

KNOWLEDGE, ATTITUDE AND UPTAKE OF VOLUNTARY
COUNSELLING AND TESTING FOR HIV /AIDS AMONG MEDICAL
DOCTORS AND DENTISTS IN SOUTH WESTERN NIGERIA

BY

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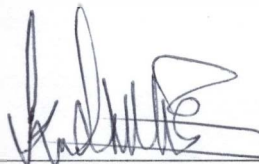
DR. B.F. ADEYEMI

AUGUST 2014

[i]

SUPERVISORS' ATTESTATION

We supervised the project titled "Knowledge, attitude and uptake of Voluntary Counselling and Testing for HIV/AIDS among Medical doctors and Dentists in South western Nigeria" conducted by Dr. Abe Elizabeth Oluwatoyin, a postgraduate student of the Faculty of Dentistry, University of Ibadan, Ibadan.

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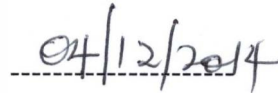
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DECLARATION

I, ABE Elizabeth Oluwatoyin hereby declare that this research work is original and that all the sources that have been quoted are duly indicated and acknowledged by means of references and that this work has never been submitted to any other institution before for any degree.



Signature



Date

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First and foremost, I give all glory to the Almighty GOD for his divine protection and wisdom given me to complete my studies and this project.

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ABSTRACT

Background

HIV/AIDS pandemic, being one of the important public health problems with profound effect on the lives of infected people and their families, has a sero- prevalence rate of 4.6% in Nigeria. Just like the general population, healthcare workers are at risk of acquiring HIV via sexual contact, but are also faced with additional occupational risks from needle pricks and sharps injuries. Voluntary counselling and testing (VCT) has been identified as the access point to HIV/AIDS clinical care and psychological support. It also provides an opportunity for education and motivation to modify behaviour aimed at reducing the risk of HIV transmission.

Aim

This study was designed to determine the level of knowledge, attitude and uptake of VCT for HIV/AIDS among medical doctors and dentists in South Western Nigeria.

Methodology

A descriptive cross- sectional study was conducted among medical doctors and dentists within South Western Nigeria between January to June, 2014. Data was collected using self-administered questionnaires and analysed using SPSS version 15.

Results

Among the 275 participants which comprised 55% medical doctors and 45% dentists, a high level of knowledge about VCT (78.9%) was noted with a statistically significant higher level of knowledge about VCT among medical doctors compared to dentists ($p= 0.000$). Also, there was a significant association between uptake of HIV testing and participants' working experience

such that the proportion of those who had done HIV testing increased with their years of practice ($p= 0.037$). Majority of the participants (95.2%) agreed with the idea of free treatment coverage for HIV positive members of staff and their sero- positive family members under workplace VCT services.

Conclusion

Overall, this study observed a high level of knowledge of VCT, a highly supportive attitude towards workplace VCT and a very high uptake of HIV counselling and testing practice among medical doctors and dentists in South Western Nigeria.

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Chapter 1 INTRODUCTION

1.1 Background of the Study

1.1.1 Overview of HIV/AIDS epidemic

Globally, an estimated thirty two to thirty nine million people were living with HIV in 2012, out of which two to three million were new infections which shows a 33% decline in the number of new infections from three to four million new infection cases in the year 2001 (UNAIDS, 2013).

Nigeria is a West African country that is bordered at the north by Niger and Chad, at the south by the Gulf of Guinea, at the east by Cameroon and at the west by Benin. The country is primarily rural having a land area of 923,768 square kilometres. Nigeria is the most populous nation in Sub-Saharan Africa and the tenth most populous country in the world. It has an estimated population of more than one hundred and fifty million with thirty six states and a Federal Capital Territory (Nasidi and Harry, 2006).

The first case of AIDS in Nigeria was reported in 1986 thereby establishing the presence of the virus in the country. Consequently, and in line with World Health Organization guidelines, the government adopted sentinel surveillance as the system for assessing the epidemic. The first HIV Sentinel Survey in 1991 by the Federal Ministry of Health, showed a prevalence of 1.8%. Subsequent sentinel surveys produced prevalence of 3.8% (1993), 4.5% (1996), 5.4% (1999), 5.8% (2001), 5.0% (2003), 4.4% (2005), 4.6% (2008) and 4.1 % (2010), a trend that indicates an initial increase in the first ten years followed by a steady decrease of the epidemic in the country in the last ten years (GARPR, 2012).

Nigeria has the second highest number of HIV positive adults in sub-Saharan Africa due to the large population size though the sero-prevalence rate is lower than some African countries like Kenya -15%, South Africa -20%, Zambia -21.5% and Zimbabwe -34% (Nasidi and Harry, 2006). HIV usually is spread by sexual contact with an infected person and occasionally by blood or body fluid exchange through sharing of contaminated needles or transfusions of infected blood or other blood products (Tawfik et al, 2006). Infants born to HIV-infected women may become infected during delivery or through breastfeeding. Heterosexual transmission accounts for up to 80% of all HIV infections in Africa. Other transmission routes in Africa include needle injection of drugs (2.8%), mother-to-child (2.6%), and blood transfusion (2.5%) (Mavedzenge et al, 2011). In Nigeria, the heterosexual route of infection accounts for 82% of all transmissions while other routes of transmission include transfusion of HIV infected blood and blood products, drug injection, occupational needle/ sharps injury, and vertical transmission during childbirth or through breast feeding (Nasidi and Harry, 2006).

1.1.2 Voluntary counselling and testing

WHO defined HIV counselling as “a confidential dialogue between a person and a provider aimed at enabling the person to cope with stress associated with informed personal decisions related to HIV/AIDS. The counselling processes include evaluation of personal risk of HIV transmission and facilitation of prevention behaviour.” (WHO, 2006). Voluntary counselling and testing (VCT) is the primary access point to HIV/AIDS clinical care and psychological support and provides an opportunity for education and motivation to modify behaviour aimed at reducing the risk of HIV transmission (UNAIDS, 2000). VCT is designed to motivate people to change their behaviour, prevent the acquisition and transmission of HIV, reduce anxiety over

possible infection, facilitate safe disclosure of status and future planning, as well as improve access to HIV prevention and treatment services (UNAIDS, 2000).

Also, as described by UNAIDS (2000), VCT is a dialogue between a counsellor and a client to provide information on HIV/AIDS infection, modes of transmission, preventive methods, treatment and care, risk behaviour modification and to handle possible emotional reactions related to the HIV test results like grief, anger, fear and denial.

In 2011, there were only 1,357 HIV testing and counselling facilities in Nigeria and only 12% of women and men aged 15- 49 had utilized the service (UNAIDS, 2012). Despite the central role of HIV counselling and testing in prevention of mother to child transmission, its uptake is still extremely low in Nigeria, with a proportion of one out of every six pregnant women reported utilising VCT services in 2011. In Nigeria, report of VCT uptake in 2011 among at-risk sex workers group and intravenous drug users were 42% and 20% respectively (UNAIDS 2012).

1.1.3 Impact of HIV/AIDS on health workers

Healthcare workers, just like other members of the society are at risk of HIV infection (WHO 2006). Apart from being exposed to the risk of HIV like every member of the general community through sexual contact, health workers risk contacting the virus through occupational exposure (WHO, 2006; Muula and Maseko, 2005). The global incidence of HIV infections among health workers attributable to sharps injuries range between 200- 5,000 cases per annum, with HIV transmission risk through percutaneous and mucous membrane exposures being 0.3% and 0.09% respectively (Wu, 2012). A study by the Commonwealth Regional Health Community Secretariat (CRHCS) in Malawi revealed that, deaths accounted for almost half of the departures from the health service with the vast majority of the deaths (80%) being due to HIV/AIDS-

related illnesses, while previous studies by CRHCS reported that about 10% of deaths (1995-2000) are estimated to have been caused by HIV/AIDS and the majority of these were in the age group 20 - 44 years (Martin-Staple, 2004).

A study commissioned by the South African Department of Health found that at the end of 2002, about 15.7% of healthcare workers in four South African provinces were living with HIV (Shisana et al, 2004), but a much lower value of 1.2- 1.6% HIV positivity among health workers in Ibadan was reported by Olaleye et al (1993). Just like the general population, health care professionals (HCPs) face the same risk of acquiring HIV via sexual contact, but are also faced with an additional 0.3% occupational risk from penetrating needle stick injuries (Zungu et al, 2008). National statistics from Nigerian Blood Transfusion Services (NBTS) show that blood transfusions and unsafe injection practices contributed about 0.5% and 1.2% of new HIV infections in 2010 respectively (GARPR, 2012).

1.2 Research Problem

Although healthcare workers are supposed to be role models in HIV / AIDS issues, however, anecdotal information indicates that they are similarly affected by HIV infection like the general population. The society expects healthcare workers to have adequate knowledge about HIV / AIDS and its devastating effects. They are therefore expected to be motivated to know their HIV status and be able to implement HIV/AIDS programmes effectively.

This research is therefore designed to assess the attitude of practicing medical doctors and dentists in South Western Nigeria on VCT and their willingness towards utilizing VCT services. This specific group among other healthcare professionals is being targeted because they are in a

vantage position to promote and encourage VCT services for their patients as well as the society at large.

1.3 Research Question

What is the level of knowledge, attitude and uptake of voluntary counselling and testing for HIV/AIDS among medical doctors and dentists in South Western Nigeria?

1.4 Significance of the Study (Justification)

This subject of research has been reviewed by different authors across the various cadres of healthcare workers, Azodo et al (2010) among dental surgeons in Nigeria, Okojie et al (2004) among healthcare workers (HCWs) in South Eastern Nigeria and Obiajulu (2009) in South Africa. Various factors affecting VCT uptake as well as HIV/AIDS knowledge were reviewed among HCPs.

To the best of the researcher's knowledge, there has been no study in Nigeria addressing the subject matter specifically among medical doctors and dentists; this study is therefore aimed at assessing the level of knowledge and attitude of medical doctors and dentists in South Western Nigeria on VCT. Also, there is need to identify factors which may be responsible for their willingness to participate in VCT service utilization, as well as factors hindering them from doing so. Appropriate suggestions will be offered to relevant stakeholders such as healthcare institutions and government establishment to encourage VCT service utilization among medical doctors and dentists.

1.5 Aim

To determine the knowledge, attitude and uptake of VCT for HIV/AIDS by medical doctors and dentists.

1.6 Objectives

- To compare the knowledge of VCT between medical doctors and dentists.
- To determine the attitude of medical doctors and dentists towards VCT in their workplace and the factors affecting their attitude.
- To determine the level of uptake of VCT among medical doctors and dentists in their workplace.
- To determine the effect of practice type and work venue on the uptake of VCT among medical doctors and dentists.
- To assess the perception and attitude, as well as perceived barriers to integrating HIV testing into dental practice by dentists in South Western Nigeria.

CHAPTER 2 LITERATURE REVIEW

2.1 Theoretical Perspectives

2.1.1 Health Belief Model

Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviours with focus on attitudes and beliefs of individuals. It was first developed in the 1950s by the social psychologists Hochbaum, Rosenstock and Kegels in response to the failure of a free health screening program on tuberculosis (Rosenstock et al, 1994). This HBM model was later modified in mid 1980s; its concepts are as follow:

Perceived susceptibility: this refers to a person's subjective perception of vulnerability to an illness or disease.

Perceived severity: this refers to a person's feeling on the seriousness of contracting an illness or disease, and the severity of its consequences.

Perceived benefits: this refers to a person's perception of the effectiveness of various actions recommended to reduce the threat of illness or disease.

Perceived barriers: this refers to a person's feelings on the obstacles to performing a recommended health action, for example, cost, side effects, time

Cue to action: this is the stimulus needed to trigger the decision making process to accept a recommended health action. These cues can be internal (disease symptoms like chest pain) or external (advice from others, newspaper article)

Self efficacy: this refers to the level of a person's confidence in his or her ability to successfully perform a recommended behaviour.

2.1.2 AIDS Risk Reduction Model

AIDS Risk Reduction Model (ARRM) was introduced in 1990. It is a three stage model which provides a framework for explaining and predicting the behavioural change efforts specifically in relationship to sexual transmission of HIV/AIDS. The ARRM has three stages which are as follow:

1. Recognition and labelling of one's behaviour as high risk.
2. Making a commitment to reduce high risk sexual contact and to increase low risk activities.
3. Taking action which involves information seeking, obtaining remedies and enacting solutions.

(Catania et al, 1990). Health workers have information on HIV/AIDS and sexually transmitted infections, they give information to the public and are expected to practice what they teach.

2.2 Previous Studies on VCT

2.2.1 VCT service in Nigeria

The percentage of persons that received an HIV test in the past twelve months is usually used as an indicator of the proportion of people who currently know their HIV status. Overall, the uptake of HIV counselling and testing (HCT) is still low among the Nigerian populace even though the proportion of people who had tested and received their results had doubled between 2003 and 2007 (GARPR, 2012). According to the National HIV/AIDS and Reproductive Health Survey (NARHS) 2007, only 11.7% of the people aged 15 to 49 years received an HIV test and know their results. In the data available for 2010, women constituted 71% of those who tested, showing a greater uptake of testing in women compared to men, which is contrary to the previous trend of higher HCT uptake by men between 2003 and 2007. In the year 2011, the combined number of

women and men aged 15 years and older who received HCT and knew their status was 2,056,578 (GARPR, 2012).

The number of HCT sites decreased by 2.6% in 2010, from 1074 sites in 2009 to 1046 sites in 2010 due to a closure of HCT programmes funded by the United States government. However, this number was scaled up in 2011 by 21.6% to 1357 due mainly to new sites established with funding from the Global Fund Round 9 grant (GARPR, 2012). There has been an expansion of HCT services through joint partnership with the private sector which involved faith based organizations and private hospitals, through partnership. Most services are still facility based, located mainly at tertiary and secondary facilities in urban areas. This poses access challenge to rural communities and hard-to-reach populations with increased risk for HIV infection (NACA, 2009).

2.2.2 Various trends of VCT uptake

VCT consists of three stages namely pre-test counselling and assessment of risk, rapid blood test and post-test counselling. Makhutle described the components of VCT services in terms of VCT uptake which is defined as the number of people undergoing test for HIV, while VCT coverage is described as the number of VCT sites in a particular geographical area. He further described VCT service utilization in terms of accessibility, availability and provision of a full range of services at VCT sites. These included the following: availability of staff, pre-and post-test counselling, onsite HIV testing, onsite receipt of HIV results, confidentiality, ongoing counselling and support (Irungu et al, 2008).

Azodo et al (2010) in a cross sectional study among dental surgeons in Nigeria, observed that about 79% had retroviral screening done primarily for employment reasons, while 41.6% supported retroviral screening for all dental patients for cross infection prevention and medico-legal reasons. This finding was consistent with that of Okojie et al (2004) who reported that 71.9% of health workers in a tertiary health institution in Benin, had HIV testing done as part of pre-employment medical examination, but noted negative attitude and practice towards VCT among them. The need for intensive training of healthcare workers on VCT for HIV so that they would be proponents of this strategy was noted.

Several HIV studies among different respondents have shown that there is often high level of knowledge and favourable attitude but the major challenge is the low utilization of VCT (Bongololo et al, 2008; Obiajulu, 2009; Nyahwa, 2013 and Zungu, 2011). According to UNAIDS (2001), the disclosure rate of HIV status ranges between 24-79% in developing countries and despite the reports of high levels of awareness, the documented uptake level of VCT is generally low (81% awareness versus 23% utilization by Donkor in Ghana and 97.6% awareness versus 28.4% utilization by Ogunro et al (2011) among urban residents in South western Nigeria). However, following education about VCT, 66.9% were willing to seek VCT services in the study by Ogunro et al (2011).

Iliyasu et al (2006) in a rural community study in Northern Nigeria, revealed that more than half of the respondents had adequate knowledge of HIV/AIDS and the majority were willing to utilize VCT service (Iliyasu et al, 2006). In another community survey in Ethiopia by Alemu et al, about 73.8% had knowledge of the availability of VCT services but a higher percentage (93.8) showed willingness of VCT uptake which is a measure of good attitude (Alemu et al, 2004).

Gashaw, in a study on knowledge, attitude and uptake of VCT among students in a teachers' training college, observed a high level of knowledge and favourable attitude towards VCT but a lower level of utilization as only one-third of the respondents have ever been tested for HIV.

Evaluation of uptake and attitude to VCT among healthcare professional students in Kilimanjaro region, Tanzania by Charles et al (2009) revealed adequate awareness of VCT services and that willingness to test is high among students, however uptake is low probably due to perceived high risk (sexual activity) among the study group.

A study on knowledge and uptake of VCT among medical students in Jos by Daniyam et al (2010) noted a high level of knowledge of HIV (93%) but uptake of VCT was average as only 51% of the students have had VCT previously.

Yahaya et al (2010) investigated the factors hindering the acceptance of VCT among youths in Kwara State and found that ignorance, fear of being positive, cost of VCT, religious and cultural beliefs, parental pressure, inadequate number of VCT centres and stigmatization constituted hindrances to VCT uptake. A study done by Hara (2007) on attitudes and perceptions of student nurses towards VCT revealed barriers to VCT uptake such as fear of positive HIV result, stigma and lack of understanding of VCT process.

2.2.3 Advantages of VCT

According to Boshamer et al (1999), VCT is an important component of preventive programs designed to curb the spread of HIV infection. VCT provides services such as assisting clients with disclosure of their HIV status to their spouses, family members, friends and to others as applicable. VCT also provides psychosocial support services involving counselling of clients to cope with their sero-positive status, connection of clients to available free or subsidized

treatment and coping-services such as support groups. Other advantages of VCT include behavioural modification to prevent the transmission of HIV and improved access to HIV prevention and treatment services. (Mavedzenge et al, 2011; Nyahwa, 2013)

2.2.4 Sources of information on VCT

The sources of information on VCT consist of mass media (internet, newspapers, magazines, radio, television, billboards, exhibitions, drama/playlets, posters and leaflets), peers/friends, health personnel and seminars (Donkor, 2012). In a study conducted among healthcare professional students undertaking diploma, degree and certificate courses, there were multiple responses with respect to sources of information on VCT. These sources included radio and television, friends, schools, church seminars, and VCT centres (Charles et al, 2009). Donkor (2012) in his work among university students in Ghana noted that knowledge about VCT was acquired mainly from the mass media, health personnel and peers/friends.

2.2.5 HIV testing services

According to World Health Organization recommendation (2012), the present provision of HIV testing and counselling approaches include client initiated and provider initiated services.

- **Client- initiated HIV testing and counselling (VCT)**

This involves individuals actively seeking HIV testing and counselling. VCT service delivery models include:

- Free standing sites- these are set up solely to provide VCT services.

- VCT services integrated with other health services such as family planning, maternal care, STI clinics, adolescent/youth sexual and reproductive health services, drug rehabilitation clinics, general outpatient clinics and in-patient care.
- VCT services provided within already established non- health facilities- like youth clubs, youth or community centres, church halls, etc.
- Mobile/ outreach VCT services- particularly for hard-to-reach groups such as sex workers, drug injectors, refugees.

Other VCT service providers include non-governmental organization (NGO) models, private sector models, public sector and NGO partnership models.

- **Provider- initiated testing and counselling (PITC)**

This refers to HIV testing and counselling which is recommended by healthcare providers to persons attending healthcare facilities as a standard component of medical care. PITC is being carried out in people with or without presence of signs or symptoms attributable to HIV/AIDS.

2.2.6 Expanded HIV Testing In Dental Settings

In 2006, the Centre for Disease Control and Prevention (CDC) revised HIV testing guidelines and recommended that HIV testing should be considered as part of routine care in all health care settings in the United States (Boonstra, 2006). The implementation of routine HIV screening among Americans was proposed to enhance early diagnosis, timely initiation of care and facilitation of rapid access to antiretroviral therapy which helps in viral load reduction, reduced infectivity and morbidity as well as mortality among HIV infected persons (Hutchinsons et al, 2012 and Siegel et al, 2012). Pollack et al (2010) analysed U.S. based National Health Interview

Survey data and found that 3.6 million persons at significant risk for HIV had never been tested, among which 75% had been to a dentist within the past two years. The authors deduced that HIV testing in the dental setting has a great potential for reaching high risk individuals.

Considering the need for expansion of health care settings that will facilitate early diagnosis of HIV, the dental setting has been recognized as a venue for identifying at-risk individuals who may not otherwise access medical and public health systems (Glick, 2005 and Blackstock et al, 2010). Given that some at-risk individuals may be missed by risk-based HIV testing alone, routine HIV testing in conventional and non-traditional health-care settings, such as dental clinics, has been promoted as an approach to increase opportunities for early HIV detection which gives a better prognosis, reduces the risk of HIV transmission and is cost effective (Dietz et al, 2008; Reznik, 2008 and Siegel et al, 2012).

Various models for rapid HIV testing in the dental setting have been suggested, including counselling and testing performed by the oral health provider, by a member of the dental staff such as a dental assistant, or by a trained counsellor (Dietz et al, 2008).

Rapid oral-testing technology permits a highly sensitive and specific, fast, simple, minimally invasive and cost-effective way to screen for HIV sero-status in which dental offices provide a promising venue for such testing (Malamud, 2006 and Cleveland, 2007). The advent of rapid HIV screening technology (oral-fluid based) allows individuals to learn their HIV status in approximately twenty minutes, well within the time frame of a routine dental visit (Reznik, 2008) which is usually followed by other tests like ELISA and western blot in positive cases.

The advantages of rapid HIV tests, particularly with oral fluid specimen, include increased acceptability of testing among populations at risk for HIV infection and increased receipt of test results (Glick, 2005). It also eliminates the risk of needle stick injury and transmission of HIV

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The advantages of rapid HIV tests, particularly with oral fluid specimen, include increased acceptability of testing among populations at risk for HIV infection and increased receipt of test results (Glick, 2005). It also eliminates the risk of needle stick injury and transmission of HIV

virus from oral fluid is unlikely. Essentially, access to HIV primary care to ensure linkage to care and treatment should also be considered in the integration of HIV testing into dental care (Pollack et al, 2010).

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CHAPTER 3 METHODOLOGY

3.1 Study Design

This study was a descriptive cross-sectional survey of VCT for HIV/AIDS among medical doctors and dental surgeons in South-western Nigeria.

3.2 Study Site

Continuing Medical Education (CME) meeting venues of the various health facilities within South western part of Nigeria encompassing across the three levels of primary, secondary and tertiary health care were utilized.

3.3 Study population

This included medical and dental practitioners in randomly selected hospitals among the randomly selected states within South Western Nigeria.

3.4 Sample size determination

$$N = \frac{Z^2 (p)(1-p)}{\delta^2}$$

Where N = sample size

Z = 1.96, (at 95% confidence interval)

P = highest proportion of adults who accept VCT (79%) from the

literature [Azodo et al, 2010]. δ = precision allowed (5%)

$$N = \frac{1.96 \times 1.96 \times 0.79 \times 0.21}{0.05 \times 0.05}$$

$$0.05 \times 0.05$$

$$N = 255.$$

3.5 Sampling strategy

Stratified random sampling method was adopted for this study and proportionate allocation given to each stratum according to the participants' profession. An initial selection of three study states (Lagos, Oyo and Osun) out of the six states in the south western region of Nigeria was done by simple randomization through balloting. A total of 275 medical doctors and dentists were enrolled through convenience sampling in the randomly selected three states across the health facilities in each state categorized into the primary, secondary and tertiary centres.

Inclusion criteria: consenting medical doctors and dentists within the study region.

Exclusion criteria: non consenting medical doctors and dentist.

3.6 Data collection

Data was collected with the aid of a structured, self-administered questionnaire from January to June, 2014. Data were collected on various factors including socio-demographic characteristics, respondents' knowledge of their HIV status, reasons for HIV testing, sources of information about VCT services and available universal precaution practices within respondents' health centres. The attitude of respondents towards HIV testing in medical and dental settings, documented plans for its implementation and perceived reasons for lack of such implementation were investigated. Other questionnaire items included their view of ideal medical and dental settings for HIV testing, knowledge about rapid HIV testing and willingness of dentists to undergo training for HIV testing in dental clinics.

Likert's scale was used to assess the respondents' attitude towards workplace VCT and post exposure prophylaxis policy.

3.7 Data Analysis

Data analysis was done using the software package of SPSS version 15.0. Descriptive statistics of mean, standard deviation and/or percentages were used to summarize the socio-demographic data (sex, age, marital status, professional status, type of practice and years of practice). Pearson's chi-square test and student t-test were used to determine strength of association between categorical and numerical variables respectively. The level of significance for this study was set at level of $p < 0.05$.

3.9 Ethical Consideration

Ethical principles of autonomy, beneficence, non-maleficence, justice and trustworthiness were ensured in study. An informed consent was verbally obtained before administering the questionnaire and the health workers had the right to refuse to participate or withdraw from the research at any stage, before or during the study.

The aim and objectives of the study were explained to all the participants and they were assured of the confidentiality of all information obtained. No names were used on the questionnaires to maintain anonymity and confidentiality.

Ethical clearance was obtained from the University of Ibadan/ University College Hospital, Ibadan Joint Ethical Review Committee.

Chapter 4 RESULTS

4.1 Socio-demographic profile of respondents

The study sample comprised of 275 respondents who were medical doctors (55%) and dentists (45%) in South western Nigeria. Among the 151 medical doctors, there were 84 males (55.6%) and 67 females (44.4%) while the 124 dentists comprised 74 males (59.7%) and 50 females (40.3%). Altogether, there were 158 males (57.5%) and 117 females (42.5%). There was no significant difference in gender distribution according to the respondents' profession ($\chi^2 = 0.456$; p value = 0.541). Table 1

4.1.1 Gender, age and marital status of respondents

The mean ages of the respondents according to gender were 33.1 ± 7.8 years for males and 30.0 ± 5.8 years for females. There was a significant difference in the mean ages according to gender (p value = 0.001). The mean ages according to respondents' profession were 32.5 ± 6.9 years for medical doctors and 31.0 ± 7.5 years for dentists, while the mean age of all the participants was 31.9 ± 7.2 years.

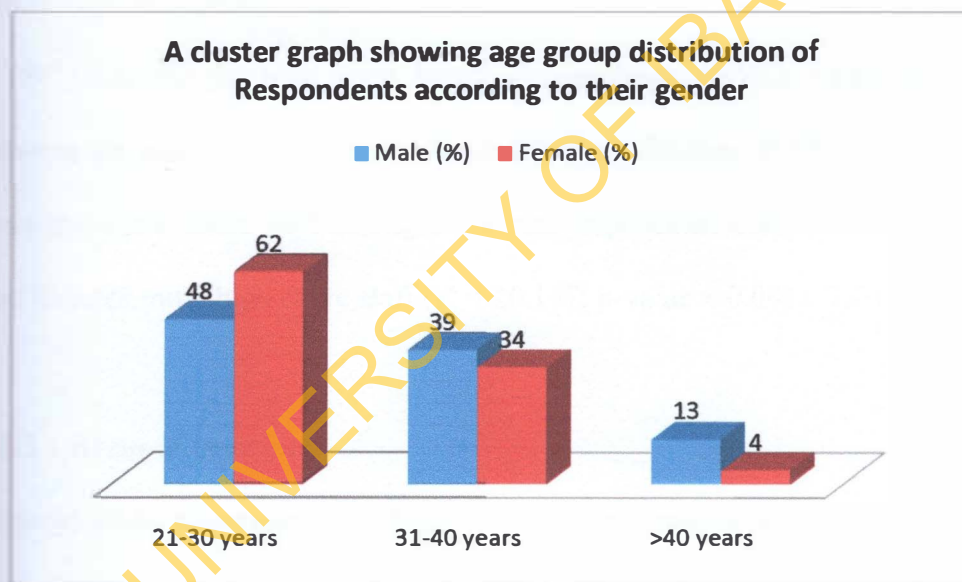
Majority (53.4%) of the respondents were in the third decade of life, followed by those in the 4th decade (36.9%) and least in those greater than 40 years of age (9.6%). A higher proportion of respondents were married (52.4%) while singles were 47.6%. Table 1

Table 1 Socio-demographic profile of participants

Group	Gender		Total (%)	χ^2	P value
	Male (%)	Female (%)			
Medical doctors	84 (55.6)	67 (44.4)	151 (54.9)	0.456	0.541
Dentists	74 (59.7)	50 (40.3)	124 (45.1)		
Age group (years)	21-30	73 (48.0)	60 (61.9)	7.503	*0.023
	31-40	59 (38.8)	33 (34.0)		
	>40	20 (13.2)	4 (4.1)		
Marital status				2.202	0.277
Single	80 (50.6)	51 (43.6)	131 (47.6)		
Married	78 (49.3)	66 (56.4)	143 (52.4)		

*= significant

Figure 1



4.2 Professional Characteristics

4.2.1 Type of practice

Majority (63.0%) of the respondents were general practitioners while the remaining were specialists (37.0%) in various medical and dental fields of specialization such as Anaesthesia, Family Medicine, Obstetrics and Gynaecology, Paediatrics, Oral Pathology, Restorative Dentistry, Child Oral Health, Community Dentistry and others. There was no significant association between the types of practice and the respondents' profession of Medicine and Dentistry ($\chi^2 = 0.017$; p-value = 0.894). Table 2

4.2.2 Official status

The highest percentage of respondents according to the professional cadre were medical officers (MO)/ registrars (40%) followed by house officers (33%), senior MO/ senior registrars (12.6%), NYSC (8%) and the least were directors/ consultants (6.5%). There was a strong association between the cadre of the respondents and their professions of Medicine and Dentistry, as there were more low cadre staff among the dental respondents compared to the medical respondents that featured more high cadre staff ($\chi^2 = 20.147$; p-value = 0.001). Table 2

4.2.3 Areas of practice

Majority of the respondents (73.4%) were from the teaching hospitals followed by those from the state hospitals (17.7%) and the least were those in private practice (8.9%). This pattern of distribution of respondents according to their areas of practice was the same for both medical and dental respondents. There was a strong association between the areas of practice and the respondents' profession of Medicine and Dentistry ($\chi^2 = 6.739$; p-value = 0.028). Table 2

4.2.4 Years of practice

The respondents who had less than three years of practice were 51%, this was followed by respondents with four to six years of practice (21%) while those with seven to nine years and ten years or more were 13% and 15% respectively. There was no significant difference in the years of practice of the medical and dental respondents ($\chi^2 = 1.426$; p- value =0.698). Table 2

Table 2: Respondents' professional characteristics

	Medical Doctors (%)	Dentists (%)	Total (%)	χ^2	P value
Type of practice					
General practitioners	91 (63.2)	63 (62.4)	154 (62.9)	0.017	0.894
Specialists	53 (36.8)	38 (37.6)	91 (37.1)		
Years of practice					
0-3	75 (49.3)	66 (53.2)	141 (51.1)	1.426	0.698
4-6	35 (23.0)	23(18.5)	58 (21.0)		
7-9	18 (11.8)	18 (14.5)	36 (13.0)		
>10	24 (15.8)	17 (13.7)	41 (14.9)		
Area of practice					
Private clinics	19 (12.5)	5 (4.2)	24 (8.9)	6.739	*0.028
State hospital	29 (19.1)	19 (16.0)	48 (17.7)		
Teaching hospitals	104 (68.4)	95 (79.8)	199 (73.4)		
Official status					
House officer(HO)	39 (25.0)	53 (43.4)	92 (33.1)	20.147	*0.001
NYSC/ SENIOR HO	11 (7.1)	11 (9.0)	22 (8.0)		
Medical officer/ Registrar	76 (48.7)	35 (28.7)	111 (39.9)		
Senior MO/ Senior Reg	16 (10.3)	19 (15.6)	35 (12.6)		
Director/ Consultant	14 (9.0)	4 (3.3)	18 (6.5)		

*= significant

4.3 Assessment of Respondents Awareness about VCT

4.3.1 Knowledge of what VCT is about

The test on knowledge of what VCT is about revealed an equal level of knowledge between males (78.4%) and females (78.5%). However, the test of knowledge on VCT according to the respondents' profession showed strongly significant ($\chi^2 = 20.026$; p value= 0.000) and a higher level of knowledge among medical doctors (90%) than their dental colleagues (62.7%). Table 3

Table 3 Knowledge of participants about VCT according to gender and profession

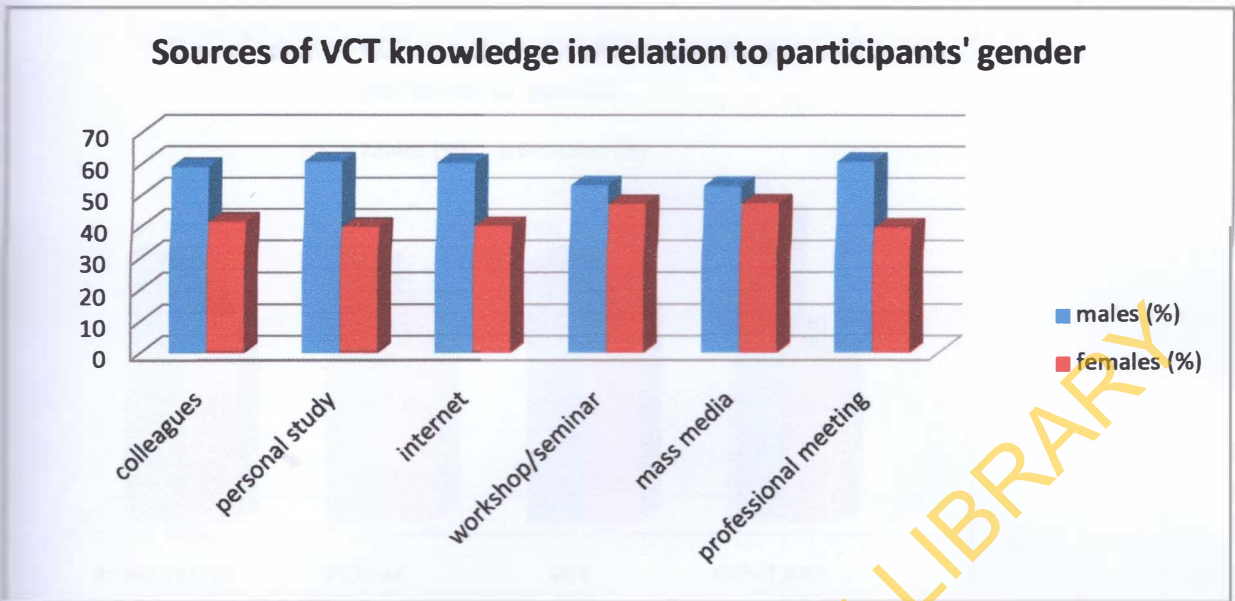
	Knowledge about VCT		χ^2	P value
	YES (%)	NO (%)		
Gender				
Males	80 (78.4)	22 (21.6%)	0.000	0.571
Females	62 (78.5)	17 (21.5)		
Profession				
Medical doctors	91 (91.0)	11 (10.0)	20.026	*0.000
Dentists	47 (62.7)	39 (37.3)		
Total	146 (78.)	39 (21.1)		

*= significant

4.3.2 Knowledge about VCT service providers

Among the highlighted VCT service providers in Nigeria which included APIN/ PMTCT, PEPFAR, and government ART programs, PEPFAR was the most renowned provider (28.6%) while government ART (19.8%) was the least known (Figure 3). Assessment of the level of awareness of the itemized VCT service providers showed that males were more knowledgeable than females.

Figure 2

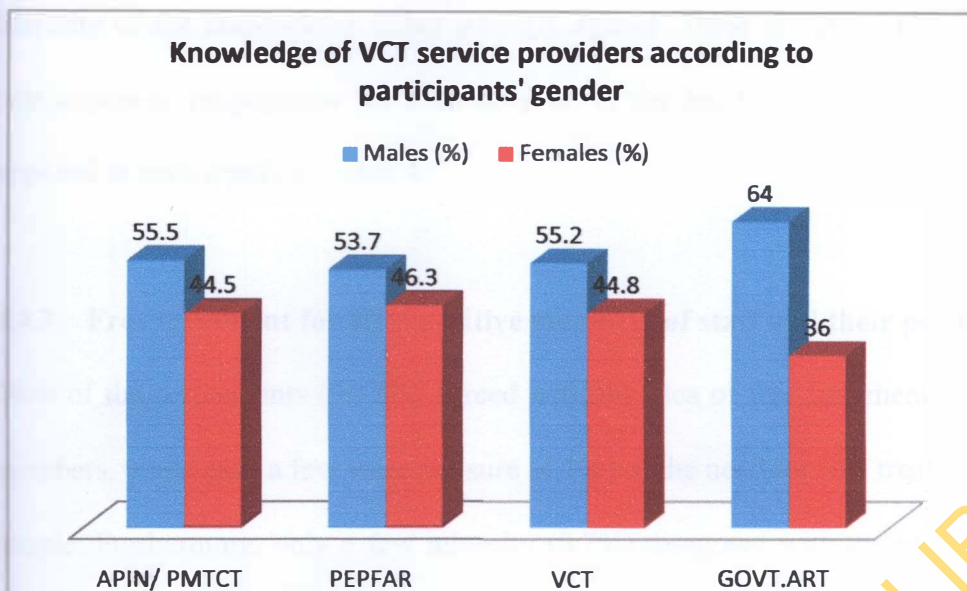


4.3.3 Sources of information about VCT services

The respondents reported various sources through which they were informed about VCT, these included colleagues (21.7%) workshop/seminar (17.8%), mass media (16.8%), professional meetings (15.4%), internet (14.6%), and personal study (13.9%).

The respondents' sources of information about VCT according to gender showed that males scored higher percentages than females in the knowledge of all sources highlighted. Figure 2

Figure 3



4.3.4 Knowledge about rapid HIV testing

The highest level of respondents' knowledge about rapid HIV testing was in relation to its usefulness in settings of limited infrastructures (28%), followed by knowledge of its relatively lower cost compared with conventional test (22.5%). Furthermore, majority of the respondents (93%) acknowledged that rapid HIV testing is minimally invasive and that it may not necessarily require evaluation at the point of service.

4.4 Attitude of Respondents to issues asked about Workplace VCT

4.4.1 Workplace VCT should involve all health workers

Over half of the respondents strongly agreed (51.3%) that workplace VCT should involve health workers. This was followed by those who sparingly agreed (36.8%) while 3% were not sure. However, only 6.3% and 2.6% of the respondents either disagreed or strongly disagreed with the idea that workplace VCT should involve healthcare workers. Table 4

4.4.2 Post exposure prophylaxis policy for HIV/AIDS in hospitals

Majority of the respondents either strongly agreed (79%) or agreed (18.4%) to the concept of post exposure prophylaxis for each hospital in the health sector while only a minority were opposed to such a policy. Table 4

4.4.3 Free treatment for HIV positive members of staff and their positive family members

Most of the respondents (95.2%) agreed with the idea of free treatment for sero –positive staff members, while only a few were not sure (4.1%) of the need for free treatment in this category of people. Furthermore, only a few minority (0.7%) disagreed with the idea. In comparison, there was reduction in the percentage of respondents (85.8%) who agreed with the idea of adequate and free treatment coverage also for HIV positive family members under workplace VCT. However, about 8% were not sure while the remaining (6%) disagreed with the idea of free treatment for HIV positive staff and their positive family members. Table 4

Table 4 Participants' Attitude towards issues about Workplace VCT

Variables	Strongly agree (%)	Agree (%)	Not sure (%)	Disagree (%)	Strongly disagree (%)
Workplace VCT should involve all health workers	138 (51.3)	99 (36.8)	8 (3.0)	17 (6.3)	7 (2.6)
Post exposure prophylaxis policy in hospitals	215 (79)	50 (18.4)	2 (0.7)	2 (0.7)	3 (1.1)
Free treatment for HIV positive members of staff	180 (66.9)	76 (28.3)	11 (4.1)	2 (0.7)	0 (0)
Free treatment for both HIV positive members of staff and their positive family members	145 (54.1)	85 (31.7)	22 (8.2)	16 (6.0)	0 (0)

4.5 Participants' Uptake of HIV Testing

4.5.1 Participants' knowledge of their HIV status according to socio- demographic profile

A higher percentage of medical doctors (95.4%) reported knowing their HIV status compared to the dentists (90.8%). In addition, there was a significant association between gender and knowledge of HIV status ($\chi^2 = 5.471$; p- value = 0.025). The uptake of HIV testing among female respondents was slightly higher (97.4%) compared to males (90.1%).

There was a strong statistical association between marital status and knowledge of HIV status, as a significantly higher proportion of married respondents (99.3%) reported knowing their HIV status compared to the singles (87.1%). ($\chi^2 = 16.018$; p- value = 0.000). Table 5

Table 5 Association between Socio-demographic Profile and Knowledge of HIV status

Characteristics	HIV status		χ^2	P value
	YES (%)	NO (%)		
Respondents' profession				
Medical doctors	144 (95.4)	7 (4.6)	2.214	0.149
Dentists	109 (90.8)	11 (9.2)		
Gender				
Male	136 (90.1)	15 (9.9)	5.471	*0.025
Female	111 (97.4)	3 (2.6)		
Marital status				
Single	115 (87.1)	17 (12.9)	16.018	*0.000
Married	136 (99.3)	1 (0.7)		
Age group				
21- 30 years	118 (89.4)	14 (10.6)	6.128	*0.047
31- 40 years	90 (96.8)	3 (3.2)		
>40 years	19 (100.0)	0 (0)		

*= significant

4.5.2 Participants' HIV status knowledge according to their professional characteristics.

All the respondents having seven to nine years of practice reported that they knew their HIV status, followed by 98% of those within 4-6 years of practice. Those with less than three years of practice showed the least uptake of HIV testing (89%). There was a significant association between the respondents' years of practice and knowledge of their HIV status ($\chi^2 = 8.499$; p-value = 0.037). Table 6

Also, there was a strong association between respondents' type of practice and knowledge of their HIV status ($\chi^2 = 7.739$; p-value = 0.005) such that all the specialists (100%) reported knowing their HIV status compared with the 91.8% general practitioners.

Majority (95%) of participants from private practice reported knowing their HIV status followed by those from the teaching hospitals (94.4%). However, there was no significant association between respondents' area of practice and knowledge of their HIV status ($\chi^2 = 0.101$; p-value = 0.951).

Table 6 Association between Respondents' professional profile and HIV status knowledge

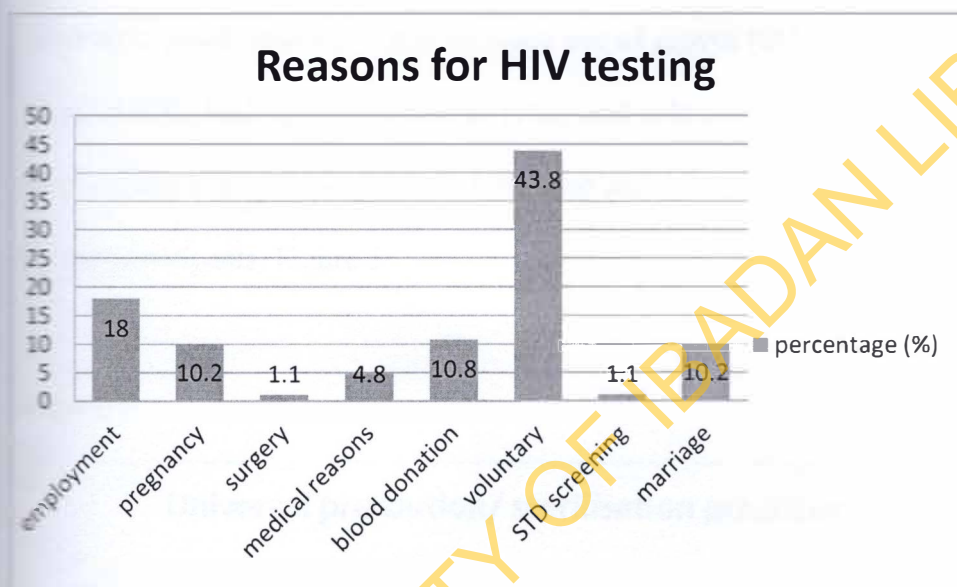
Professional characteristics	HIV status		χ^2	P value
	Yes (%)	No (%)		
Type of practice				
General practitioners	135 (91.8)	12 (8.2)	7.739	*0.005
Specialists	90 (100)	0 (0)		
Area of practice				
Private practice	19 (95.0)	1 (5.0)	0.101	0.951
State hospitals	42 (93.3)	3 (6.7)		
Teaching hospitals	186 (94.4)	11 (5.6)		
Years of practice				
0-3 years	123 (89.0)	15 (11)	8.499	*0.037
4-6 years	53 (98.0)	1 (2)		
7-9 years	36 (100)	0 (0)		
>10years	36 (94.7)	2 (5.3)		

*= significant

4.6 Reasons for HIV Testing

Different reasons for HIV testing were reported by the participants. The most commonly reported was as a voluntary decision (43.8%) followed by test requirement for employment purpose (18%) and the least reported reasons were pre- surgery requirement and STD screening purpose (1.1%). Figure 4

Figure 4



4.7 Agreement to HIV Testing in Clinics

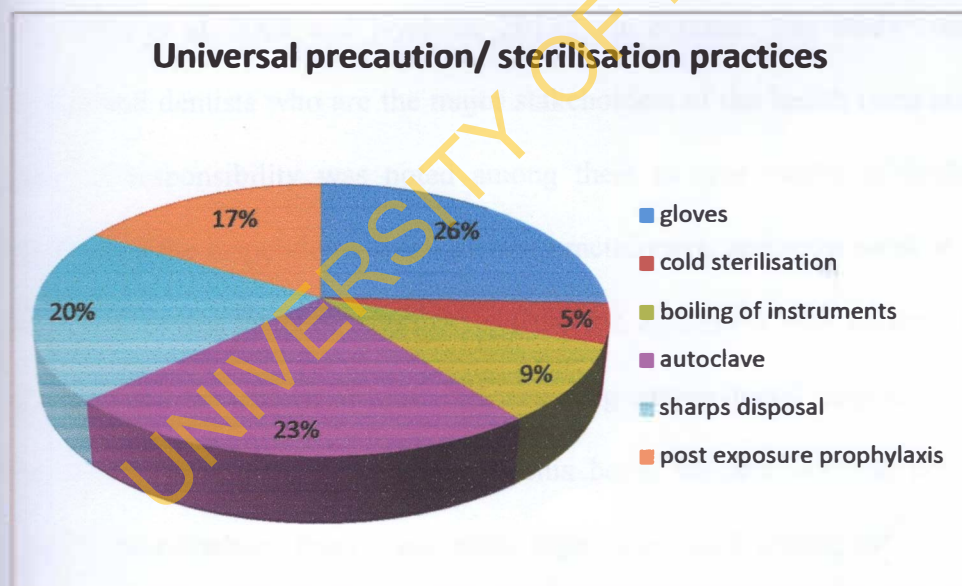
There was an almost equal agreement to HIV testing between medical doctors (91.6%) and dentists (90.8%) in their respective clinic settings. Despite the fact that most participants from both professions agreed to HIV testing for patients, there was a further report that there were no plans for its implementation. The lack of plan was significantly ($\chi^2 = 12.100$; p- value =0.001)

more frequently reported among dentists (83.6%) than medical doctors (63.6%). The most identified reason for the lack of plan was due to the respondents' belief that policy and plan should come from management and not care givers.

4.8 Available HIV Prevention Practices

The respondents reported various universal precaution methods as the usual practice in their respective health centres. These included use of gloves (26%), autoclave (23%), sharps disposal boxes (20%), boiling of instruments (9%), and cold sterilization (5%). HIV preventive practices such as post exposure prophylaxis following accidental needle pricks/ sharps injury was reported by the participants. Figure 5

Figure 5



CHAPTER 5 DISCUSSION

Most of the participants in this study were within the third and fourth decades of life, this is similar to the findings from similar studies done among HCWs in South Africa, Malawi and Nigeria by Obiajulu (2009), Namakhoma et al (2010) and Azodo et al (2010) respectively. More male than female respondents participated in this study; this pattern was the same among HCWs being assessed on HIV related issues by Azodo et al (2010) and Kirakoya- Samadoulougou et al (2013). However, other studies among HCWs by Bongololo et al (2008), Okojie and Omuemu (2004) and Zungu (2011) reported a higher proportion of females than males. Also, there were more married participants than singles as reported by Namakhoma (2010) and Nyahwa (2013).

Most of the studies in relation to knowledge, attitude and uptake of VCT practice among HCWs in Nigeria and other African nations like South Africa, Malawi and Zimbabwe usually comprised a low percentage of medical doctors and dentists and a higher percentage of other allied health workers like nurses, pharmacists, laboratory scientists, health assistants and others (Zungu, 2011; Bongololo et al, 2008 and Nyahwa, 2013). In contrast, this study consists only of medical doctors and dentists who are the major stakeholders of the health team and a predictably higher sense of responsibility was noted among them as role model of health seeking behaviour. Majority of the respondents were general practitioners, and most work at the teaching hospitals having six or less years of experience. This is in agreement with findings by Azodo et al (2010) who assessed the pattern of retroviral screening among dental surgeons in Nigeria. This may be due to a large number of the respondents being resident doctors, house officers and youth corpsers. Nonetheless, there were more high cadre staff among medical doctors compared to dentists who comprised more of low cadre staff. This may be due to the fact that the dental

profession is being newly embraced compared with the long existing and better known medical profession.

Knowledge about VCT

The moderately high level of VCT knowledge among participants in this study was lower compared to a similar study in South Africa by Obiajulu (2009) who reported that more than half of their hospital patients were HIV sero positive and this could have accounted for higher VCT services among them. Other studies done by Donkor et al (2012) and Nyahwa (2013) also noted a high level of VCT knowledge among their respondents. In addition, there was a strong association between the level of VCT knowledge and the participants' profession such that medical doctors had a higher level of knowledge than their dental colleagues. This might be due to the fact that there are more VCT sites in medical settings than at dental centres, thus making the medical doctors to be more familiar with VCT services.

Furthermore, most respondents in this study acquired their knowledge about VCT through their colleagues, workshops/ seminars and mass media. This was consistent with findings from studies done in Ghana and Uganda by Donkor et al (2012) and Kitara et al (2012) respectively.

Attitude of Participants towards Workplace VCT

Workplace HIV/AIDS policies and programmes have long-lasting benefits in the workplace. VCT provides an entry point to the continuum of treatment, care and support; more so, employees who are living with HIV are more likely to benefit from the package that the company may offer, such as continuous counselling and support, benefits to their sero- positive family members such as access to antiretroviral drugs (Makhutle, 2011). Furthermore, various

formal training programmes within company operations such as employees' induction, in-service training sessions and campaigns present opportunities to periodically brief employees about HIV/AIDS policy and programmes. The utilisation of VCT services at the workplace as a means to expand access to HIV/AIDS programmes, must be grounded on acceptable health care practices and ensure respect, protection against stigmatization and discrimination, and basic human rights elements such as privacy and equality (Engender health, 2008).

Most of the respondents agreed to the concept that workplace VCT should involve health workers. Also, majority agreed with the idea of free treatment for sero-positive members of staff as well as their positive family members. In agreement with the report by Makhutle (2011), promotion of HIV/AIDS programmes in a workplace will increase the likelihood that employees would utilize VCT services, thereby averting new episodes of HIV infection.

Participants' Uptake of HIV Testing

Majority of the study participants reported having been tested for HIV and knowing their HIV status. This was consistent with findings about HCWs in Benin, Nigeria and Kwazulu- Natal in South Africa by Okojie et al (2004) and Zungu (2011) respectively, with the highest percentage of HIV testing among the doctors. This still reinforces the fact that doctors and dentists being the foremost stakeholders in the health sector may have a better health seeking behaviour compared to others in health care system. Availability of test kits at laboratories and skilled personnel, that is, scientists themselves, could be likely reasons for increased HIV testing among laboratory workers as reported among HCWs in Burkina Faso (Kirakoya- Samadoulougou et al, 2013).

Studies done among HCWs in Zambia and Burkina Faso revealed a low level of uptake of HIV counselling and testing of 33% and 38% respectively. Some documented reasons why healthcare

workers refrain from HIV testing include fear of a positive HIV result, perceived lack of confidentiality, fear of stigmatization and discrimination following a positive result and unwillingness to go through the counselling process (Kirakoya-Samadoulougou et al, 2013; Bongololo et al, 2007; Tarwireyi and Majoko 2003).

This research finding further showed a significant difference between gender and uptake of HIV testing such that female respondents had a higher uptake of HIV testing than male respondents. This finding was consistent with those reported among HCWs in South Africa and Malawi by Zungu (2011) and Bongololo et al (2008) respectively. This likely indicates that females are more careful about their health status compared to males; more so, females get tested for HIV during pregnancy to reduce the risk of maternal to child transmission. However, a research among HCWs in Burkina Faso reported more males than females have had HIV test done.

In addition, there was a strong association between the participants' marital status and knowledge of their HIV status as a higher proportion of the married participants reported knowing their HIV status compared to the singles. This was also reported by Zungu (2011) but contrary to another research finding among HCWs in South Africa by Obiajulu (2009) who reported higher HIV status knowledge among the single than married respondents. This could be due to the fact that there were more single respondents in Obiajulu's research, otherwise HIV testing is a requirement for most marital relationships, thus it is expected that more married people know their HIV status compared with singles.

The results of this study also showed a significant association between uptake of HIV testing and participants' working experience such that the proportion of those who had done HIV test increased with the years of practice. This finding was consistent with that of Kirakoya-

Samadoulougou et al (2013). Significantly too, the more aged the participants in this study were, the more they had been tested for HIV.

Majority of the respondents in this study had voluntary HIV testing, this was similar to the findings of Namakhoma (2010) and Nyahwa (2013) among HCWS in Malawi and Zimbabwe respectively. Other reasons given for HIV testing in this study were pre-employment, pre- blood donation, pre- marital purposes and as a mandatory test at antenatal clinics.

HIV Prevention Practices

Various measures for universal precaution against HIV infection and post exposure prophylaxis (PEP) were noted by the respondents as the usual practice in their respective health centres. Universal precaution measures help to reduce risk of infection from occupational exposure to infectious body fluids (Bongololo et al, 2008; Tawfik et al, 2006). Further protection can be ensured through post exposure prophylaxis by giving anti- retroviral drugs following accidental needle pricks and sharps injury and this was agreed to by majority of the respondents in this research. These policies of universal precaution and post exposure prophylaxis have been adopted in some countries like Tanzania, Namibia and South Africa as guidelines for their HCWs in the prevention of HIV/AIDS (Tawfik et al, 2006). A study among HCWs in Malawi revealed a knowledge gap in both universal precaution practices and post exposure prophylaxis especially among the lower cadre workers, as well as inadequate supply of materials for implementation of universal practice guidelines (Bongololo et al, 2008).

Expanded HIV Testing in Dental Settings

In recent times, the concept of routine HIV screening has been recommended to enhance early diagnosis and timely initiation of care thereby reducing morbidity and mortality among HIV infected persons (Blackstock et al, 2010; Greenberg et al, 2010). Dental practice has been identified as a unique venue of reaching at-risk individuals who may not otherwise access the conventional healthcare settings (Glick, 2008). HIV screening in dental settings through saliva-based diagnostics testing is a potential means to further integrate oral and medical health care systems, a continuum of screening for medical conditions like hypertension and oral cancers previously done in dental settings (Dietz, 2008). Majority of the dentists in this study were of the opinion that HIV testing is appropriate in dental practice. This is consistent with the findings of Nassry et al (2012) in their study among dentists in New York dental school. This reveals that Nigerian dentists are optimistic about implementing the innovative practice of incorporating HIV testing into dental practice. Also, a positive attitude was found among the study participants in that both male and female dental respondents equally indicated their willingness to undergo training for rapid HIV testing in their dental centres. It is pertinent to assess oral health providers' attitude and beliefs about HIV as this would likely affect their willingness to perform these services (Siegel et al, 2012). Pertaining to the various settings being considered as ideal, including general outpatient clinics, dental school outpatient, private dental clinics and community dental services, most of the dental participants noted that all were equally important, thus allowing dentists in their professional cadres an appropriate exposure to expanded HIV testing in their dental practice. Also, this gives a greater opportunity of detecting sero-positive patients who have not been previously tested (Reznik, 2008). It is pertinent to note that New York dental school has been suggested as an appropriate setting for HIV testing, thereby

exposing dental students to saliva- based diagnostic method of HIV testing (Hutchinsons et al, 2012; Nassry et al, 2012).

Despite the positive attitude of participants in this study towards incorporating HIV testing into dental settings, a higher proportion indicated that there were no plans to implement such strategy in their dental settings. Reasons highlighted for lack of plans for HIV testing in dental settings include poor understanding of rationale, lack of insurance coverage, and more importantly, the belief that such policy and plan should come from the governing authorities and not dental caregivers. These findings are consistent with that of Vernillo et al (2007). Other barriers identified by Patton et al (2002) and Greenberg et al (2010) are lack of counselling skills, time constraint and perceived patients' low or non acceptance viewing it as an activity not within the traditional scope of dentistry. Hutchinson et al (2012) also reported negative patient reactions and patient privacy issues as commonly cited barriers by dentists and dental students in New York Dental College. Therefore, it would be appropriate that these recent advances in dentistry, being new concepts in a developing country like ours, be given adequate publicity for proper sensitization of both decision makers in the health sector and the society at large. This will enhance its consideration for adoption by the government and encourage better acceptance by the general populace.

Barriers to HIV Testing in Medical Settings

While majority of the medical participants in this study agreed to HIV testing for patients in their health centres, over half of them reported lack of HIV testing in their health settings. Some of the reasons for lack of HIV testing identified by the participants included revenue constraint, lack of

insurance coverage and the most identified reason being that policy and plan should come from management and not care givers. Some factors like burdensome consent process, insufficient time, lack of patient acceptance and inadequate reimbursement have also been identified as possible barriers to HIV testing by physicians (Burke et al, 2007).

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This study showed a high level of knowledge about VCT among our participants generally, with a statistically significant and a higher level of knowledge about VCT among medical doctors compared to their dental colleagues. Also, the study participants expressed a very positive attitude towards workplace VCT, as most of them agreed to involvement of HCWs in workplace VCT. Majority were also supportive of free treatment for HIV positive members of staff and their sero- positive family members.

In addition, a high level of uptake of HIV counselling and testing was noted among our participants and this was slightly higher among the medical doctors compared to the dentists. The idea of incorporating HIV testing into dental practice was agreed to by the dental respondents. Also, there was no dental sub- unit that was considered inappropriate for HIV testing by the respondents.

The following recommendations as a result of this research are therefore made:

1. Hospital management to consider incorporating VCT services into dental units as well as training of dentists to administer HIV counselling and testing services to patients, especially those with oral lesions that raises the suspicion of HIV disease.
2. Provision of free antiretroviral therapy and related support and monitoring for HIV positive healthcare workers and their sero- positive family members.
3. Training of hospital administrators and those in charge of health facilities for proper implementation of policies beneficial for workplace VCT.
4. Introduction of rapid HIV testing in dental units using saliva- based diagnostic kits (Ora Quick technology), a new technological advancement in dental practice.

5. Universal precaution practices and appropriate sterilization techniques should be promoted to limit occupational risks of HIV transmission among health care workers.
6. We also recommend study to assess the willingness of patients to accept HIV testing during dental visits.

LIMITATIONS

1. Time – the shortness of the period of study did not permit a wider coverage of health care workers across their various professional cadres.
2. Rather than a cross sectional study, a prospective study with pre and post assessments would have been better to evaluate possible increase in VCT uptake following education and enlightenment of healthcare workers on its importance.
3. Being a questionnaire based study, there is limit to information given by the respondents compared to an in-depth interview mode of data collection through which more information can be extracted from the respondents.

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APPENDIX A

[MEDICAL DOCTOR]

Dear colleague,

This questionnaire is meant to assess your level of awareness about Voluntary Counselling and Testing (VCT) for HIV infection and other related issues, anonymity will be maintained and all information will be kept confidential.

Thank you in anticipation of a favourable response.

DEMOGRAPHIC INFORMATION

1. Serial number.....

2. Age last birthday (years).....

3. Sex.....

4. Marital status: Single Married Divorce/separated widow/widower

5. Official status: HO NYSC SHO MO/ Registrar Senior MO/SR

Consultant /Director Others (please specify)

6. City of abode.....

7. State of abode.....

8. (i) Type of practice: General Specialist (please specify speciality).....

(ii) Area of practice: (a) Private (b) State (c) Teaching Hospital (d) Military (e) others (please specify).....

(iii) Years of practice (a) 0-3 (b) 4-6 (c) 7-9 (d) 10-12 (e) 13-15 (f) >15

Section A (KNOWLEDGE ABOUT VCT FOR HIV/AIDS)

9. What Voluntary Counselling and Testing (VCT) for HIV infection about?

.....
.....

10. Have you ever heard of any of the following services? (You may tick more than one option)

- (a) APIN/PMTCT (b) PEPFAR/APIN+ (c) VCT (d) Government ART programme

11. What are your source(s) of information about the services?

- (a) Official notice / Workmate (b) Personal study (c) Internet

- (d) Workshop & seminars (e) Mass media (Radio, TV) (f) Professional meeting

12. which of the following obtains in you practice?

- (a) Routine use of gloves (b) Cold sterilization (c) boiling of instruments

- (d) Autoclave (e) Special sharp disposal facilities (g) Post exposure prophylaxis

13. Do you know your HIV status (yes/no)

If No, proceed to number 17

14. If yes, why was the test carried out?

- (a) For employment (b) For pregnancy
(c) For surgery (d) For medical reasons
(e) Before blood donation (f) Voluntary
(g) For STD screening (g) For marriage reasons

15. Where was the HIV Test carried out?

- (a) Within your workplace (b) Outside your workplace

16. If outside, why?

- (a) For convenience (Yes/no) (b) Confidentiality concerns

17. If no, why? (You may tick more than one option)

- (a) Concerns about confidentiality (b) Ignorance about VCT services
(c) Stigmatization and discrimination at work (d) Religious belief

28. If no, what are your reasons for lack of plans? (you may choose more than one option):

- (a) Poor understanding of the rationale and potential value of the test.
- (b) Revenue constraints (c) General lack of interest and willingness.
- (d) Lack of educational & marketing campaigns on HIV tests in clinics.
- (e) Lack of insurance coverage and financial motivation for care givers.
- (f) There is no urgent need for HIV test in the clinic.
- (g) Such policy and plan should come from hospital management not caregivers.

29. Concerning implementation of HIV tests for patients in clinics, which of the following venues will you consider as very important? (You may choose more than one)

- (a) Community health clinics.
- (b) Family planning clinics.
- (c) Substance abuse treatment centres.
- (d) Hospital emergency department.
- (e) TB clinics.
- (k) All are equally important.
- (f) prenatal / obstetrics clinics.
- (g) Dental care settings
- (h) Hospital outpatient clinics
- (i) Hospital inpatients
- (j) Labour & delivery departments

30. Which of the following is true concerning rapid HIV tests?

- (a) It is particularly useful in settings of limited infrastructures.
- (b) Procedure is cheaper than conventional test.
- (c) It requires further evaluation at a reference laboratory.
- (d) It requires evaluation at the point of service.
- (e) Combination of multiple rather than single rapid test is advisable.
- (f) Rapid HIV test is always non invasive.

Section D

Work place VCT should involve all health workers.

Strongly agree	Agree	Not sure	disagree	Strongly disagree

Every hospital and clinic management must have and implement post exposure prophylaxis policy for HIV /AIDS.

Strongly agree	Agree	Not sure	disagree	Strongly disagree

Management policy on Workplace VCT should include free, adequate treatment of HIV positive **members** of staff.

Strongly agree	Agree	Not sure	disagree	Strongly disagree

Management policy on Workplace VCT should include adequate treatment of HIV **positive members** of staff. **and the positive family members.**

Strongly agree	Agree	Not sure	disagree	Strongly disagree

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Dear colleague,

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Thank you in anticipation of a favourable response.

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- (a) Within your workplace (b) Outside your workplace

16. If outside, why?

- (a) For convenience (Yes/no) (b) Confidentiality concerns

17. If no, why? (You may tick more than one option)

- (a) Concerns about confidentiality (b) Ignorance about VCT services
(c) Stigmatization and discrimination at work (d) Religious belief
(e) Concerns about negative outcome (f) Concerns about spouse rejection
(g) Fear of job loss. (h) Family stigmatization and discrimination

SECTION B (ATTITUDE TOWARDS VCT SERVICES)

18. Which of these will you consider as the strength of the HIV test centre?

- (a) Staff attitude (b) Confidentiality (c) Available kit & space
(d) Adequate staff (e) Accessibility (f) Good staff knowledge

19. Which of these will you consider as the weakness of the HIV test centre?

- (a) Poor staff attitude (b) Lack of confidentiality (c) Unavailable kit
(d) Inadequate staff (e) Transport problem (f) Poor staff knowledge

20. If you have never done HIV test before, do you want to know your status? (Yes/no)

21. If due to confidentiality, are you willing to do HIV test at a neutral centre away from your workplace (Yes/no)?

22. If due to stigmatization and discrimination, which of the following is of concern to you?

(You may choose more than one yes)

(i) Rumour and or Gossip (Yes/no) (ii) Avoidance and or Isolation (Yes/no)

(iii) Verbal abuse (Yes/no) (vi) Ridicule (Yes/no)

23. Will you voluntarily undergo training to offer VCT for HIV test at the dental clinic? Yes/ No.

24. If No, why?

SECTION C (PRACTICE OF VCT)

25. Do you support HIV testing for patients in the dental clinic? Yes/ No.

26. If No, why?

27. If yes, do you have a documented plan to implement such HIV test in your clinic?

Yes/ No.

28. If no, what are your reasons for lack of plans? (you may choose more than one option):

(a) Poor understanding of the rationale and potential value of the test.

(b) Revenue constraints (c) General lack of interest and willingness.

- (d) Lack of educational & marketing campaigns on HIV tests in dental clinics.
- (e) Lack of insurance coverage and financial motivation for dental care givers.
- (f) There is no urgent need for HIV test in the dental clinic.
- (g) Such policy and plan should come from hospital management not dental caregivers.

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- (b) Dental school outpatient clinic
- (c) Private dental clinic
- (d) Dental emergency room
- (e) Community dental clinics
- (f) All are equally important

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- (a) It is particularly useful in settings of limited infrastructures.
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Strongly agree	Agree	Not sure	disagree	Strongly disagree

Management policy on Workplace VCT should include adequate treatment of HIV **positive members** of staff. **and the positive family members.**

Strongly agree	Agree	Not sure	disagree	Strongly disagree

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APPENDIX B

INFORMED CONSENT

IRB Research approval number: _____

This approval will elapse on: _____

Title of the research: KNOWLEDGE, ATTITUDE AND UPTAKE OF VOLUNTARY COUNSELLING AND TESTING FOR HIV/AIDS AMONG MEDICAL DOCTORS AND DENTISTS IN SOUTHWESTERN NIGERIA.

Name and affiliation of researcher: This study is being conducted by Dr. ABE Elizabeth Oluwatoyin of the Faculty of Dentistry, University of Ibadan.

Sponsor of research: this study is self- sponsored.

Purpose of research: the purpose of this research is to determine the knowledge, attitude and uptake of voluntary counseling and testing (VCT) for HIV/AIDS among medical doctors and dentists in Southwestern Nigeria.

Procedure of the research: using stratified random sampling method, an initial selection of three study states out of the six states in the South Western region of Nigeria will be done by simple randomization through balloting. A proportionate sampling of medical doctors and dentists will be carried out at the three levels of health facilities according to the medical and dental council register to give a total of 150 participants from each state.

Collection centers will include Continuing Medical Education (CME) meeting venues, and the various health facilities within Southwestern part of Nigeria cutting across the three levels of health care.

Expected duration of research and of participants' involvement: this study is expected to span through 3 months. Each participant should not spend more than 15minutes to fill the questionnaire.

Risk: there is no risk associated with the study.

Cost to the participants: your participation in this research will cost you no money.

Benefit: there is no direct benefit to participants but an indirect benefit through the application of research findings in improving VCT service uptake among medical doctors and dentists.

Confidentiality: all information collected in this study will be coded and names will not be recorded. This cannot be linked to you in anyway and your name or any identifier will not be used in any publication or report from this study.

Voluntariness: your participation in this research is entirely voluntary.

Due inducement: you will not be paid any fees for participating in this research.

Consequences of participants' decision to withdraw from research and procedure for orderly termination of participation: you can choose to withdraw from the research at anytime.

Statement of person obtaining informed consent:

I have fully explained this research to _____ and have given sufficient information including about risks and benefits, to make an informed decision.

DATE: _____ SIGNATURE: _____

NAME: _____

Statement of person giving consent:

I have read the description of the research, I have also talked it over with the researcher to my satisfaction. I understand that my participation is voluntary. I know enough about the purpose, methods, risks and benefits of the research study to judge that I want to take part in it. I understand that I may freely stop being part of this study at any time. I have received a copy of this consent form and additional informational sheet to keep for myself.

DATE: _____ SIGNATURE: _____

NAME: _____

Detailed contact information including contact address, telephone, fax, e-mail and any other contact information of researcher, institutional HREC and head of institution:

This research has been approved by the Ethics Committee of the University of Ibadan and the Chairman of this committee can be contacted at Biode Building, Room 210, 2nd Floor, Institute for Advanced Medical Research and Training, College of Medicine, University of Ibadan, Ext: 2451, e-mail uiuchirc@yahoo.com

In addition, if you have any question about your participation in this research, you can contact the principal investigator:

NAME: Dr. Abe E. Oluwatoyin

DEPARTMENT: Faculty of Dentistry, College of Medicine, University of Ibadan

PHONE: 08029789847

E-MAIL: eoabe83@yahoo.co.uk



UI/UCH EC Registration Number: NHREC/05/01/2008a

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Knowledge, Attitude and Uptake of Voluntary Counselling and Testing for HIV/AIDS among Medical Doctors and Dentists in South Western, Nigeria

UI/UCH Ethics Committee assigned number: UI/EC/13/0393

Name of Principal Investigator: Elizabeth O. Abe

Address of Principal Investigator: Department of Oral Pathology/Medicine,
College of Medicine,
University of Ibadan, Ibadan

Date of receipt of valid application: 21/11/2013

Date of meeting when final determination on ethical approval was made: 20/02/2014

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and given full approval by the UI/UCH Ethics Committee.

This approval dates from 20/02/2014 to 19/02/2015. If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the UI/UCH EC assigned number and duration of UI/UCH EC approval of the study.* It is expected that you submit your annual report as well as an annual request for the project renewal to the UI/UCH EC early in order to obtain renewal of your approval to avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. No changes are permitted in the research without prior approval by the UI/UCH EC except in circumstances outlined in the Code. The UI/UCH EC reserves the right to conduct compliance visit to your research site without previous notification.



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