that support patients through the process of HIV disclosure. Doctors seem to hardly participate in HIV testing and counselling yet they are among the key providers of HIV care (Kathline *et al.*, 2013). Some of the factors hindering participation mentioned in a previous study include; time constraints, lack of certificate to provide counselling, discomfort discussing sexual

history and risky behaviour with patients (Bokhour *et al.*, 2009). Therefore, identifying the current situation among doctors with regards to HIV testing and counselling will be the initial step towards addressing lack of participation. The findings of this study will form a baseline for implementation of interventions that would support doctors to provide HIV testing and counselling. Increased knowledge, change of attitudes and improved good practices towards HIV testing and counselling will have an end result of enhancing HIV/AIDS management through early initiation of treatment and improving adherence to ARVs. In addition, it will contribute to reduced stigma, complications and HIV-related mortality.

#### **1.4 Justification**

Recent statistics in Kenya show that more than a half of the health care facilities are privately-owned. About 45% of Kenyans in the lower wealth quintile and 61% in the highest quintile utilize the private health facilities for seeking health care services. About half of all private health facilities offer HIV counselling and testing services and about 40 % of men and 25 % of women were reported in 2012 to have received their HIV test through the private sector (Banke et al, 2014). Doctors are part of the group of health workers that provide counselling during HIV testing. There is an opportunity to increase uptake of HIV testing services in the private sector by ensuring doctors offer the tests to the clients in accordance to the guidelines of HIV testing service package (NASCO, 2015). Doctors face challenges while discharging their duties of investigating and taking care of patients' health which include lack of confidence, being too busy, burnout, inadequate resources and lack of training. Further, poor attitudes towards HIV testing and



counselling might also hinder them from offering the services to their clients. Therefore, this study sought to identify the factors related to knowledge, attitudes and practices that exist in the provision of counselling services during HIV testing by doctors at a private tertiary hospital.

### **1.5 Research Questions**

- i. What are the knowledge levels, attitudes and practices in HIV testing and counselling among doctors in the private tertiary hospital?
- ii. What are the challenges of counselling in HIV testing in the private tertiary hospital?
- iii. What is the proportion of doctors from the study population offering HIV testing and counseling at the private tertiary hospital?

### **1.6 Broad Objective**

To establish knowledge, attitude, practices and challenges of doctors in the private tertiary hospital towards HIV testing and counselling.

#### **1.6.1 Specific Objectives**

1. To determine the knowledge, attitudes and practices with regard to testing counselling in HIV testing among doctors at the private tertiary hospital in Nairobi.
2. To determine the challenges of counselling in HIV testing in the private tertiary hospital.

3. To determine the proportion of doctors from the study population offering HIV counselling and testing in the private tertiary hospital.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

In the fight of AIDS epidemic, UNAIDS has put forward a 90-90-90 strategy in order to effectively curb HIV infection in the world by the year 2020. The strategy states: 90% of all people living with HIV infection will know their HIV status; 90% of all people living with HIV will have sustained access to ART treatment and; 90% people living with HIV on ART treatment will have viral suppression (UNAIDS 2014).

HIV counselling and testing is an important strategy in creating the awareness on HIV/AIDS (UNAIDS 2014). The Kenya Aids Strategic Framework (NACC, 2014), has come up with several objectives to manage HIV, these include: reduction of new HIV infections by 75%, reduction of AIDS related mortality by 25%, reduction of HIV stigma by 50% and increase of domestic financing of HIV response to 50% (Kenya Aids Strategic Framework, 2014). In the reduction of new HIV infection and stigma, one of the tools towards achieving the objectives is counselling. It would strengthen awareness on risk reduction and drug adherence to reduce mortality.

Expanding HIV testing aims at early detection of HIV resulting in improved access to prevention, care and treatment services (Leon *et al.*, 2014). Testing can be provider-initiated HIV testing and counselling (PITC) or client-initiated testing and counselling (CITC) (NASCO, 2015). The former is based on information giving while the latter includes individualized client-centred counselling (Wanyenze *et al.*, 2013). Client-centred

counselling focuses on the needs, circumstances and behaviours of each client. This is a process that entails active listening, providing assistance and support leading to knowing a client specific prevention needs. Client-centred counselling is vital since it changes the perspective of looking at counselling from a solely educative point of view to a focus on the client's needs and circumstances (Palmer and Ricket, 2011). However, within PITC there is reduced time for interaction and information to be given so as to enable integration within busy health facilities (Wanyenze *et al.*, 2013). Provider-initiated HIV counselling and testing have reported high levels of acceptance, with more than 84% of eligible individuals agreeing to participate when offered HIV Testing Service (Hayter, 2012).

## **2.2 Elements of Counseling in HIV Testing**

Counselling in general is defined as a professional relationship that empowers diverse individuals, families and groups to accomplish mental health, wellness, educational and career goals (Kaplan *et al.*, 2013). In the HIV testing service package (HTS), counselling is one of the five core principles. The others include consent, confidentiality, correct results and connection. The Testing Service package in HIV includes pre-test counselling, testing and post-test counselling, referral and linkage. (NASCOP, 2015).

### **2.2.1 Pre-test Counseling**

The pre-test counselling involves giving information to the client or patient on HIV, risk assessment, consent and test preparation. The pre-test counselling can be client-initiated testing and counselling (CITC) or provider-initiated testing and counselling (PITC). For CITC, pretesting enables an individual to understand the benefits of knowing one's status,

to know importance of couple testing, to prepare and consent for testing for HIV, and to understand the HIV process and the risks that may be obtained as a result of HIV infections. Through CITC, clients are in a position to understand the importance of disclosure to partners and other family members. They can also know the post-test services that include referrals (NASCO, 2015).

For PITC, pretesting enables providers to give information for HIV testing, to give explanation for HIV testing process, to seek informed consent from client for HIV test, to discuss with the client the importance of disclosure to health providers and to share with the client on the available post-testing services.

### **2.2.2 HIV Testing**

HIV testing is done after pre-test counselling using recommended test kits. It has two major goals which involves conducting an HIV test according to the algorithm provided by the National guidelines and providing correct same day session HIV test results.

It is recommended that HIV test be performed as per national testing algorithm and strategy. It should be also conducted in relation to an approved HIV test standard operating procedures (SOPs). Every client that goes for HIV test should be encouraged to leave the hospital or testing facility with HIV test results provided in the same session. In some specific situations such as lack of rapport with the client or confirmation of positive results, a client may then be referred to a different HTS provider or for further lab test. Alternatively, Specimen from a client may be extracted and taken for lab test. Irrespective of where HIV testing is conducted, it is important to avail HIV results to the clients.

It is important to note that that all individuals with positive and discrepant results are referred to a Comprehensive Care Clinic (CCC) for retesting. If the confirmatory results are not in agreement with CCC results, the samples of the clients can be taken to the laboratory for retest. In this case a discrete and separate assay from the screening and confirmatory tests will be used.

### **2.2.3 Post-test Counseling**

Post-test counselling covers the counselling provided usually immediately after HIV test. It involves giving information on how to: reduce risk, interpret positive or negative test results, communicate and disclose to partners. Those who are diagnosed to be HIV-positive are referred for HIV care and treatment (NASCO, 2015). In positive results, the process involves enrolment to care and treatment, risk reduction, positive living counselling and partner/family testing. Counselling on how to have safer sex is given to individuals who are HIV infected to prevent further transmission (Diprose *et al.*, 2000). In negative results, post-test counselling involves risk reduction plan, linkage to other HIV prevention initiatives and retesting where applicable (NASCO, 2015). HIV prevention or risk reduction counselling in private health facility is an important component of behavioural intervention especially since there is no effective vaccine or a curative treatment. Results have showed that men who received the full information motivation behaviour (IMB) model had greater risk reduction skills (Chen *et al.*, 2001).

When HIV counselling and testing is offered on a routine basis in PITC it results in reduced stigma and discrimination, identification of previously undiagnosed HIV infection,

opportunity for women to use VCT without need for permission from male partners and early referral of clients to HIV prevention, treatment and care services (Matovu *et al.*, 2007). Group counselling may be conducted during general health talks in antenatal and general outpatient clinics. Healthcare providers also reported that counselling and testing for HIV occurred during regular health talks and counselling was usually done by lay counsellors (Abiola *et al.*, 2016). Doctors seem not to be too involved in the actual counselling and testing for HIV and less patients are being offered the HTS (Wong *et al.*, 2013). In a study done to know the preferred healthcare provider for PITC, it was found that patients preferred doctors to nurses to perform the HIV testing services (Janni *et al.*, 2013).

### **2.3 Attitude, Knowledge and Practices of Providers towards HIV Testing and Counseling**

A review of policies, guidelines or strategic plans on PITC from 52 African countries reported that the PITC policy was adopted in 42 countries. A majority of PITC recipients found it acceptable (Baggaley *et al.*, 2012). Nurse participants in a Kenyan study noted that the routine offer of HIV test made it just like any other chronic disease making it easier for both staff and patients to talk about HIV (Evans *et al.*, 2011).

In a previous study by Population Council Kenya (2011) on health-care providers' there was low knowledge regarding HIV/AIDS especially among private health care facilities. Transmission routes is one area with low knowledge. For example, few could correctly rank the risk of transmission of five different types of sexual contacts (Lowenfels *et al.*,

2003; Kalibala *et al.*, 2014). In contrast, other studies in developed countries found high knowledge among doctors (Lowenfels *et al.*, 2003). However, in the United Kingdom, nurses who engaged in the management of HIV/AIDS cases showed insufficient knowledge (Hayter, 2011). Inadequate knowledge of PITC (35%) was also reported by providers in a Tanzanian study (Kapologwe *et al.*, 2011). A different outcome was reported in a Kenyan study where nurse participants were highly knowledgeable about the PITC policy and supported its rationale (Evans *et al.*, 2011).

A longitudinal study in South Africa using a variety of qualitative data collection methods reported that factors that promoted PITC interventions becoming embedded in practice included strong senior leadership, implementation support, appropriate accountability mechanisms, an intervention design that was responsive to service needs and congruent with professional practice, positive staff and patient perceptions and a responsive organizational context (Leon *et al.*, 2013). Another South African study reported an uptake of HIV test under PITC with more patients feeling that providers had answered their questions on HIV under the PITC model in comparison to the VCT referral model. Almost all the providers thought that offer of the test by a patient's clinical provider would increase the likelihood of its uptake (Dalal *et al.*, 2011).

PITC can be offered in different clinics and to different categories of people. For example, in a study in New Zealand, respondents (52%) supported antenatal screening program because detection of HIV was important to both mother and baby. Providers had a



perception of playing an important role in HIV testing and were comfortable performing risk assessment (Chambers *et al.*, 2001).

In a Kenyan study, HIV testing and counseling was offered to women taking their children for immunization or acute care services. Provider-initiated testing was viewed as acceptable. This is because 95.7% of the women said that regular testing should be offered in child health services with 99.2% preferring testing during antenatal care. Participants not willing to participate in the study did not mention the HIV testing and counselling procedures as the reason. Uptake of postpartum testing was 83.2% (Chersich *et al.*, 2008). In general, evidence from a review of African countries shows the introduction of PITC in antenatal clinics is associated with an increase in HIV testing rates (Baggaley *et al.*, 2012). In line with this, data from a review of studies showed that pre-test information was provided to between 91.5% and 100% and post-test counselling to between 82% and 99.8% pregnant women. Linkage to ARVs for prevention of mother to child transmission (PMTCT) ranged from 53.7% to 77.2% (Hensen *et al.*, 2012).

However, a few healthcare providers in focus groups in a study done in South Africa reported that children should not be involved in HIV counselling and testing (HCT). This was because they did not think that the children would understand the information given during counselling and this would cause stress. They found it unnecessary to test children if their parents were HIV negative deeming it a waste of resources. Developing guidance and policies with respect to obtaining consent, the need to recruit more health workers and to address structural issues in society so as to result in a reduction of stigma and

discrimination were key priority issues identified by majority of the participants (Abiola *et al.*, 2016).

PITC has also been shown to be successful in increasing the proportion of new STI patients tested for HIV and has delivered consistent performance across clinics (Leon *et al.*, 2010). In a South African study done on patients seeking STI treatment, they were either offered an HIV test as part of the STI consultation or not automatically offered one. Those who were offered HIV testing were significantly higher than those who received the test. (Leon *et al.*, 2014).

Various factors and views can affect acceptance of HIV testing. In a Ugandan study, 94.5% of the clients in VCT were informed by providers that their results would be kept confidential compared to 85.3% in PITC. In the VCT, 79.9% felt that confidentiality had been maintained with 73.1% thought confidentiality was important while in PITC 71.7% felt confidentiality had been maintained and 67.6% agreeing it was important. Though a majority of respondents in both VCT and PITC received pre-test counselling, PITC respondents were reported to be less likely to receive post-test counselling information than VCT respondents. When asked if they had been given an opportunity to ask questions, 96.1% in VCT had the chance compared to 71.5% in PITC. Within the PITC, antenatal patients reported receiving more information compared to inpatients and outpatients. Individuals in PITC who received results and had been able to ask questions were more likely to find counselling sufficient. Counselling was reported as being sufficient among those in VCT as compared to those in PITC (Wanyenze *et al.*, 2013).

Other factors affecting testing uptake were reported in a Zambian study that focused on the utility of PITC services for identifying clients with early-stage HIV-related disease as compared to VCT. The study concluded that PITC was useful in identifying individuals who were unwilling or unable to seek testing independently. It also reported that among those initiated on antiretroviral therapy (ART), PITC clients had lower odds of initiating treatment within four weeks of enrolment into HIV care and significantly lower odds of retention in care at six months as opposed to the VCT. Men had more advanced HIV-related diseases than women in the PITC cohort (Topp *et al.*, 2012).

A pharmacist-provided HIV testing model in the United States of America (USA) reported favourable perceptions of the HIV testing experience from both participants and pharmacists. The testing services required a median time of 30 (range 20-90) minutes. Of this time, 60% was spent on counselling, test set-up and sample collection. Majority of those tested were women (59.4%) and single (89.7%). Most of the respondents (63.7%) indicated that their willingness to pay would depend on the cost (Darin *et al.*, 2015).

Higher socioeconomic status was associated with the likelihood of testing at VCT rather than other facilities or not testing in an African study. There were no significant differences in socioeconomic characteristic between those tested through PITC and those not tested (Obermeyer *et al.*, 2013). However, a Kenyan study in Nairobi informal settlements showed low uptake of HIV testing. It reported that more participants had been tested for HIV through client-initiated testing than PITC. Individuals who were 20 to 35 years of age,

female, married and with no formal education tended to have been tested through PITC compared to other groups (Ziraba *et al.*, 2011).

#### **2.4 Challenges of Providers in HIV Testing and Counseling**

There are various challenges to testing and counselling. The reluctance to be tested among women, lack of time, skills, knowledge and support services, and low rates of HIV in the community were reported as barriers in a New Zealand study (Chambers *et al.*, 2001).

A systematic review of PITC in sub-Saharan Africa showed that the proportion of patients offered an HIV test was low. The review showed that there was a poor link between those testing positive and the follow-up assessment and antiretroviral treatment. Challenges encountered included areas such as logistics, data systems, human resources and management (Roura *et al.*, 2013).

Implementation of PITC by doctors has anticipated challenges of increasing workload among this cadre of healthcare workers. A review among nurses showed that PITC greatly increased nurses' workload and work-related stress thus requiring support to deal with complex moral and ethical issues (Evans *et al.*, 2009, Evans *et al.*, 2016). Health system constraints such as lack of staff and lack of space meant that nurses did not have time to provide adequate counselling (Evans *et al.*, 2009). Lack of adequate staff members resulted in professional nurses struggling with busy workloads resulting in low work quality (Abiola *et al.*, 2016). Focus group discussions and in-depth interviews carried out in Kenya identified a number of similar challenges. This lack of staff, lack of resources and lack of time led to patients being kept waiting, being sent away untested or being dealt with

abruptly. Some participants were not convinced in keeping to the PITC guideline to minimize pre-test discussions in order to expedite client through-put. This was because they thought that patients required in-depth pre-test discussions to help them overcome their fears and give consent (Evans *et al.*, 2011). In addition to test kit shortages and inadequate number of HIV counsellors, other challenges in delivering PITC included insufficient physical space and inability to test in inpatient units during weekends (Ahmed *et al.*, 2016).

Providers from outpatient settings felt that routine testing created a target- approach rather than client-centred approach to HIV care and this would compromise the quality of care. Another challenge mentioned was keeping confidentiality when others were potentially at risk, for example the spouse. Working with HIV was also mentioned as exerting an emotional toll especially when those tested were found to be HIV-positive (Evans *et al.*, 2011).

Barriers identified to HCT among those providing healthcare to children in focus group discussions in South Africa included refusal to consent, work overload, not being encouraged and poor record keeping (Abiola *et al.*, 2016). Providers mentioned similar barriers in another South African study (Dalal *et al.*, 2011).

PITC was not efficiently implemented because nurses struggled with: poor sequencing and integration of HIV and STI tasks, a focus on HIV education, presence of tension with a patient-centered communication style and inadequate training on how to deal with

operational challenges as reported in a longitudinal South African study. The result was longer consultation times which could result in low test coverage (Leon *et al.*, 2013). The long wait time for pre- and post-test counseling can also be the major reason for test refusal (Silvestri *et al.*, 2011). An average length of HIV testing and counselling of 40 minutes and a wait of an average time of 40 minutes to receive HIV results was reported by providers (Ahmed *et al.*, 2016).

A Kenyan study, individuals in PITC who received results they did not expect needed more support than other respondents. However, giving clients' time to ask questions in both VCT and PITC resulted in the increased likelihood of finding counselling adequate (Wanyenze *et al.*, 2013).

## **2.5 Providers Offering HIV Testing and Counseling**

In general, testing for HIV is provided by trained HIV lay counsellors through the VCT approach in which patients self-initiate or are medically referred for HIV pre- and post-testing counselling. In clinics with the PITC interventions, nurses assess test readiness and then the patient is linked with the HIV lay counsellor for the test results and post-test counselling (Leon *et al.*, 2014).

However, counselling in HIV testing can be provided by all qualified medical personnel from healthcare training institutions and non-medical HIV testing service providers who have undergone the HIV testing training based on any of the NASCOP approved curriculum according to the National guidelines for HIV testing services for 2015. The

qualified medical personnel in private sector include doctors, laboratory technicians and nurses.

A study in New Zealand on maternity care providers' attitudes and practices reported that 66% of respondents assessed risk of HIV in less than 10% of patients (Chambers *et al.*, 2001). Twenty three providers in a South African study tested 2 patients per day (Dalal *et al.*, 2011). While in a Tanzanian study, 67% providers reported to have ever offered PITC services. Participants who had attended special training on PITC were 6-fold more likely to offer PITC services than those who had not (Kapologwe *et al.*, 2011).

In a study done in Zambia, PITC implementation was highly acceptable producing a three-fold increase in patients tested per practitioner compared to standard non-PITC. The number of HIV-infected persons detected per practitioner was more than three-fold. Pre- and post-test counselling was provided according to WHO guidelines (Silvestri *et al.*, 2011). A review of PITC practices in Malawi reported that providers mostly practiced symptom-based PITC. Antenatal clinics (92%) and maternity wards (66%) reported widespread use of routine opt-out PITC (Ahmed *et al.*, 2016).

Training of health providers including doctors on HTS will expand the opportunities for patients to access the services and therefore getting to know their HIV status. Trained health providers with the necessary facilities and motivation to offer the service will help avert the high number of missed opportunities which is very common especially in private health facilities. Building the capacity of all cadres of health providers will assist in scaling up the provision of HTS by ensuring every health provider is able to conduct counselling,

offer HIV tests and deliver correct HIV results to the patients. In addition, this will bring the benefit of ensuring proper facilitation of referrals and linkages for continued care and treatment for the HIV infected patients.



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Study Design**

This study utilized a cross-sectional design to perform exploratory analysis of knowledge, attitudes and practices in the context of HIV testing and counselling of patients accessing health care services in the hospital. A qualitative approach using key informant interviews was done to give in depth information about the opportunities and challenges that influence the extent of implementation of HTS in the private tertiary hospital.

#### **3.2 Study Site**

This study was conducted at the private tertiary hospital main campus and its clinic facilities in Nairobi County. The hospital is a 254-bed facility that comprises of departments that include accident and emergency, children's hospital, dental clinics, department of medicine, pathology and laboratory, physiotherapy, radiology, surgery and women services. The hospital offers general medical services, specialist clinics and high-tech diagnostic services. The services provided to patients include: surgery, internal medicine, pediatrics, obstetrics and gynecology, accident and emergency, diagnostics, as well as heart and cancer center services. The hospital is a teaching site for postgraduate programs in medicine and advanced studies in nursing.

There is a special clinic called the Communicable Disease Clinic (CDC) that deals with HIV and TB patients (who have already been diagnosed) for follow up and it is managed by consultants. HIV Testing and counseling services are offered by medical officers,

residents (doctors in postgraduate training) and consultants. Mostly the medical doctors and resident doctors offer the HIV Testing and counseling services since they are mainly the first to see patients before referring to the consultants.

### **3.3 Study Population**

The study was conducted among doctors working at the private tertiary hospital in Nairobi County. There are different categories of doctors at the institution, these include medical interns (recently graduated from medical school and doing internship for one year), medical doctors (general practitioners have already completed internship), residents (doctors pursuing post-graduate specialist training) and consultants (completed masters program and practicing) The doctors of interest were the medical officers and residents since they are the first doctors to interact with patients thus providing HTS. The hospital has a total of 134 doctors working as medical doctors and residents. The doctors were recruited into the study based on the following eligibility criteria.

#### **3.3.1 Inclusion Criteria**

- Doctors working part time or full time at the private tertiary hospital facilities in Nairobi County.
- General practitioners and those doctors undertaking clinical postgraduate training. This was drawn from Anaesthesia, Pathology, Medicine, paediatrics, Surgery, Family Medicine and Obstetrics and Gynaecology.
- Qualitative arm participants will include those doctors who are in-charge of departments or units.

- Doctors consenting to participate in the study

### 3.3.2 Exclusion Criteria

- Doctors who were away on leave during the time of the study.
- A blind doctor who may not be able to access the online survey.

### 3.4 Sample Size Determination

A previous study showed that 40% of men and 25% of women are tested for HIV in the private sector facilities (Banke et al, 2014). Therefore, the proportion of doctors offering HIV testing in private facilities is assumed to be equal to the average proportion of 32% of patients offered HIV testing in private health facilities. Also, total population of doctors of 134 in the private tertiary hospital hence the sample size will be calculated using the following formula.

$$N = \frac{NZ^2 \times p(1-p)}{d^2}$$

$$d^2 (N-1) + Z^2 p(1-p)$$

Where; n = sample size required+

$$N = \text{Size of target population} = 134$$

$$Z = \text{standard normal for 95\% confidence interval} = 1.96$$

$$p = \text{Proportion of patients offered HIV test in private facilities} = 32\% \text{ (Banke et al, 2014)}$$

$$d = \text{Margin of error} = 5\%$$

$$\text{Sample size, } n = 96$$

Therefore, a minimum of 96 doctors were sampled to estimate HIV testing at 5% precision error. To correct for the doctors who might not be available for interview for various reasons, 5% of the calculated sample size was added. The sample size used was 100.

### **3.5 Sampling Procedure**

The private tertiary hospital has several clinic facilities in Nairobi County. The doctors working in the main hospital and clinic facilities in Nairobi County were included in the study. A list of number of doctors working in the hospital was obtained from the human resource department of the hospital.

### **3.6 Study Tools**

Quantitative data was collected using structured questionnaires (Appendix 1). The questionnaire had mainly closed questions with coded responses. An open question was provided to allow for explanations of the responses that may require specifications or those that are unique to each individual participant. The qualitative approach utilized key informant interview tool (Appendix 2) which was administered by an interviewer. A probe questions in the interview tool focused mainly on the opportunities and the challenges related to HIV testing. In addition, consent form (Appendix 3) was used at every interview encounter to explain the purpose, procedures, benefits, risks and confidentiality of the study.

### **3.7 Data Collection Methods**

An online survey questionnaire was used to reach out to the doctors. Emails with the survey links were sent to the groups selected to participate in the study. Informed consent was

included in the survey link. The consenting process included information about the purpose, the procedures, the risks, benefits and confidentiality of the study. Those who consented to participate in the study were asked to voluntarily sign a consent form hence enrolling into the study. The enrolled participants selected answers using structured questionnaires to collect quantitative data on the demographic information of the doctors, their training and the knowledge, attitudes and practices data.

Key informant interviews were conducted among doctors who are involved in the management of departments and those in charge of units. Five key informant interviews were done in the main hospital and the satellite clinics. The interviews from the main hospital were from the family medicine and Accidents and emergency department. The interviews obtained information on the opportunities of HIV testing and the challenges that hinder implementation of government's guidelines on HIV services. Interviews were scheduled by seeking appointments from the selected doctors in order to agree on the most convenient time. This was done to ensure non-interruption of clinical services and the other activities running in the facilities.

### **3.8 Validity and Reliability of the Study Tools**

Study tools were tested through a pilot study in a small sample of doctors at the private tertiary hospital. The data from the pilot were analysed to understand views of the questions and accuracy of the responses being obtained from the participants.

### **3.9 Data Management**

The online questionnaires were reviewed as soon as the responses were submitted to ensure completeness and consistency of the data. The data were collected using google forms which helped to ensure consistency; this was done by ensuring the respondent had to complete a question before answering the next. Therefore no incomplete data was received. Data were managed using Google sheets which only accessible to specific individuals who had received permission to access the data. The online forms were designed to incorporate validation checks to minimize errors during data collection.

### **3.10 Data Analysis**

The database was downloaded into Microsoft Excel 2013 data sheet and exported into SPSS version 21.0 for analysis. The study population was described using socio-demographic variables by summarizing categorical data into percentages and continuous data into means or medians. Percentage number of doctors who routinely offer HIV tests were calculated and presented with 95% confidence interval. The knowledge, attitudes and practices questions were summarized into percentages as appropriate. Delivery of HIV testing services among doctors was associated with knowledge and attitude variables chi square test. Comparison of means between the doctors who offer HIV testing versus those who do not offer the services was done using Student's t test. The likelihood of offering HIV testing associated with independent characteristics of the doctors was presented using odds ratios. All statistical tests were performed at 5% level of significance (p value less or equal to 0.05).

Qualitative data from the key informant interviews were analysed in accordance to the pre-designed interview guide which had specified areas of interest to be addressed. The responses were summarized and presented as narratives to give the overall views of the respondents regarding the various facets of HIV counselling and testing.

### **3.11 Ethical Clearance/Considerations**

The researcher sought approval from the KNH and Research committee. Further, the authority to access the private tertiary hospital was obtained from hospital overall management and ethical committee. During data collection, the researcher asked all doctors to sign informed consent before taking part in the study. Doctors who participated in the study were assured of privacy and confidentiality by removal of identifiers. The respondents were then treated with dignity, no harm that was caused and incentives were not given to coerce them to participate in the study.

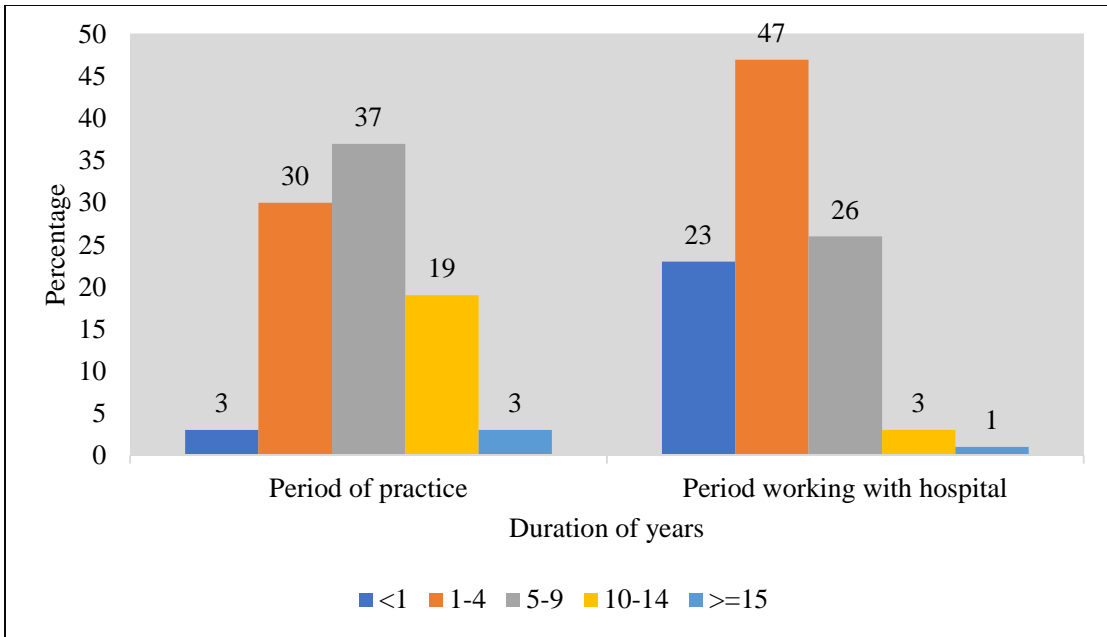
## RESULTS

This study involved a hundred (100) doctors working in the private tertiary hospital. The demographic information of the study participants is shown in Table 1, Figure 1 and 2. Most of the doctors were female and below the age of 40 years. One third of the doctors had postgraduate qualifications. Three quarters of the doctors had worked for 1-9 years. About one-third of the doctors were from the outreach clinics.

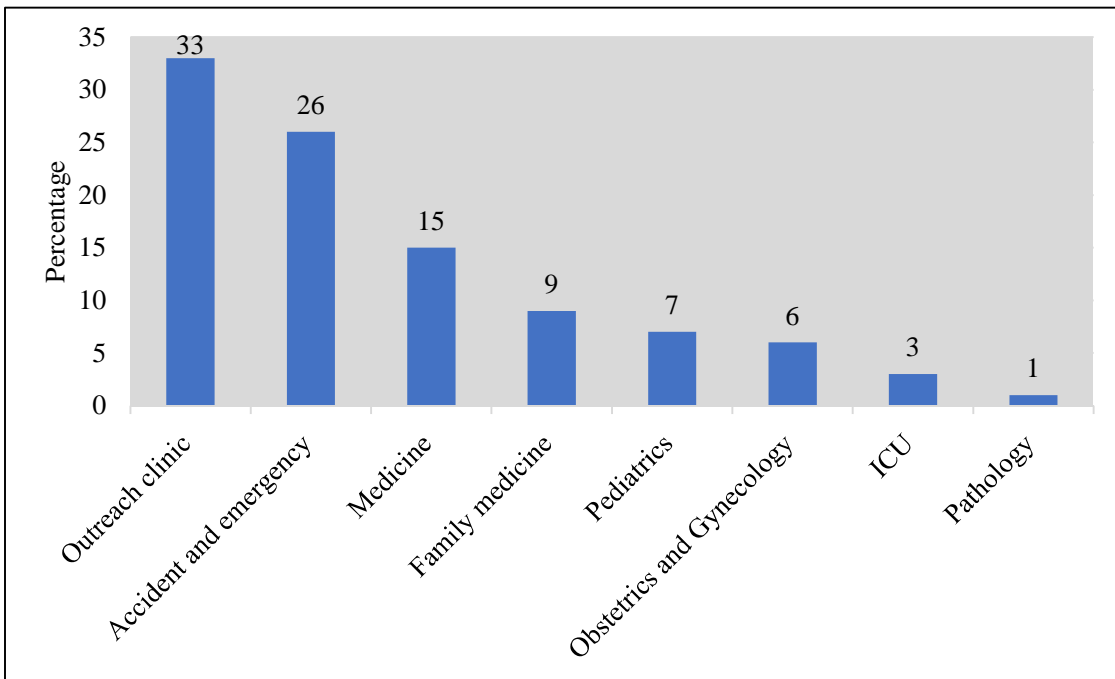
**Table 1: Demographic characteristics**

<b>Variable</b>	<b>Frequency (%)</b>
<b>Gender</b>	
Male	43
Female	57
<b>Age</b>	
<30	33
31-40	60
41-50	5
>50	2
<b>Highest level of education</b>	
Undergraduate degree	66
Postgraduate degree or diploma (MMED, MSc, MPH)	34
<b>Current job title</b>	
Resident (postgraduate student)	32
Senior house officer (Medical officer)	68





**Figure 1: Duration of practice and as a doctor in the hospital**



**Figure 2: Departments where doctors were interviewed**

### **Provision of HIV testing services by doctors**

The practice of doctors with regards to provision of HIV testing services in the hospital is shown in Table 2. A high proportion of the doctors reported that they were offering HIV testing services in the hospital. The average time of counselling provided by the doctors was a median of 10 minutes (IQR 7.5 – 25 minutes).

**Table 2: Proportion of doctors offering HIV testing services**

<b>Variable</b>	<b>Frequency (%)</b>
<b>Offering HIV testing services</b>	
Yes	80
No	20
<b>Average time of counseling in minutes</b>	
Median (IQR)	10 (7.5-25.0)
<b>Category, n (%)</b>	
Up to 5 minutes	17 (21.3)
>5 to 15 minutes	34 (42.5)
>15 to 30 minutes	16 (20.0)
>30 mins to 1 hour	10 (12.5)
Not sure	3 (3.8)

### **Knowledge of Counseling in HIV testing**

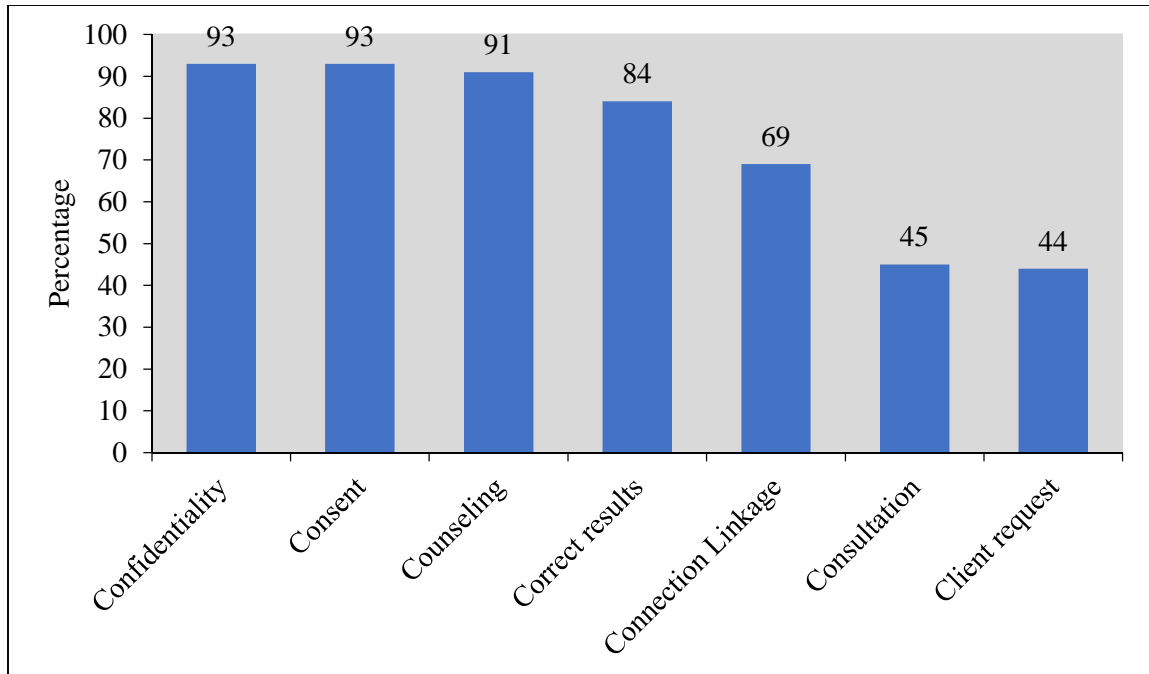
Knowledge of doctors on HIV counselling and testing was as shown in Table 3. Majority of the doctors had not attended any training on HIV counselling. Of the 37 doctors (37%) who had attended training, 28 (75.7%) were awarded certificates. The average length of training for the doctors was 2 to 7 days for 20 (54.1%). A small proportion, 16 (16%) were aware of any HIV testing and counselling guidelines available in the hospital. Few doctors could correctly list the various types of HIV testing requiring counseling.

All doctors were asked about their responsibility in disclosing HIV status to the sexual partners of their clients. While a large proportion of the 100 doctors 79 (79%) did not think a doctor can disclose HIV positive results to the sexual partner for the patient, 21% indicated that they would disclose the results. Those who said they would not disclose the status of a patient to another person cited confidentiality that needs to be observed at all times, autonomy for the patients to choose to disclose on their own volition and the fact that it is illegal to share patient's information with others without the consent of the patient. The doctors further said they supported assisted disclosure where the patient eventually discloses after psychosocial support from the doctor. For those who thought a doctor should disclose HIV positive results, the main reasons included the risk the patient is putting on the partner hence the presumption of the responsibility of the doctor to prevent transmission. These doctors reported that disclosure based on medical grounds would assist in accelerating start of treatment and would comply with doing no harm in accordance to the doctors' Hippocratic Oath. Non-disclosure was also equated to infringement of rights to health and wellbeing of the partner.

The doctors were asked about their knowledge of the core principles of HIV testing and counseling as per the National Guidelines. These comprise the 5 Cs. The distribution of the responses were Confidentiality and Consent cited by 93 (93%) of the doctors, Counseling 91 (91%), Correct results 84 (84%) and Connection (linkage) 69 (69%). Some additional principles were chosen and were not in the National Guidelines which included Consultation (45%) and Client request (43%).

**Table 3: Knowledge of HIV testing**

<b>Variable</b>	<b>N=100 Frequency (%)</b>
<b>Ever attended any training on HIV counseling</b>	
Yes	37.0
No	63.0
<b>Award given after completion of training(n=37)</b>	
Certificate	75.7
None	24.3
<b>Length of training ( n=37)</b>	
1 day	35.1
2-7 days	54.1
8-14 days	5.4
1-6 months	5.4
<b>Aware of any HIV testing and counseling guidelines available(n=100)</b>	
Yes	16.0
No	84.0
<b>Have access to HIV testing and counseling guidelines (n=16)</b>	
Yes	68.8
No	31.2
<b>Additional services for referral or linkage of HIV positive patients</b>	
Nutritional counseling	73.0
Male circumcision	36.0
TB screening	80.0
Support groups	70.0
PMTCT	83.0
Family planning	63.0
Don't know	6.0
<b>Types of HIV testing requiring counseling as per guidelines</b>	
PITC	18.0
CITC (VCT)	15.0
<b>Doctor can disclose HIV status of patients to their sexual partners</b>	
Yes	21.0
No	79.0



**Figure 3: Core principles during provision of HIV testing and counseling**

### **Attitudes and practices towards delivery of counseling in HIV testing services**

Attitudes and practices of doctors was as presented in Table 4. Majority of the doctors thought that doctors need formal training for counselling. The challenges faced by doctors in taking up HIV counselling as reported by the participants included several choices such as lack of training (87%) and lack of enough time (77%).

About two thirds of the 100 doctors 65 (65%) thought doctors should provide counselling in HIV testing. These doctors thought HIV counselling should be initiated by them since they are often the first point of contact with patients. In addition, these doctors enthused that doctors are better trusted by their patients and therefore will be better suited to provide counselling hence adding creditability to information given to clients/patients and confidence. It was reported that good rapport between the doctors and patients would be

beneficial in their continued care. Doctors who were not favourable to the suggestion that they could offer HIV counselling to the patients cited included lack of time amid long queues for patients, lack of counselling training among doctors and suggested that counsellors were better placed to provide the service due to their training and availability of time to spend with the clients. About three-quarters 74 (74%) knew there was a follow up plan for HIV positive patients in the hospital. The Comprehensive Care Center or HIV clinic was mentioned by 79 (79.7%) as the follow up plan for HIV positive patients.

**Table 4: Attitudes and practices towards delivery of HIV testing services**

<b>Variable</b>	<b>Frequency (%)</b>
<b>Doctors should be given formal training on counselling</b>	
Yes	97.0
No	3.0
<b>Challenges to counselling as a doctor</b>	
Lack of training	87.0
Lack of enough time	77.0
Lack of confidence in counselling	33.0
Someone else's responsibility	25.0
<b>Doctors should provide counselling in HIV testing</b>	
Yes	65.0
No	35.0
<b>Follow-up plan for HIV patients available in this hospital</b>	
Yes	74.0
No	26.0
<b>Perform counselling to all patients/clients receiving HIV testing</b>	
Yes	63.0
No	37.0

#### **Factors associated with delivery of HIV testing services**

Doctors who were older than 30 years were more likely to offer HIV testing services (86.6%) compared to those younger than 30 years (66.7%), OR 3.2 (95% CI 1.2-8.8),

p=0.023. Comparing the length of stay working in a private institution with likelihood of offering HIV testing, there was a lower likelihood of offering HIV testing services among doctors who had worked for less than one year as compared to those that had worked 1 -4 years [OR 3.8 (95% CI 1.2-11.5), p=0.021] and 5 years [OR 10.8 (95% CI 2.1-56.3), p=0.005]. Other characteristics such as the sex of the doctor, highest level of education, job title, duration of medical practice, training in HIV counseling and access to HTS guidelines were not significantly associated with delivery of HIV testing services.

**Table 5: Factors associated with delivery of HIV testing services**

Variable	Offer HIV testing		OR (95% CI)	P value
	Yes (%)	No (%)		
<b>Sex</b>				
Male	34 (79.1)	9 (20.9)	0.9 (0.3-2.4)	0.840
Female	46 (80.7)	11 (19.3)	1.0	
<b>Age</b>				
Under 30 years	22 (66.7)	11 (33.3)	1.0	0.023
30 and above years	58 (86.6)	9 (13.9)	3.2 (1.2-8.8)	
<b>Highest level of education</b>				
Bachelor's degree	52 (78.8)	14 (21.2)	0.8 (0.3-2.3)	0.673
Postgraduate degree/diploma/PHD	28 (82.4)	6 (17.6)	1.0	
<b>Current job title</b>				
Resident doctor	26 (81.3)	6 (18.8)	1.1 (0.4-3.3)	0.830
Senior house officer	54 (79.4)	14 (20.6)	1.0	
<b>Duration of medical practice</b>				
Less than 1 year	1 (33.3)	2 (66.7)	0.2 (0-2.0)	0.148
1-4 years	28 (73.7)	10 (26.3)	0.8 (0.2-2.8)	0.757
5-9 years	34 (91.9)	3 (8.1)	3.3 (0.7-15.6)	0.127
>=10 years	17 (77.3)	5 (22.7)	1.0	
<b>Duration working in private institution</b>				
Less than 1 year	13 (56.5)	10 (43.5)	1.0	0.021
1-4 years	39 (83.0)	8 (17.0)	3.8 (1.2-11.5)	
>=5 years	28 (93.3)	2 (6.7)	10.8 (2.1-56.3)	0.005
<b>Ever attended a seminar/workshop on HIV counseling</b>				
Yes	29 (78.4)	8 (21.6)	0.9 (0.3-2.3)	0.756
No	51 (81.0)	12 (19.0)	1.0	
<b>Accessing HTS guidelines</b>				
Yes	12 (80.0)	3 (20.0)	1.2 (0.3-5.0)	0.801
No	40 (76.9)	12 (23.1)	1.0	

## **HIV Counselling and testing information obtained from the key informants’**

### **interviews**

The key informants included a doctor in charge of emergency unit, a family physician, a clinical supervisor of outreach and doctor in-charge in outreach clinics and an emergency physician.

**Table 6: Key informants’ responses about delivery of HIV testing services in the hospital**

Questions	Number responded	Summary of responses
Recommending HIV testing services	5	All doctors said they recommend HIV testing for patients in the hospital. However, one doctor said it is up to patients to request for the services and the doctor would recommend it if there are suggestive symptoms. Another doctor thought it is only recommended when necessary and during wellness check-ups.
Decision-maker on HIV testing in the hospital	5	Doctors based in the main hospital facility said both doctors and patients make the decision on HIV testing. Those who were based in the outreach clinics had a different opinion which indicates the patients are the ones requesting for HIV tests.
Basis of making decisions on HIV testing	5	According to the doctors, their decision to test patients was said to be based on the clinical features of the patients.
Doctor always counselling patients for HIV testing	5	Of the 5 doctors who were interviewed, 3 said they always provide HIV counselling to their patients before they test. Those who responded that they don’t always provide counselling, one mentioned availability of an HIV counsellor as one reason while the other one thought counselling is unnecessary and just adds to HIV stigma among patients.
All the other doctors do counselling for patients in the hospital	5	Four respondents were aware that the doctors in the hospital offer HIV counselling. One of the respondents thought the doctors who offer HIV testing services are mainly those with adequate knowledge about HIV disease.



Counselling before or after HIV testing	5	Three of the respondents said they offer both pre- and post-test counselling to patients who are undergoing HIV testing. One doctor said the only post-test counselling is done while another one does not offer any counselling at all.
Questions	Number responded	Summary of responses
The main issues discussed during counseling	4	According to the doctors, the issues that are discussed during counseling included providing information about HIV, the benefits of knowing one's status, the impact of the HIV results, availability of interventions after testing HIV positive and linkage to treatment. For those who turn HIV negative, the information discussed is about preventive interventions that are available to them which included staying faithful, circumcision and use of condoms.
Doctor free to discuss all HIV issues with the patients	5	All doctors said they are free to discuss any issue with patients during HIV testing.
The necessity of pre- or post-test counseling for HIV testing	5	Three of the respondents thought both pre- and post-test counseling were necessary for patients undergoing HIV testing. However, 2 doctors thought pre-test is not necessary and one mentioned the fact that currently self-testing is available which does not need counseling before testing.
Challenges during HIV counseling	5	The most prominent challenge to counseling was lack of time to be able to give all the required information to the patients. Also, the lack of information, education and communication (IEC) materials to distribute to the patients to help inform them about HIV was also mentioned as a challenge. A doctor from an outreach clinic mentioned the lack of rapid testing kits hence patients have to wait for results for up to 24 hours.
Opinions on the need for training in HIV counseling	5	All the respondents thought training for doctors on HIV counseling is important and it should be as frequent as quarterly to annual refreshers.
Individual level of confidence on HIV counseling	5	Most of the doctors were confident to provide HIV counseling services to their patients which they said was because of their vast knowledge and experience about the disease. Only one doctor was not very confident to perform counseling which he attributed it to lack of formal training and the fact that he was not in frequent contact with HIV patients in the clinic.

## **DISCUSSION**

Most of the doctors at the study site were found to be aware of and offering HIV testing to patients under their care. The HIV testing services that were being offered were described to be either initiated by the doctors or self-requests from the patients. This model follows that recommended by the National Guidelines which stipulates that testing to be either provider-initiated HIV testing and counselling (PITC) or client-initiated testing and counselling (CITC) (NASCO, 2015). The PITC as explained in the National Guidelines, is that it should be offered regardless of reason of visiting a healthcare facility with an opt out option. The doctors in the hospital that was studied were more often the ones asking for the tests especially when there were suggestive symptoms that could be associated with HIV infection. This could be maybe due to the fact that in private health facility the test has to be paid as opposed to public facilities thus patients paying for tests when necessary. The same has been reported in another study elsewhere where the providers mostly practiced symptom-based PITC (Ahmed *et al.*, 2016). The present study also found that the older doctors and those with longer experience in the hospital were more likely to offer HIV testing services. This may be explained by the longer duration of exposure among these doctors hence cumulative awareness of the need to offer comprehensive package of care for all patients as they seek specific healthcare services in the hospital.

National HTS guidelines recommend training for all service providers to adequately deliver HIV testing services to the patients. In addition to the low level of training on HIV testing and counselling among doctors, a large proportion were not aware of availability of HTS guidelines in the hospital and whether the guidelines were accessible to them. This

indicates the extent to which HIV testing services were being offered without using the national guidelines hence the risk of non-standardization of the services to the patients. The national program led by NASCOP recommends the use of the national testing algorithm and strategy together with the approved HIV test standard operating procedures (SOPs) when offering HIV testing to clients (NASCOP, 2015). The doctors also demonstrated little knowledge in relation to the types of HIV testing strategies that require counselling as shown by the small proportion, 12% and 18%, who identified PITC and CITC strategies. There were doctors who were not aware of the core principles of HIV testing and counselling which could be attributed to the lack of training. However, at least 69% identified correctly some of the principles which include counselling, consent, confidentiality, correct results and connection as outlined in the guidelines (NASCOP, 2015). Up until 2016 there were different types of HIV Counselling and testing training including PITC- Provider Initiated Testing and Counselling and CITC- Client initiated Testing and Counselling. Since the new guidelines were launched- 2016, all the testing services were brought under one umbrella of HTS- HIV Testing Services. PITC training had previously involved medical personnel offering the HIV testing for all patients accessing health services regardless of the reason. These on-going trainings on HIV testing and counselling have continued over the past several years but the majority of those trained are either nurses or lay counsellors. The findings of this study indicate that a large proportion of doctors did not attend any trainings thus have little or no knowledge on counselling in HIV testing.

HIV disclosure is one of the six approaches to improving linkage to care and prevention as per the Kenya ARV guidelines 2018 (NASCO, 2018) among HIV positive individuals. The opinion among majority of the doctors was that it would be unethical for them to disclose HIV status of their clients to their sexual partners in cases where the patient is not willing to do so of their own volition. Counselling of patients before conducting the HIV test incorporates messages on disclosure. The guidelines anticipate that through counselling, clients are in a position to understand the importance of disclosure to partners and other family members (NASCO, 2015). The Kenyan Law declares about disclosure of HIV positive results of a client or patient as illegal as in section 22. The HIV positive individual also has a right to privacy so as not to be identified as a HIV positive person. The law provides guidance on prevention of HIV transmission whereby a medical practitioner or approved persons may disclose the HIV status of an individual to a sexual contact after reasonable time has elapsed. Though there is no definition of reasonable time (HIV prevention and control act, 2006). The situation is allowed if the client or patient knows their status but does not inform the sexual partner or places the person at risk of transmission of HIV infection after being given ample time to disclose (HIV Prevention and Control Act, 2006). A ruling made by Justice Lenaola in 2016 favoured school going children and breastfeeding mothers not to disclose their HIV status to the Ministry of Health, he noted that they have a right to privacy. This was the case even though the Ministry's intentions were good. This is a challenge to healthcare workers especially when they want to improve systems for healthcare.

There was a universal recommendation to train doctors in HIV counselling skills by all the respondents to ensure they are equipped for the purpose. In the private sector, doctors are the ones who prescribe the HIV test before the patients go to the laboratory, and are often the first contact before the test is done. This contrasts with most public hospitals that provide HTS by trained counsellors who are employed for this purpose. Some doctors thought training would increase the confidence of doctors when discussing HIV issues with their patients. Providers with the capacity to offer PITC have a 6-fold likelihood of offering testing services (Kapologwe *et al.*, 2011).

Being responsible for HIV counselling in the hospital was acceptable to a high proportion of the doctors. This was the case since doctors viewed themselves as being central players in patients' health as well as also as a result of their deep understanding about the disease. In a study by Dalal *et al* a large proportion of health care providers thought that offering of the test by a patient's clinical provider would increase the likelihood of its uptake (Dalal *et al.*, 2011). In this study, doctors thought that the rapport they are likely to create during counselling would be beneficial to the patients especially those who turn HIV positive and in need of continued support and follow up on treatment. However, a section of doctors thought that there was not enough time to adequately give the psychosocial support that comes with counselling since they are busy taking care of other health needs for the patients. The PITC model of service provision was designed to assist in managing the time spent with patients during counselling. Unlike CIRC in which a counsellor needs to focus on the client's needs and circumstances, PITC demands less time in patient provider interaction with minimal information being given so as to enable testing service integration

into busy health facilities (Palmer and Ricket, 2011, Wanyenze *et al.*, 2013). This notwithstanding, the sentiments from the doctors indicated the need to still find a balance between public health needs and individual needs which can be achieved by improving infrastructure and increasing resources for effective provision of PITC services in the hospitals (Evans *et al.*, 2016). A contrary opinion was advanced during key informant interviews with a view that counselling in HIV increases stigma among patients, yet another researcher has previously observed that HIV counselling and testing being offered on routine basis in PITC results in reduced stigma and discrimination since patients take it to be part of minimum care package when they visit a facility (Matovu *et al.*, 2007).

## **CONCLUSIONS**

HIV testing services in the private tertiary hospital were provided by a high proportion of doctors though not necessarily using the national HTS guidelines. The doctors offered symptom based PITC and not PITC regardless of reason for visit with an opt out option. There was a need for training in HIV counselling and testing as expressed by the doctors since less than a third of them were formally trained. The National HTS guidelines states that HTS can be provided by medical personnel who have undergone the HTS training as per the curriculum (NASCO, 2015). Due to their level of medical training, doctors are well equipped with information about the HIV disease as per the key informant interview but these findings showed the inadequacy of counselling skills and the requirements of the guidelines. The doctors accepted their role in HIV testing and counselling for patients who present to them. However, the biggest issues they were concerned with included the lack of training and the unavailability of time to appropriately assist patients with psychosocial needs. Despite all the short comings the doctors faced, they provided HIV testing especially in situations where symptoms indicated the need for further investigations.

## **RECOMMENDATIONS**

1. The study site would need to incorporate HIV testing services by doctors as part of the minimum package for patients seeking treatment in their facilities on an opt-out arrangement. This would improve care and prevention of HIV in the population and identify HIV positive individuals.

2. The study site would need to frequently provide and ensure attendance of doctors for HIV testing and counseling trainings in line with the recommendations of the Ministry of Health.
3. The National HTS guidelines need to be easily accessible to all clinical personnel. Doctors should be made aware of where to find the material in the hospital and its presence in the hospital.

### **STUDY LIMITATIONS**

1. Lack of responses to some of the open-ended questions, meaning some insights could not be captured.
2. There has been very few studies done to compare the findings of this study.



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## APPENDICES

### APPENDIX 1: QUESTIONNAIRE

**TITLE: Survey of knowledge, attitudes and practices of doctors in private tertiary hospital on HIV testing and counseling .**

#### **QUESTIONNAIRE.**

FOR OFFICIAL PURPOSES ONLY

Data collector:

Questionnaire No.

Date collected:

Informed consent received Y/N

Health facility:

**All questionnaires are completed anonymously. Please answer all the questions.**

Please place a check mark ( ) in the box that best answers the question. Kindly make only one selection unless otherwise instructed.

#### **GENERAL AND DEMOGRAPHIC QUESTIONS.**

**1. What sex are you?**

Male

Female

**2. How old are you?**

Under 30 years

31 – 40 years

41 -50 years

Over 50 year

**3. What is your highest level of education?**

- Bachelor's degree
- Postgraduate degree or diploma (MMED, Msc, MPH)
- PHD
- Other (Please specify)

**4. What is your current job title?(medical officer or postgraduate student)**

**5. How long have you been practicing as a doctor?**

- Less than 1 year
- 1 – 4 years
- 5 – 9 years
- 10 – 14 years
- More than 15 years

**6. How long have you been working in this Hospital?**

- Less than 1 year
- 1 – 4 years
- 5 – 9 years
- 10 – 14 years
- More than 15 years

**7. Which department do you work in?**

- Outreach clinic
- Accident and emergency
- Pediatrics
- Obstetrics and Gynecology

- Medicine
- Pathology
- Family medicine
- Intensive care unit
- Other



**KNOWLEDGE AND AWARENESS**

**8. a) Have you ever attended any training on HIV counseling?**

No

Yes

**b) If yes, what type of award were you given?**

Certificate

none

Postgraduate diploma

Other specify

Postgraduate degree

**c) How long did it take?**

1 day

1- 2weeks

1year

2- 7days

1-6 months

2year

**9. Do you offer HIV testing services**

Yes

No

**10. What is the average time of counseling you take up to the last stage?**

**11. List the HIV testing and counseling guidelines available in this Hospital:**

-----  
-----  
-----

**12. Do you have access to them?**

Yes

No

**13. What additional services may patients be referred or linked to when they are found to be HIV positive? Please check all that apply.**

- |   |  |
|---|--|
| <input type="checkbox"/> Nutritional counseling | <input type="checkbox"/> Support groups  |
| <input type="checkbox"/> Male circumcision      | <input type="checkbox"/> PMTCT           |
| <input type="checkbox"/> TB screening           | <input type="checkbox"/> Family planning |
| <input type="checkbox"/> Don't know             |  |

**14. List the four best practice stages in HIV Testing according to the National guidelines?**

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**15. List the various types of HIV testing that require counseling**

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-----  
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**16. When a patient or client who is found to be HIV positive declines to disclose their HIV status to sexual partners, can you disclose it to their partner ?State your reason why**

**Yes Reasons** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**No Reasons** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**17. What are the core principles that should be incorporated and adhered to during the provision of HIV testing and counseling? (Tick all that apply)**

- |  |   |
|--|---|
| <input type="checkbox"/> Consent         | <input type="checkbox"/> Correct results    |
| <input type="checkbox"/> Consultation    | <input type="checkbox"/> Connection Linkage |
| <input type="checkbox"/> Confidentiality | <input type="checkbox"/> Client request     |
| <input type="checkbox"/> Counseling      |   |

**ATTITUDES**

**18. Do you think doctors should be given formal training on counseling?**

- Yes
- No

**19. In your opinion what are the challenges to counseling as a doctor?(Tick all that apply.)**

- Lack of training
- Lack of enough time
- Lack of confidence in counseling
- Someone else's responsibility
- Other, please specify

**21. Do you think doctors should be the ones to provide counseling in HIV testing?**

**State your reason why.**

- Yes they should

**Reasons:** \_\_\_\_\_

\_\_\_\_\_

- No they shouldn't

**Reasons:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**PRACTICES**

**22. Do you have a follow-up plan for patients with HIV at this Hospital?**

Yes

No

**23. If Yes, Give details:**

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-----  
-----  
-----  
-----

**24. Do you perform counseling to all patients or clients receiving HIV testing?**

Yes

No

**APPENDIX 2: KEY INFORMANT INTERVIEW: DOCTORS AT PRIVATE  
TERTIARY HOSPITAL**

Distribute the informed consent and confidentiality forms copies to the participants. Ensure that you provide opportunity for the participants to ask questions and tape the verbal agreements.

*I would like you to know that there are no wrong or right answers. All I need to know is your honest opinion. Feel comfortable too share with me your honest opinion.*

*(start the interview with introductions)*

1. Would you please explain to me your role in this facility?

2. In this facility, do you personally recommend HIV testing services (*Probe: for the details of frequency?*)

- Who make the decision to be tested for HIV/AIDS? Is it doctors or patient?
- Would you please explain how the decisions are made?

3. Do you always counsel your patients when conducting an HIV test? (*Probe: for the details of frequency of counseling conducted?*)

If Yes:

- Do you think other doctors in this facility do the same?
- Do you counsel before or after the results of the HIV test? (*Probe for reasons for conducting counseling before or after the HIV test*)
- What sort of issues do you discuss during the counseling session?

4. Do you feel free to discuss issues on HIV during the counseling with the patient? If not which issues do you feel you are not free to discuss?

5. Do you think counseling is necessary before or after HIV testing? (*Probe for the reasons for the answer given.*)

6. What kind of challenges do you face during counseling?

- What do you think can be done to overcome the challenges?

7. What is your view on training doctors in counseling for HIV testing?

(*Probe for details such as frequency on training and where training should be conducted*)

8. Do you feel confident to perform the counseling session? If yes what makes you feel confident? If no what can be done to make you feel confident?

9. Let's highlight few of the key points from our discussion. Is there anything else?

10. Do you have any questions?

### APPENDIX 3: STUDY PARTICIPATION CONSENT FORM

#### Knowledge, Attitude and Practices of Doctors towards HIV testing and counselling in a private tertiary hospital.

##### Investigators

Name	Qualification	Institution	Department	Position
Linnet Juma	MBChB	University of Nairobi	UNITID	Student
David Bukusi	MBChB, MMed	KNH/ University of Nairobi	VCT and HIV Prevention	Head
James Machoki	MBChB, MMed	University of Nairobi	UNITID	Director
Jacob Shabani	MBChB, MMed	Aga Khan University	Family Medicine	Chair

##### Emergency telephone number:

Dr Linnet Juma, University of Nairobi, 0722838778

**INVESTIGATORS' STATEMENT:** We are asking you to be in a research study. The purpose of this consent form is to give you the information you will need to help you decide whether to be in the study or not. Please read this form carefully or listen as it is read to you. You may ask questions about what we will ask you to do, the risks, the benefits and your rights as a volunteer, or anything about the research or in this form that is not clear. When all your questions have been answered, you can decide if you want to be in this study or not. This process is called “informed consent”. If you wish we will give you a copy of



this form for your records. You are free to refuse to participate and to withdraw from the study at any time without penalty or loss of benefits.

**PURPOSE AND BENEFITS:** The aim of this study is to assess knowledge, attitude and practices of doctors towards HIV testing and counseling. You will not have direct benefit from this study but the information generated will be important for private hospitals in guiding decisions to improve HIV testing services offered to patients. You can take part in this study if you are a doctor in this hospital.

**PROCEDURES:** This is what will happen if you decide to participate in this study. The research assistant will ask several questions regarding you in relation to HIV testing services offered in this facility. As you give responses to the questions, a questionnaire will be filled. No invasive procedures will be involved.

**RISKS, STRESS, OR DISCOMFORT:** You may become embarrassed or anxious because of some of the questions you will be asked. Participation in the study will require you to commit your time. Completing the questions will take 20-25 minutes. However, we will try to serve you as quickly as possible.

**REIMBURSEMENT:** You will not receive any money for participating in this survey.

**OTHER INFORMATION:** We will keep your identity as a research subject confidential. Only the investigators and the University of Nairobi Ethics and Research Committee can have access to information about you. The information about you will be identified only by the study number and will not be linked to your name in any records. Although we will make every effort to keep your information confidential, no system for protecting your confidentiality can be completely secure. Therefore it is still possible that someone could find out that you were in this study and could find out information about you. Your name

will not be used in any published reports about this study. You may withdraw from the study or refuse to answer any of the questions asked at any time without loss of benefit or penalty. If you have any questions regarding the study you can contact any of the investigators listed above. You are free to refuse to participate in the study, if you decide not to participate in the study you will not lose any rights or privileges.

Signature of investigator \_\_\_\_\_ Date \_\_\_\_\_

Name of Investigator \_\_\_\_\_

**Subject's statement:**

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions about my rights as a research subject, I can call the University of Nairobi Ethics and research Committee at 2726300 Ext 44355. I will receive a copy of this consent form.

Signature of subject \_\_\_\_\_ Date \_\_\_\_\_

Name of Subject \_\_\_\_\_

Name of Witness \_\_\_\_\_

University of Nairobi Ethics and Research Committee

Hospital Road along Ngong Road

P.O. Box 20723, Nairobi

Telephone 2726300

Secretary: Professor M. L. Chindia

Copies to: 1. Subject                      2. Investigator's file

## APPENDIX 4: ETHICAL LETTER



UNIVERSITY OF NAIROBI  
COLLEGE OF HEALTH SCIENCES  
P O BOX 19676 Code 00202  
Telegrams: varsity  
(254-020) 2726300 Ext 44355

**KNH-UoN ERC**  
Email: [uonknh\\_erc@uonbi.ac.ke](mailto:uonknh_erc@uonbi.ac.ke)  
Website: <http://www.erc.uonbi.ac.ke>  
Facebook: <https://www.facebook.com/uonknh.erc>  
Twitter: @UONKNH\_ERC [https://twitter.com/UONKNH\\_ERCs](https://twitter.com/UONKNH_ERCs)



**KENYATTA NATIONAL HOSPITAL**  
P O BOX 20723 Code 00202  
Tel: 726300-9  
Fax: 725272  
Telegrams: MEDSUP, Nairobi

Ref: KNH-ERC/RR/724

13<sup>th</sup> November, 2017

Linnet Atieno Juma  
Reg. No. W64/64530/2010  
Institute of Tropical and Infectious Diseases (UNITID)  
College of Health Sciences  
University of Nairobi

Dear Linnet,

**Research Proposal: Knowledge, attitude and practices of doctors towards counselling in HIV testing; The case of Aga Khan University of Hospital (P282/05/2017).**

This is to acknowledge receipt of your revised research proposal and to inform you that upon review the KNH- UoN Ethics and Research Committee made the following observations and suggestions:


Most of the issues raised in our previous letter (Ref: KNH-ERC/RR/411) dated 10<sup>th</sup> July, 2017 have been addressed. However, please recheck the following:

1. Comment 6 of our previous letter on in- depth interviews: May this activity be classified as Key Informant Interview?
2. Comment 7 of our previous letter- DTC still appears in table 2 (see page 29).
3. Comment 12 (ii) of our previous letter- No investigators' declaration including their contact details has been provided.

### Recommendations

Revise and resubmit two (2) copies of the full proposal within a period of two (2) weeks' time with effect from the date of this letter. Include a cover letter that summarizes how you have addressed the comments and note the page number(s) where the changes have been made.

Yours sincerely,



**PROF. M.L. CHINDIA**  
**SECRETARY, KNH- UoN ERC**

c.c. The Principal, College of Health Sciences, UoN  
The Director, CS, KNH  
The Chair, KNH- UoN ERC  
The Director, Institute of Tropical and Infectious Diseases (UNITID), UoN  
Supervisors: Dr. David Bukusi (VCT and HIV prevention Dept., KNH), Prof. James Machoki (UNITID)

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THE AGA KHAN UNIVERSITY

Ref: 2018/REC-37 (v2)  
6<sup>th</sup> August 2018

Jacob Shabani - AKUHN Supervisor  
Dr David Bukusi – Principal Investigator,  
Dr Linnet Juma – Masters Student,  
University of Nairobi

Dear Dr Shabani and team,

**Re: Knowledge, Attitude and Practices of Doctors towards Counseling in HIV testing: The Case of Aga Khan University Hospital.**

The Aga Khan University, Nairobi (AKUN), Research Ethics Committee (REC) and Research Committee (RC) are in receipt of your proposal resubmitted to the Research Office on 30<sup>th</sup> June 2018. With reference to our communication Ref: 2018/REC-37 (v1) dated March 14, 2018, the committee's records regarding concerns raised earlier have been adequately addressed.

The relevant AKUN committees record that the proposed work is in compliance with the Aga Khan University research regulations. The committees have thus granted *approval* for use of Aga Khan University Hospital, Nairobi (AKUHN) as your research site. As per the KHN – UON ERC Approval Ref: KHN-ERC/A/363 dated 1<sup>st</sup> December 2017, you are authorized to conduct this study from 6<sup>th</sup> August 2018. This approval is valid for academic data collection purposes only up to 30<sup>th</sup> November 2018. While Dr Linnet Juma will be at AKUHN, you will be expected to guide her on specific applicable hospital protocol that must be adhered for the duration of data collection.

The study should be conducted in full accordance with all the applicable sections of the AKUN Research guidelines and you must notify Research Office immediately of any changes that may affect your research project, including any anticipated/unanticipated problems involving risks. All consent forms must be filed in the study binder. You must provide an interim report before expiration of the validity of this approval and request extension if additional time is required for study completion. You must advise Research Office when this study is finished or discontinued as well submitting a final report. **De-identification** of the hospital must be adhered in your study discussion/reports. Further review from the AKUHN management should be sought before publishing the results. In addition to the final report, an in-depth analysis of the specific findings at AKUHN should be submitted.

If you have any questions, please contact Research Office – on [research.support@aku.edu](mailto:research.support@aku.edu) or call 020-366 2148/1136.

With best wishes,

Prof. Rodney Adam, Chairman  
**Research Committee, AKU (Kenya)**

Copies:

Chairman, Research Ethics Committee, AKU (Nairobi)  
Associate Dean, Clinical services and Chief of Staff, AKUH (Nairobi)  
Manager, Operations & Business Development, AKUHN (Nairobi)