

**ACCESSIBILITY AND USE OF HEALTH CARE INFORMATION BY HIVAIDS
PATIENTS IN SELECTED TERTIARY HEALTH INSTITUTIONS IN THE NORTH-
WESTERN STATES OF NIGERIA.**

BY

**IBINAIYE I. DORCAS
MLS/EDUC/8013/2009-10**

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UNIVERSITY, ZARIA**

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DECLARATION

I hereby declare that this thesis entitled “**Accessibility and Use of Health Care Information by HIV/AIDS Patients in Selected Tertiary Health Institutions in the North-Western States of Nigeria**” had been written by me under the supervision of Professor I. I. Ekoja and Dr. A. Yusufu. All literature consulted and cited were properly acknowledged.

Ibinaiye, I. Dorcas

Signature

Date

CERTIFICATION

This is to certify that this thesis entitled “**Accessibility and Use of Health Care Information by HIV/AIDS Patients in Selected Tertiary Health Institutions in the North-Western States of Nigeria**” by Ibinaieye, I. Dorcas, had met the requirement for the award of Master of Library Science (MLS) of Ahmadu Bello University, Zaria.

Professor I. I. Ekoja
Chairman Supervisory Committee

Signature

Date.

Dr. A. Yusufu.
Member Supervisory Committee

Signature

Date

Dr. Abdullahi, I. Musa
Head of Department

Signature.

Date

Professor. A. Z. Hassan
Dean Postgraduate School

Signature

Date

DEDICATION

This research work is dedicated to my farther Emmanuel Obitunwase, my husband, Dr. Philip O. Ibinaie, who stood by me throughout, giving all necessary support and encouragement needed, and also to our children Jennifer, Anderson, Omolanle and Trust.

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ABSTRACT

This study was carried out to investigate accessibility and use of healthcare information by HIV/AIDS patients in the North-Western States of Nigeria. Six research questions were formulated and tested with respect to the type of healthcare information available on HIV/AIDS, sources of information, awareness of information by HIV/AIDS patients, access to healthcare information, use of healthcare information, challenges of access to healthcare information and suggested solution to the problems. A survey method was adopted for the study. A total population of 356 HIV/AIDS patients was selected from the selected tertiary healthcare centers in the North-Western States of Nigeria. The three selected tertiary health centers includes: Ahmadu Bello University Teaching Hospital (ABUTH) Zaria, Kaduna State, Aminu Kano Teaching Hospital, (AKTH), Kano, Kano State and Federal Medical Center, Gusau, Zamfara State. Questionnaire was used as an instrument of data collection. Data collected was analyzed and presented using frequency distribution table, while hypotheses were tested using T-test of independent sample. The study found out that types of healthcare information sought for by majority of HIV/AIDS patients were signs and symptoms of HIV/AIDS with 222(62.4%) respondents. Access to healthcare information was through internet with 179(50.3%) responses which was the most popular source of information. The purpose of use of healthcare information was to educate people on HIV/AIDS with a score of 271(76.6%). Findings of the hypotheses showed that there is no significant difference in types of healthcare information available for male and female HIV/AIDS patients in the selected tertiary health institutions in the North-Western States of Nigeria. The study concluded that there was access to healthcare information through various sources and formats but hindered by factors such as ignorance of people who do not believe in the real existence of HIV/AIDS and may never go for laboratory test or seek for information. The researcher recommended that government intervention is required to facilitate adequate provision of information. Moreover, information communication technologies are very essential in the delivery of healthcare services and in aiding adequate supply of vital information due to the fact that provision of qualitative healthcare services cannot be complete without information technology.

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LIST OF ABBREVIATIONS.

HIV – Human Immune Deficiency Virus

AIDS – Acquired Immune Deficiency Syndrome

PLWHA – People Living With HIV/AIDS

HRSA – Health Resource and Service Administration

HINARI – Global Health Research Initiative

WHO – World Health Organization

NLM – National Library of Medicine

NIH – National Institute of Health

IBDS – National Bibliographic Information on Dietary Supplementary

NGSs – Non-Governmental Organizations

MB'BS – Bachelor of Medicine Bachelor of Surgery

SSCE – Senior School Certificate Examination

OND – Ordinary National Diploma

HND – Higher National Diploma

UNAIDS –United Nations on Acquired Immune Deficiency Syndrome

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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Human Immune Deficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) in Nigerian society is a burden that continues to grow with devastating human, socio – economic and security consequences, apart from an untold grief and human misery. The effect of HIV/AIDS is so enormous that it has created untold burden on human families' in particular and society at large, wiping out societal developmental gains, increasing child mortality, decreasing life expectancy and creating millions of orphans in the society, especially in Nigeria. Adequate provision of healthcare information, easy accessibility and effective utilization of information is needed by HIV/AIDS patients and healthcare professionals to fight the scourge.

Healthcare is the diagnosis, treatment, prevention of disease, illness, injury and other physical and mental impairments in allied health, dentistry, medicine, nursing, optometry, pharmacy and other health-care providers (The Free Encyclopedia, 2014). It also refers to the work done in providing primary, secondary and tertiary care as well as in public health. Access to healthcare varies across countries, group and individuals, largely influenced by social and economic conditions as well as health policies in place; therefore information is needed to facilitate effective healthcare management. Information is a critical resource to the growth and development of any individual, group and nation (Chukwu, 2005). Recently, there is an increasing awareness of information needs by individuals, groups, organizations and nationalities for policy making, planning and other strategic reasons. High level of information generation and awareness of available information needs has put information managers on their toes in their efforts to find a solution to HIV/AIDS problem in the society.

Effective accessibility and utilization of healthcare information required a functional system with consistent management skills channeled towards an achievable goal. The goal of an information system is to meet the need of its user. A system according to Oxford Advanced Learner's Dictionary (2010) is an organized set of ideas or theories or a particular way of doing things. Health care information system includes the resources, devices and methods required to optimize the acquisition, storage, retrieval and use of information in health and biomedicine practices (National Library of Medicine, 2009). Health information tools are not only computers but also guidelines, formal medical terminologies, information and communication systems. It is applied to the area of nursing, clinical care, dentistry, pharmacy, public health, occupational therapy and bio-medical research. Healthcare information is needed to enhance knowledge of

healthcare professionals and patients, to characterize, evaluate and refine clinical decision, implementation, management, evaluation of health services and continuous improvement in all ramifications.

Management of HIV/AIDS patients required that healthcare providers ensure that vital health information reaches them regularly through an effective communication channels, this will significantly improve the patient safety, treatment and satisfaction. Good information management is required to ensure that each patient could be identified and traced. Highly active anti-retroviral therapies (HAART) require daily administration of three antiretroviral drugs to maintain control of the disease and minimize emergence of resistance (Fraiser, 2004).

1.1.2. Human Immune Deficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS)

HIV is a type of virus called a retrovirus which infects humans when it comes in contact with a break in skin or tissues such as those of the lining of female reproductive system, anal area, nose, mouth or eyes. MedicineNet.com Newsletter (2012), described Human Immune Deficiency Virus (HIV) as the cause of Acquired Immune Deficiency Syndrome (AIDS). HIV is a complex virus that uses RNA and DNA as its genetic messenger. It reproduces primarily in specialized cells of the body immune system called CD4 Lymphocytes. During HIV replication, CD4 cells are destroyed. As more cells are killed, the body loses the ability to fight many infections. With AIDS claiming so many lives, Nigerian life expectancy has declined significantly. This is no doubt a significant barrier to sustainable development in all ramifications. The implication is that it has a great and substantial impact on the social-cultural believes and economic development of Nigeria; a considerable decrease in life expectancy of the active population in Nigeria, It has further brought about an increase in the death of young adults while the number of orphans in the country has significantly increased. It is important that this category of patients should be adequately empowered with information to enable them make the right healthcare decision pertaining to type of medication, preventive care and drug use to adopt. The following efforts were made to eradicate the effect of HIV/AIDS in Nigeria:

- * lowering of prices of branded antiretroviral drugs and the introduction of generic copies.
- * Initiation of national antiretroviral programme at relatively small scale events.

- * Prevention of mother and child and sexual transmission of the HIV virus (Abstinence and faithful programme, use of condom/other prevention Initiatives).
- * Prevention of medical transmission of HIV virus through blood and Injectionsafety.
- * HIV counseling and testing services.
- * A periodic monitoring and evaluation of ARV programme in all Countries have become an imperative.
- * Increase in the accessibility to quality HIV/AIDS care, treatment and Prevention services.
- * Strengthening health care system, a cross-sectorial integration of HIV/AIDS programmes as well as strengthening of private, public and community enabling environment.

1.1.3 The Importance of Information in Stemming the Spread of HIV/AIDS in

Nigeria

The importance of healthcare information in stemming the spread of HIV/AIDS cannot be underestimated. Information, to an ordinary man is a necessity, while to HIV/AIDS patient it means life and death that is why HIV/AIDS patients will do everything they could to acquire relevant and most crucial information to save their lives and those of their family members. According to English Dictionary for Advanced Learners (2007), “information is referred to as knowledge or facts about something.” Also, The New Shorter Oxford English Dictionary (1993) referred to information as “Knowledge communicated about a particular subject or news.” In support of this, Aiyepoku (1982) described information as “cumulated knowledge in all subjects, forms and from all sources that could help its users to make rational decision that could help its users to make rational decision”. Information can be seen as the total sum of processed and unprocessed data which enhanced knowledge essential for rational decision-making. Medical libraries established in various health institutions in Nigeria ensure the provision of adequate and relevant information for both HIV/AIDS patients, healthcare providers and the general public in form of current awareness services, which enable users have access to up-to-date reliable health information resources and services in their respective institutions.

In order to ensure high quality medical care, sources of healthcare information is very important, Internet is a very important source that host a large amount of high quality medical

information resources (databases, e- journals, e-books etc.), purposely to inform, connect professionals and patients for effective communication and decision making (Silberg, 1997). It is also very important that information is easily accessible to healthcare providers to enable them carry out their duties effectively and efficiently. Accessibility to information resources either through printed and non-printed resources have become the backbone of every developed nation. The library has a major role to play in this regard as the storehouse of knowledge and information; it provides both access to information resources and the information itself. Information resources are of prime importance to healthcare providers and HIV/AIDS patients, since they carry current reports, research findings and outcome of scientific investigation of advances in the study of diseases, methods of diagnosis and treatment, and the use of new drugs. These help the practicing physicians and researchers to keep abreast of latest information at the earliest possible time.

The importance of carrying out the study of availability, accessibility and use of healthcare information in the North West Geo-political Zone of Nigeria is to ensure that adequate and reliable health care information is provided for Nigerians and to ensure that the fight against HIV/AIDS in the world at large is won. HIV/AIDS has a huge impact on the socio-cultural and economic development of the nation as well as a huge reduction in the percentage level of active working population in the country.

Availability of health care information helps to create awareness, to protect the general populace from contracting HIV virus, to prevent and eradicate the spread of HIV/AIDS viruses and diseases in Nigeria. It is based on the above discussion that it becomes clear that HIV/AIDS patients in North West Geo-Political Zones would find these essential information services very worthwhile and relevant in promoting good health, the preventing and spread of HIV/AIDS among Nigerians.

1.2. Statement of the Problem

Acquired Immune Deficiency Syndrome (AIDS) is the final stage of Human Immune Deficiency Virus (HIV) disease, which causes severe damage to the immune system. AIDS is a complication of HIV infection. The virus attacks the immune system and leaves the body vulnerable to a variety of life threatening infections and cancers. AIDS is the sixth leading cause of death among people aged between 25 and 44 in the United States. The World Health Organization estimated that more than 25 million people worldwide have died from this infection.

Nigeria has the second largest population of HIV/AIDS carriers in the world, with 56% of adult women infected (UNAIDS, 2012). Out of 3.5 million estimated persons infected in Nigeria, 170,000 persons died in 2007 alone, and 192,000 persons in 2009 with varying figures from one community to another. This is no doubt very alarming and requires urgent solution.

With AIDS claiming so many lives, Nigeria's life expectancy has declined significantly. This is no doubt a significant barrier to sustainable development in all ramifications.

The major objective of healthcare information is to ensure high quality medical care (Silberg, 1997). There are volumes of information resources in different formats such as printed, electronic or digital, databases, e-journals, e-books, newsletters, magazines and basic education needed to prevent the cause and spread of HIV infection in the society (Bothman, 2013). In order to eradicate the deadly scourge of HIV/AIDS in the society, there is need for availability of information resources through different sources. Easy access and adequate utilization of information is very crucial to the need for its prevention, cure, proper management and decision making on behalf of users.

The researcher observed that in spite of the volumes of information resources on HIV/AIDS, the numbers of patients are increasing by the day in the North Western States of Nigeria. Furthermore, there are many people living with HIV/AIDS that strongly believe in using traditional medicine rather than orthodox medicine or therapies that could curtail or prevent the spread of the disease, while some do not even believe in the existence of HIV/AIDS in the society. Perhaps, they are not privy to information on the disease, or could also be that they do not utilize the available information on HIV/AIDS

It is against this background that this study was designed to examine the accessibility and utilization of healthcare information by HIV/AIDS patients in the North Western Nigeria.

1.3. Research Questions.

The researcher sought to provide answers to the following research questions:

1. What types of health care information are available for HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria?
2. What sources of healthcare information are available for the HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria?
3. What is the extent of awareness of healthcare information by HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria?
4. To what extent do the HIV/AIDS patients in the selected tertiary health centers in the North Western States of Nigeria access healthcare information?
5. What are the challenges faced by the HIV/AIDS patients in these selected healthcare centers in the North western States of Nigeria in accessing health care information resources?

1.4. Objective of the Study

The following are the objectives of the study:

1. To identify the type of health care information available for HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria
2. To ascertain sources of healthcare information used by HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria.
3. To ascertain the extent of awareness of healthcare information by the HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria.
4. To determine the extent of accessibility to healthcare information by the HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria.
5. To determine various challenges faced in the accessibility to the available Healthcare information on HIV/AIDS by the patients in the selected tertiary healthcare centers in the North Western States of Nigeria.

1.5 Research Hypotheses.

This study was designed to test the following hypotheses:

Ho.1 There is no significant difference in the types of healthcare information on HIV/AIDS available to male and female HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria.

Ho.2 There is no significant difference in the level of access to healthcare information on HIV/AIDS among male and female HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria.

Ho.3 There is no significant difference in the level of usage of health care information on HIV/AIDS among male and female HIV/AIDS patients in the selected tertiary healthcare centers in the North Western States of Nigeria.

1.6. Significance of the Study

The findings of this research will be of great importance in making healthcare information on HIV/AIDS available and accessible to HIV/AIDS patients, either in printed form, electronic

or through online web resources and databases, and also creating awareness on available resources, using an effective method of accessibility to information resources.

The study will also achieve its aim by complementing the efforts of Federal Government of Nigeria in the control, prevention and cure of people living with HIV/AIDS diseases in our society. It will also reveal the extent to which healthcare information resources are easily accessed and adequately utilized by the HIV/AIDS patients, and to enable them manage and control the spread of the diseases.

Furthermore, it will help the healthcare providers, HIV/AIDS patients and the general public in making an effective decision about type of preventive care to adopt and type of medication to accept, whether to go for HIV/AIDS test and how to source for information. It will help in defining the unique role of librarians as information professionals and in providing information to specialists in every profession.

It will also enable library managements understand the challenges faced by HIV/AIDS patients in accessing available information in medical libraries and to provide adequate facilities and resources (printed, electronic or virtual) that will assist HIV/AIDS patients and the general public in stemming the spread of the disease in the society. Librarians and information managers in libraries will find the study useful in adequately providing current healthcare information resources, creating easy access to the available information and ensuring the efficient utilization of healthcare information resources.

1.7. Scope of the Study

The study covers some selected Federal Teaching Hospitals and a Federal Medical Center in the North West Zone of Nigeria. These Health centres are: Ahmadu Bello University Teaching Hospital (ABUTH), Zaria, Kaduna State, AminuKano Teaching Hospital (AKTH), Kano; and Federal Medical Center, Gusau, Zamfara State. However, HIV/AIDS patients who are registered users of the selected health institution are also included.

1.8. Limitation of the Study.

This study will be limited to the availability, accessibility and use of health care information by HIV/AIDS patients in the in the North West Geo-political zone of Nigeria due to some constraints such as distance of the university teaching hospital and federal medical center, in other distance location,

1.9.Operational Definitions of Terms.

The following terms have been defined in the contexts in which they are used in this study.

Information – All forms of knowledge or resources that could help its users make rational decision that could enhance physical condition, safety and improvement in the quality of care.

Information Resources –Materials such as journals, newsletters, handbills, Posters, books, seminar papers, databases, CD – ROMs, etc.

Information Availability – Existing information provided on HIV/AIDS for the use of HIV/AIDS patients, healthcare providers and the general users.

Information Accessibility – The various ways by which HIV/AIDS patients and healthcare providers can obtain relevant information easily from the source.

Health Information - Information resource needed to improve the physical condition, human safety, quality of care and organizational efficiency.

Healthcare Information System –Resources and devices used in the acquisition, storage and retrieval and use of information and biomedicine practices.

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CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter reviews literature under the following subheadings:

- 2.1. The Concept of Healthcare Information
- 2.2. Meaning, Sign and Symptoms of HIV/AIDS
- 2.3. Types of Healthcare Information Resources Required by
HIV/AIDS Patients.
- 2.4. Healthcare Information on HIV/AIDS.
- 2.5. Sources of Healthcare information Resources and Services on
HIV/AIDS.
- 2.6. Access to Healthcare Information Resources by HIV/AIDS
Patients.
- 2.7. Use of Healthcare Information on HIV/AIDS Information on
HIV/AIDS
- 2.8 Awareness of Information Resources on HIV/AIDS.
- 2.9. Challenges/Problems of Accessibility to Healthcare Information
Resources by HIV/AIDS Patients.
- 2.10. The Way Forward.
- 2.11. Summary of review.

2.1 Concept of Healthcare Information System.

Health information is the resources needed to improve patient safety, quality of care and organizational efficiency (Eric, 2006). Comprehensive knowledge about the level of healthcare information can largely be accessed technologically with the aid of information technology

(Blackford, 2006). Access to healthcare information technologically facilitates easy accessibility. Eric (2006) confirms that information technology has significant potential to improve patient safety, organizational efficiency and patient satisfaction in healthcare system. Health care information systems deals with the resources, devices and methods required to optimize the acquisition, storage, retrieval and use of information in health and biomedicine practices (National Library of Medicine, 2009). The use of medical information is an important factor in the delivery of quality health services in a timely fashion (Aboyade and Obajemu, 2006). Losce (1990) define information as the knowledge communicated or received concerning particular circumstances. In addition to these facts, Okilagwe (2000) also opined that information is an input, which reduces the level of uncertainty in any decision process and therefore a crucial factor for a healthy life and critical to many facets of healthcare design and delivery.

Koelmoos and Smith (2011) emphasized more on the use of high quality information as an essential factor for effective healthcare systems, scientific progress and development. This would surely open up opportunity for all people to share knowledge. The emergence of electronic publishing has revolutionized the world to a global village and this is making it much easier for healthcare professionals to access and use the available healthcare information. For healthcare information to be effectively utilized and realize the goal with which it was established, it must be guided by a legal policy in view of its delicate nature and its application on medical systems. Encyclopedia Britannica (2012) defined policy as “a high level overall plan embracing the general goals and acceptable procedures especially of a government body.” In support of this, Merriam – Webster Dictionary (2007) further defined policy as “a plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions and other matters.”

Healthcare Information and Policy Initiatives was established in 1997 in Germany by Gustav Wager to promote the interest of a broad range of clinical and non-clinical professionals working within the health information sphere. The purpose of that policy was to promote implementation of computer tools in healthcare activities such as scientific research, health administration and biomedical research in order to promote and support dissemination of health related information and activities which include management of health information, decision making and drug administration. This information will enable them interact with scientists, recognize academics and stimulate the creation of new instances that have the same goal and be inspired by the same purpose.

In Nigeria, Partners for Health ReformPlus (2004) noted that in August 2003, the 1997 National Policy on HIV/AIDS and STI was reviewed and launched with overall goals of controlling the spread of HIV/AIDS in the country and expanding the scope of the interventions beyond public health, such that all Nigerians will be able to achieve socially and economically productive lives. An awareness of adequate provision of relevant information resources and easy accessibility is needed to adequately utilize the available information, and assist the stakeholders in the healthcare sectors and information specialists in achieving these goals. PHReformPlus

(2004) reported that the Federal Government of Nigeria made several commitments which included a multidisciplinary response, empowerment of the people and improved access to health, research, and monitoring. It was stated that, part of government policy is to:

- Prevent HIV/AIDS transmission among citizenry
- Respect and protect human rights of all the people living with or affected by HIV/AIDS.
- To provide care and support for those affected and infected.
- Enable effective communication and effective programme development and management.

2.2 Meaning, Signs and Symptoms of HIV/AIDS

UNAIDS/WHO (2004) posit that HIV infection has been established as the underlying cause of AIDS. It described Human Immunodeficiency Virus (HIV) as a retrovirus that can be divided into HIV-1 and HIV-2. HIV-1 is said to be the predominant infection found worldwide but HIV – 2 is found primarily in Africa. It has been established that both types affect several kinds of cells in the body. UNAIDS further described Acquired Immune Deficiency Syndrome (AIDS) as a clinical situation whereby a person's immune system is so impaired that he/she develops unusual infections from bacteria and virus that normally don't affect people with functional immune system. It describes the collection of symptom and infections associated with acquired deficiency of immune system. According to Khan et al. (1998), most people infected with HIV do not know that they have become infected, because no symptoms develop immediately after the initial infection. Illnesses come in form of fever, rash, joint pains and enlarged lymphatic nodes. Sometimes an array of mild to moderate nonspecific symptoms could be observed early in HIV infection. Such sign could only be suspected in persons with history of high risk behaviour or presence of sexually transmitted disease. These symptoms include: fever, fatigue, myalgia, headache lymphadenopathy, pharyngitis and oral lesions. Others are skin manifestations, gastrointestinal disease, respiratory disease, oral manifestation, central nervous system disease. However, awareness of available healthcare information about early signs and symptoms of HIV/AIDS related diseases will assist patients and healthcare providers in the struggle to curtail the spread of the diseases among the general populace

Human Immune Deficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) was first identified in Nigeria in 1985 as reported at an international conference in 1986. According to UNAIDS (2008) about 170,000 Nigerians died in 2007 alone, 192,000 in 2009, while the rate of infection of HIV diseases varies from one state to another and from one community to another. Nigeria has the second largest population of HIV/AIDS in the world, with 56% of adult women infected with HIV virus. The major cause of infection is due to lack of information on sexual health and knowledge about HIV/AIDS (UNAIDS, 2012). Nigerian government had since 1999 placed high priority on HIV/AIDS prevention and control. This effort by the Nigerian

Federal Government was commissioned by United States Agency for International Development (USAID/Nigeria) to gain an in-depth understanding of the current status, challenges and cost of providing HIV/AIDS services in the public and private sectors in Nigeria (USAID/Nigeria, 2012).

A joint effort and undertaking was signed by the USAID/Nigeria in 2001, for the Federal Ministry of Health and National Institute of Medical Research to implement HIV/AIDS prevention and care programme, under the supervision of Center for Disease Control and Prevention and the Department of Defense, working as part of the President Obama of United States emergency Plan to eradicate HIV/AIDS in the continent. PHRplusp (2012) reported that in 2001, the Federal Government of Nigeria initiated antiretroviral program, under this programme, 10,000 adult and 5000 children are to be treated in 25 centres across the country. Since then, other NGO's, state governments, faith based organizations and the private sector have also joined the struggle to eradicate HIV/AIDS in Nigeria. Part of their plan was to carry out prevention activities in partnership with the government of Nigeria and the civil society.

2.3 Types of Healthcare Information Required By HIV/AIDS Patients.

To effectively manage and control the treatment and prevention of HIV/AIDS in the society, access to current healthcare information is required which also involves access to the new information communication technology. Types of healthcare information required for HIV/AIDS patients are as follows:

- Early detection of HIV virus in the body. Laboratory test must be carried out to enable a physician determine the level of complications and stages of diseases, e.g. CD4 count, the amount of viral load in the blood. Other infections or complications associated with HIV infections such as: tuberculosis, hepatitis A, B and C, toxoplasmosis and sexually transmitted infections that could affect liver, kidney and urinary tract infections.
- Drug therapy. The type of drug therapy to administer on the infected patient is very essential because it will help prevent the process of replication as low as possible and to maintain it as long as possible.
- Treatment of HIV/AIDS. The main treatment of HIV is the use of antiretroviral drugs (ARV) that act at various stages in the life cycle of the virus.
- First Aid facilities and resources available for HIV patients in case of any accident and emergency.
- A Non –Drug Therapy. This involves information about counseling programme and venue. Counseling is needed for HIV/AIDS patients so as to prevent them from

developing physical, psychological and social concerns and to enable them make an informed decision that will help them cope better with their health condition.

- Patient care and nutritional information necessary to keep infected healthy. Nutrition is an important health issue for everyone but much more important for people living with HIV/AIDS due to low immunity and hormonal changes. Eating healthy food and maintaining proper weight can strengthen the immune system, making it better able to slow the progression of HIV to AIDS, fight opportunistic diseases and help body tolerate medical treatment more easily and to improve the sense of well-being.
- Health information pertaining to diseases and conditions, symptoms checker, drugs and supplements, tips for healthy living, categories of experts who can handle treatments and their locations.

To achieve these goals, there is need for availability and easy accessibility to information by HIV/AIDS patients and the healthcare providers.

2.4 Healthcare Information on HIV/AIDS.

High quality information is essential for effective health management systems, scientific progress and development. Certainly, if there is high quality information about healthcare system, the citizens can be guaranteed living a qualitative healthy life and a long lifespan. One of the promises of the information revolution is that it would increase opportunity for all people to share knowledge (Koelmoos and Smith, 2011). The Internet has created room for information to be available to scholars, researchers, and layman at their doorsteps. The flow of information through its highway has made the world to be a global village because Internet has changed the way people communicates, create, share and process information enormously.

According to Anyakoha (2005) the information revolution is far more surpassing than the industrial and other evolutions of the past. The speedy transition to electronic publishing has further revolutionized the world to a global village and this is making it much easier for healthcare professionals to access and use the available health care information. In agreement with Koelmoos and Smith, individuals can sit in the comfort of their homes and access available information using different search engines especially the latest versions in a twinkling research studies conducted, findings and how individuals can participate in carrying out a study. Health Finder is a health resource that is maintained by Department of Health and Human Supplements. The Database provides information about dietary supplements for HIV/AIDS patients, MedLine Plus is also a health database maintained by NIH's National Library of Medicine to provide health information on HIV/AIDS. It is a National Institute of Health website for patients and their families and friends, produced by National Library of Medicine which provides information about diseases, conditions associated with HIV and wellness issues in languages that one could

easily understand. It offers reliable, up-to-date information while PubMed is a comprehensive database of article titles and abstracts to health information, anywhere, anytime and for free. There is no doubt about the fact that using high quality information available will enhance the effective management of health system and the wellness of Nigerian citizens.

2.5 Sources of Health care Information on HIV/AIDS.

Healthcare information is made available to HIV/AIDS patients through various possible means either by printed or non-printed sources such as newsletters, print publications, online journals, e-books and e-publications. Information is also provided through websites and virtual resources or online databases. According to Botmanet..al (2013), the primary source of information includes the following :

1. Books (Textbooks, handbook, manuals)
2. Periodicals (Journals and Magazines)
3. The Internet (Websites and web pages, subject gateways, digital libraries, the invisible web) <http://vlib.org> , <http://www.acm.org/df>
4. Reference Works (Encyclopedias, Dictionaries, Thesauri, Bibliographic databases, Atlases and maps, Bibliographies, Directories and yearbooks)
5. Other sources include Conference proceedings, diaries, Geographic Information System, government publications, grey literature, newsletters, newspapers, reports, theses and dissertations.

Open Access enable authors to make contents of their articles freely available through the internet. These resources provide basic education needed to prevent the infections and spread of HIV in the society. Online versions of information resources i.e reports newsletters, theses and dissertations and conference proceedings, provided guidelines for prevention and treatment of HIV/AIDS diseases, the guide for clinical care, for both young and adults and the administration of antiretroviral drugs and treatments for the patients. Center for Disease Control and Prevention organized by the United States of American government, managed by United States Department of Health and Human Services in partnership with World Health Organization (WHO), Atlanta Georgia provided Information about the prevention and control of HIV/AIDS. This particular body has launched a natural campaign to raise awareness for healthcare providers about the importance of providing prevention services to PLWHA as new standard care.

The guidelines, protocols, and other resources listed below can support health centres effort to integrate HIV prevention into the care of persons living with HIV/AIDS. Other

sources Include: Health Resource and Services Administration (HRSA) by United States of America, which provides the information and resources regarding the treatment and care of people living with HIV/AIDS strategy, Global Health Research initiatives (HINARI) organized by ITOCA in partnership with Cornell University, in other to boost academic and research development and initiatives, etc.. In alignment with National HIV/AIDS strategy, it revealed that HRSA and Bureau of Primary Health Care (BPHC) will continue to be supportive of efforts to prevent new HIV infections, and provide access to high quality care, as well as access to antiretroviral treatment, guidelines for use and, the prevention and treatment of opportunistic infections in HIV infected adults and adolescents, prevention and treatment as well as clinical care. Reiz (2005), suggested that information about HIV/AIDS can be found at the following source:

- Joint United Nations Program on HIV/AIDS
- <http://www.unaids.org/en/in+focus/hivaids/humanright/stigmadiscrimination.asp>
- United Kingdom National AIDS Trust.
- <http://www.areyouhivprejudiced.org/AboutUs.aspx>
- Physicians for Human Rights
- WHO work on HIV and Human Rights.
- <http://www.who.int/hhr/activities/publications/en/index.html>

He further outlined the following sources by which HIV/AIDS information can be made available:

- Online information resources and services for referral physicians (e.g Consultants in General Medicine and Family Medicine), such as:
 - Health finders - a health resource maintained by Department of Health and Human Services of the United State of America.
 - Clinical Trials – a health resource that provides search for research studies conducted findings and how you can participate in discussions, questions and answers.
 - International Bibliographic information on Dietary Supplements (IBIDS) – a database that provides information on dietary supplements for people living with HIV/AIDS.
 - Medline Plus – a health database maintained by National Institute of Health and National Library of Medicine to provide health information on HIV/AIDS. It is a website created by National Institute of Health for patients, family and friends to publish information about HIV/AIDS and associated diseases, conditions and wellness issues in languages individuals could understand.
 - PubMed – a comprehensive database of article titles and abstracts

- Printed Publications and Discovery edge Magazines.
- Journals (Monthly, bi-monthly, quarterly, bi-annual and annual journal publications)
- Guides, books e. g a collection of broad review guides and medical specialty books or a collection of medical professional and patients education print and video materials as well as general consumers health information books, DVDs and newsletters from different healthcare Centers
- Research reports
- Continuing Medical Education.<http://www.mayoclinic.com/health/hiv-aid>

According to Stosset. al (2009), other source includes digital resources with the availability of highly portable hardware. The advantage of this is that they provide a convenience to the viewer in both time and place. The world catalog database also, allows searching for books, DVD and CD on a wide range of topics including toxicology. Shea et. Al (2008) noted that patients who preferred print formats of health information resources were higher than those who preferred audio-visuals. Redmond et. Al (2010) in his study found out that participants reporting use of print media and community organization as sources of healthcare information over the years were most likely to meet recommendation for health behavior. He suggested that the use of mass media source such as print, TV, Internet, and interpersonal sources like friends and community organizations and healthcare providers as the major source of health information. The use of healthcare providers for health information was associated to meeting recommendations for health behavior. This implies that to meet up with challenges of accessing health information, using healthcare providers to search for healthcare information. The committee on comparative effective research prioritization revealed that “In today’s healthcare system, patients, physicians, clinicians and family caregivers often lack sufficient scientific data and evidence they need to determine the best course of treatment for the patients’ medical conditions.”

Adequate utilization will assist HIV/AIDS patients and the healthcare providers in the struggle to reduce the spread of infection in the society.

2.6. Access to Healthcare Information Resources on HIV/AIDS

Provision of healthcare information cannot be complete without information technology. This implies that Internet has the potential to enhance a dramatic transformation in the delivery of healthcare servicesmaking it faster, safer, effective and efficient.Awareness of accessibility issues is the first step for potentially achieving the targeted goal of providing

information resources to all users. It is very certain that availability does not guarantee accessibility. Efforts must be made to create accessibility to health care information by HIV/AIDS patients because of the urgency of the need for its prevention and cure and the proper administration of anti-retroviral drugs and stress management that is involved. The National Library of Medicine (NLM) and National Institute of Health recognize that it is critical to establish relationship with organizations that encourage and foster communication and information access.

. AIDS.gov (2012) noted that Civil Rights Organization tries to ensure that people have equal access to receive services from Department of Health and Human Services funded programmes. Persons who believe they have been discriminated against have opportunity to be protected by privacy and security rules set up by the federal government to protect the privacy and security of the patients' medical records and other healthcare information maintained by concerned entities. Department of Health and Human Services 2009, stated its commitment to making websites accessible to the widest possible audience, including individuals with disabilities that are infected with HIV.

A major effort to enhance the understanding of information needs, resources, and services began in June 1993 when NLM and NIH Office of AIDS Research (OAR) co-sponsored a conference that brought together users of NIH information resources including health care providers, scientists, information specialists, journalists, and members of communities affected by HIV/AIDS. The purpose of HIV/AIDS community information outreach project was to design local programmes for improving HIV/AIDS health information access for patients and the affected community as well as their caregivers and the general public. Emphasis was on providing information or access to health information and medical information in a way that is meaningful to the target community, increasing the awareness and the utilization of NLM online health and medical resources in the HIV/AIDS community. In order to meet the information needs of HIV/AIDS patients, methods of information delivery is very important so as to prevent or avoid stigmatization, therefore, their privacy must be maintained. This required a specialized skill development in terms of adequate training to develop skills in accessing information or using HIV/AIDS information including the use of online databases and general AIDS information resources in order to improve services and benefit the community.

Black and Burgstahlers (2002) asserted that accessibility of online resources required the involvement of all stake holders such as web developers, product vendors, university instructors, programme directors, courseware designers and librarians. There is no doubt that academic libraries offer access to online resources, but it is also their responsibility to make sure that all the resources are accessible to all facets of their user communities.

The World Health Organization (WHO) (2010) designed an information outreach that is community based as part of the strategy to ensure that health care information in all forms

gets to the hands of people living with HIV. This community information outreach programmes organized in 2005 discusses the existing and future implication of communities in need. The findings of the assessment carried out suggested that “access to the HIV/AIDS information led to an improved communication between patients and their healthcare providers and further encouraged better healthcare decision making”. The results of such initiatives led to increase in services provided to community, national and global recognition of HIV/AIDS services, sustainability of projects and improved communication.

As part of the benefits of healthcare information provided for the HIV/AIDS patients, the International Labor Organization (ILO) provided tips and precautionary ways and awareness about HIV/AIDS health and safety. They provided information about the management and infections of the diseases. The main objective of WHO is to prevent infections of HIV and related diseases, to reduce the personal and social impact of HIV infections and to mobilize and unify national and international efforts against AIDS. On this note, it becomes very important that healthcare information be made available and effectively utilized in Nigeria.

2.7 Utilization of Health Care Information on HIV/AIDS

Information is of paramount importance to the development and safety of individual lives, as well as the growth of our nation. Based on this fact, information can be put into several uses and for various purposes in every aspect of human life. Tiamiyu (1999) emphasized the use of information for the development and progress of all the social structures in the community, ranging from family, religious, educational, political institutions and especially in the health sector. Faboyinde (2006) further supported Tiamiyu that “knowledge and information has become the most important tool for productivity, competitiveness and increased wealth and prosperity”. The fact is that without making use of relevant health information we cannot move the nations forward, while the health and safety of citizens will hang on uncertainty, hopelessness and frustration. But access to relevant information and its adequate utilization for the benefits of citizenry can guarantee safety and better hope for a bright future. This also entails that the use of health care information on HIV/AIDS by patients require much more urgency than anyone could ever imagine due to the fact that it is a matter of life and death. Information technology has significant potential to improve patient’s safety, organizational efficiency and patient satisfaction (Poon, et al, 2006). Information is required to create awareness of facts about safety, prevention and necessary care of HIV patients, the protection of family members who have not yet been infected and their health security.

Due to fear of stigmatization and ignorance, many are not willing to go for voluntary medical laboratory test neither do they really want to know their status. Why? Montage (2012) opined that ignorance and stigma can lead to murder. She further revealed that “spouses have killed each other when they discovered that one of them have HIV infection”. It can lead to domestic

violence to the point that spouses could start blaming each other. This experience shows that adequate use of information is very essential for safety, knowledge, effective communication and can contribute to the peace and unity of families and the entire nation. Effective utilization of available information in printed form and online resources could assist healthcare providers in making the right decision in providing the right type of medication and in management of HIV/AIDS patients.

Effective management of information is an important factor leading to eradication of HIV/AIDS in the society. Efforts of researchers and scientists cannot be underestimated in this regard. Funding and creation of Open access to healthcare information is to be encouraged. In support of this, Mhlanga (2013) in his contribution to eradication of HIV/AIDS project in CSIR, South Africa revealed that information dissemination is a very important factor in the process of eradicating HIV/AIDS scourge in the society. He opined that siRNA libraries was the first facility in South Africa to routinely use induced *Pluripotent stem cell* (iPSC) technology. siRNA libraries enable CSIR scientist to study gene function. The libraries resources was used to facilitate in-depth studies of disease like HIV/AIDS, and found out the human host or gene responsible for limiting HIV replications in human.

2.8. The Role of Libraries in Providing and Creating Access to Healthcare Information on HIV/AIDS.

The role of libraries in the provision of healthcare information cannot be underestimated. The Library is the storehouse of knowledge and information. It provides both access to information resources and the information itself. Accessibility to information resources either through printed and non-printed resources have become the backbone of every developed nation. Part of the responsibility of the library as an information repository is to source for accurate and reliable information, ensure availability, and create accessibility to online learning and research resources and dissemination of information to patrons. This also requires that stakeholders such as Web developers, product vendors, university instructors, etc ensure that medical libraries are adequately funded to cater for their needs, and efficiently managed to meet the role for which they were established. It is also the responsibility of the library to make sure that all resources and services are accessible to every facets of their user's community. Information dissemination is a vital aspect of the role of medical libraries so as to ensure that users have access to relevant information. It is very important that healthcare information is disseminated to users through mass media, posters and pamphlets, text based print medium, through activities in a classroom mode and using normal system of education, offering counseling services, organizing programmes meant mainly for raising awareness, education and training. Ubogu (2006) stated that libraries should provide access to information resources; offer expert professional support to facilitate thorough and accurate use of library resources and access to library materials and services to the community.

The World Health Organization provides comprehensive library and information resources and services recorded in both print and other media. Its library services give access to worldwide health, medical and development information resources to headquarters, regions and country offices, ministries of health and other government offices, health workers of member states, other UN and international agencies. The WHO library programmes help developed and developing regions achieve self-sufficiency in providing information services to the health sector. Library products and services are made available by the reference librarians who provide orientation to the collections and information about how to use library and information resources.

The WHO library websites offer worldwide on-line access to WHOLIS, the WHO Library database, which includes more than 70,000 bibliographic records and 30,000 links to full text documents. The workstations in the library give visitors access to WHO websites, to WHOLIS, relevant health related and development of Internet resources. All library collections are available for consultation.

The role of medical libraries in the provision of healthcare information cannot be underestimated. Medical libraries ensure the provision of current awareness services, which enable librarians to provide users with up to date reliable health information resources and services to their clientele. Accessibility to information resources either through printed and non-printed resources have become the backbone of every developed nation. The Library is the storehouse of knowledge and information, it provides both access to information resources and the information itself. County (2010) added that the medical librarian is responsible for the provision of health professional's information needs and source for information resources in form of journal and databases. Medical librarians acquired skills and ability to present information both in oral and written form in both large and small group and as well provide effective training sessions for all hospital staff.

The aim of medical library is to further serve the knowledge quest of its clientele and it is evident in its documentary collections both in the circulation shelves, reference section and the computer section. The greater percentage of those collections consists of serial literature, which is usually in high demand. These periodicals are of prime importance in medicine, since they carry current reports of advances in the study of diseases, methods of diagnosis and treatment, and the use of new drugs. Access to these resources and its effective use will conveniently help HIV/AIDS Patients, the practicing physicians and researchers to keep abreast of latest information at the earliest possible time.

2.9.Awareness of Information Resources on HIV/AIDS

The primary aims of disseminating information to the HIV patient is to sensitize them on importance of information to their wellbeing, to give practical information for solving problems, to spread the awareness about the right, privileges and responsibilities of individual patients, to provide environmental information, family, health, safety and government information, to provide healthcare information concerning immunization, hospitals admission procedures, first

aids, sanitation and hygiene, government welfare scheme for infected patients and protection. The United States National Commission on Libraries and Information Science (NCLIS) (2012) noted that the key weapon in the battle against the HIV/AIDS pandemic is education and information targeted directly to the general public, especially young people.

In order to stem the spread of HIV/AIDS in the society, efforts must be made to bring to the notice of the general public an awareness of available healthcare information through an organized and designed programme, such as community education programmes and advocacy coalition. According to ADS.gov (2012), the following programmes were designed by Federal Ministry of Health and Non-Governmental Organizations (NGO's) to create awareness of healthcare information on HIV/AIDS:

- Annual HIV/AIDS survey findings; to provide important information about HIV/AIDS related knowledge, attitude and behavior among young and old.
- Media coverage of HIV/AIDS issues affecting individuals through newspaper articles and radio programs both in local and international languages.
- Sponsorship of Staff development seminars that provide new information and strategies on HIV prevention and education.
- More NGOs securing capacity-building services, which promotes HIV/AIDS program sustainability
 - Sponsorship of healthcare officials and information professionals to educate federal government, executive and legislatures about the impact of HIV/AIDS and the need to increase funding and promote progressive AIDS policies. AIDS.gov is an information outreach designed to help prevent HIV infections and to improve the lives of those affected by HIV and AIDS by providing education and facilitating the free and open exchange of knowledge at an easy to find centralized website.

Furthermore, AIDS.gov opined that a world AIDS day was created to create awareness of the disease and to arouse consciousness in every individual especially the people living with HIV/AIDS and to encourage them to face the situation and be able to end the stigma. By using federal government resources, news media, news and events, will go a long way in stemming the spread of HIV/AIDS disease. Furthermore, through federal government agencies, it is very possible to implement the action plan for the prevention, care and treatment of associated diseases such as viral hepatitis. It is realized that, by engaging audience through social media network/channels and open discussions in the media, individuals can learn how to protect themselves and their family members. There are different channels by which information could be obtained through especially on network services such as:

- blog.aids.gov

- locator.aids.gov
- facing.aids.gov
- provider tools.aids.gov
- AVERT.org

The World Health Organization (WHO) established World AIDS Day in 1988, in order to carry on campaign on HIV awareness worldwide. WHO is the leading international organization which plans and implements the observance, to enable both individuals and communities to participate in facing AIDS campaign programme organized to create awareness. There are days organized to create awareness on HIV. This includes HIV Vaccine Awareness Day. It is a day of national campaign to end the silence and shame surrounding HIV/AIDS in African continents, Asian and Pacific Island communities. Through this programme, patients are even encouraged to talk about HIV to everyone.

Adesoji and Olalekan (2012) referred to HIV/AIDS scourge as “a global crisis” that must be attacked with every intensity, due to the fact that its victims are all around the globe. They further remarked that inadequate information regarding the spread of this global disease could pose a devastating effect on economic growth and social sustainability of the entire world. The United States Department of Health and Human Services through the Office of Minority Health (OMH) organizes HIV/AIDS awareness days in which vital information about HIV/AIDS research and findings, vaccinations, prevention, care and treatment are brought to the notice of the general public.

Office of Ministry of Health (2012) noted that a number of national and global observances are held annually to help us understand and fight the HIV/AIDS pandemic. The Department of Health and Human Services is using all of its resources to combat the spread of the disease. One way it is doing that is by supporting those observances, which help raise awareness and spread information about HIV/AIDS. It is also very important to know the facts, how to prevent being infected, and how to live with the disease. This entails talking about and continuous learning about it. <http://www.baariz.com>

Komolafe (2008) in agreement with Gosh and Bhatt (2006) opined that librarians have a lot of roles to play in helping the nations combat HIV/AIDS by dissemination of information on HIV/AIDS. She suggested that:

- Librarians be advocates and educators in AIDS information dissemination
- Librarians to collaborate with non-governmental organizations in packaging health information.
- Librarians to help researchers publicize their research output to the local community

- Librarians can also promote HIV/AIDS information that they have access to
- There should be collaboration between librarians and community health workers
- Notice boards and library circulation desk can be used to distribute notices and flyers
- Information can be repackaged for health workers for easy accessibility and adequate utilization
- Libraries can acquire special collections to keep people informed of new developments.

Mbau (1994) revealed that the way people perceived the HIV/AIDS affect their method of searching for Information. There are positive and negative perceptions towards the way people look at the reality of the disease. Some believe that HIV is real while some don't believe that HIV exists and concluded that it's just a mere propaganda. This notion has seriously affected the zeal with which people sought for information. On this note, it is very important that the stakeholders urgently mount up an aggressive awareness campaign, using every technique to persuasively change the opinion of the people by creating awareness of available health information resources, easy accessibility and adequate use of information on HIV/AIDS.

2.10. The Challenges Faced by HIV/AIDS Patients in Accessing Healthcare Information

Despite the continued growth of the HIV/AIDS pandemic information from many national AIDS programmes, accessibility to healthcare information remains a serious challenge. Many factors are militating against the efforts of Federal Government of Nigeria in the prevention of spread of HIV viruses such as: stigmatization, ignorance of the people about the nature of the disease, lack of awareness of health information on HIV/AIDS and the adverse effect of the disease on the socio-cultural, economic, educational development, religious influence and believes of the people in the society.

Stigmatization is a dynamic process of devaluation and has ancient roots in long existing cultures that branded people or groups as outcast. Stigmatization leads to discrimination. Discrimination is a negative act that results from stigma and served to devalue the stigmatized [Abiona, 2003]. HIV/AIDS related stigma becomes more intense as it builds upon negative thoughts. Family and community often perpetuate stigma and discrimination partly out of fear, ignorance and because it is convenient to blame those who are affected. It could even lead to denial of relevant assistance to HIV/AIDS patients in the society. Those who have access to information lack willingness to carry out HIV test, lack of financial support and difficulties prevented access to necessary care and relevant Ante-retroviral treatment for the infected patients.

People living with HIV/AIDS in Nigeria have been found to be subject to discrimination and stigmatization in the workplace and family communities. In fact, they may also face discrimination from those employed in the health sector. Such attitude may actually create an atmosphere that interferes with effective prevention and treatment by discouraging individuals from being tested or seeking information on how to protect themselves and others from HIV/AIDS. According to Reiz et.al (2005) in the study he conducted, out of population of 1,021 healthcare professionals, 163 respondents sampled from public tertiary health facilities, 9% of the healthcare professionals reported refusing to care for an HIV/AIDS patients, and 9% indicated that they had refused an HIV/AIDS patients admission to a hospital, 59% agreed that people with HIV/AIDS virus should be on separate ward, while 40% believed that healthcare professionals who are HIV/AIDS patients should not be allowed to work in any area of healthcare that requires patients contact. Meanwhile the reasons for the inconsistencies are based on inadequate utilization of available healthcare information in disposal, inadequate education about HIV/AIDS and lack of information on protective measures and supply of treatment materials appear to contribute to those practices and attitudes.

To manage HIV/AIDS cases effectively healthcare providers must take advantage of information technology (ICT) resources in order to facilitate an effective treatment. At the same time, use of electronic resources required that users be trained to be able to use the resources effectively. Fraiser (2004) opined that lack of ICT infrastructure is a barrier to successful HIV treatment programme in resource poor areas. Efforts must be made to improve ICT infrastructure and as well reduce errors arising in the process of entering and retrieving information (Joan, et al, 2004). Access to the right healthcare information such as e-books, journals (both print and electronics) healthcare databases such as HINARI, PubMed, Medline, Medline-plus, DIRLINE and other resources is of utmost importance [English Dictionary, 2007]. At times, HIV/AIDS patients could find it boring to enter a traditional library to request for information resources that directly provides information on HIV virus and related infections. Availability of electronic resources such as mobile phone, Personal computers with the internet subscriptions or wireless facilities in a virtual environment could enhance access to health information and further increase level of awareness. Access to health information by hard-to-reach groups such as youths and how to determine the medium of information is another serious challenge. Due to financial constraints not many could afford available electronic resources needed. The society needs to be fully educated to know that a person cannot be infected with HIV virus by mere shaking hands together, talking to them or by offering assistance to an HIV patients except when there is intimate contact such as sexual intercourse without protection, sharing syringes and needles with infected person. Ignorance, stigmatization and financial difficulties are strong factors that must be addressed in order to facilitate easy access to health care information..

2.11 The Way Forward

In order to stem the spread of HIV virus in the Nigerian society, it is very important that the federal government and non-governmental agencies and faith-based organizations join the struggle to provide strong financial support to speed up eradication of the deadly scourge in Nigerian society. David (2005) noted that financial support is needed to organize HIV/AIDS interaction tutorials for patients and healthcare professionals and the acquisition of instructional video materials needed to educate them. Electronic health information system allows increased access to health data, this avenue should be effectively utilized.

Dixon and Kaneshiro (2012) noted that accessibility, usability and user education are important challenges that public health and information specialists must address in order to curtail the spread of HIV/AIDS infection in the society. Sharing this information will further increase more opportunities for HIV/AIDS patients to be treated more efficiently. Carr (2004) emphasized on training of medical librarians in accessing HIV/AIDS websites beyond what is provided in the print resources available in the libraries. Promoting organizational collaboration to avoid duplication of efforts, selection of information sources for dissemination to the target population and reaching out with health information to the vulnerable population so as to address contradictory traditional/cultural beliefs of the people. Educating people through formal and informal systems of education, creating awareness about HIV/AIDS viruses and disseminating information through the media, Internet sources in various formats, television, radio, posters, billboards, organizing of seminars and workshops and community programmes. It is very important that the target group be enlightened about the reasons for taking precautions and looking out for early signs of HIV virus. Going for test early to know status. Educating people at the grass root level is also very important in order to create a change of attitude in the society. Level of sensitization on stigmatization must be improved through information dissemination in the society down to the grassroots so as to equip people with knowledge of how to care for HIV/AIDS patients. People must be educated to embrace new orientation and improvement in the level of awareness by governmental agencies will help in confronting the challenges of HIV/AIDS in the society.

2.12 Summary of the Review

The chapter reviewed literatures that are related to the area of study. From the review, the concepts of health information on HIV/AIDS were highlighted. The meaning, signs and symptoms of HIV/AIDS, types and sources of information on HIV/AIDS is equally discussed. The studies reviewed are similar to the present study, which is the availability, accessibility and use of healthcare information on HIV/AIDS in the North West zone of Nigeria. Most of the studies reviewed in this chapter emanated from other countries and within Nigeria that have carried out intensive research in the area of availability, accessibility to health information, sources of healthcare information and making available information on HIV/AIDS accessible for adequate utilization.

However, challenges of accessibility to healthcare information were brought to light, while efforts were made to provide adequate information and further source of information and the dissemination of HIV/AIDS information. Efforts were made to reduce challenges of inaccessibility to healthcare information, poor storage facilities, insecurity of the personal information patients and confidentiality. It is hoped that this study will both enhance easy accessibility and adequate utilization of healthcare information on HIV/AIDS.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter is presented under the following subtitles:

3.1 Research Method Adopted

3.2 Population of the Study.

3.3 Sample and Sampling Techniques adopted

3.4 Instrument for Data Collection

3.5 Reliability of the Instrument

3.6 Procedure for Data Collection.

3.7 Procedure for Data Analysis

3.1 Research Method Adopted

The research method adopted for this study was the survey. The survey method was appropriate because it has advantage of wider application as it allows data to be collected on a large population. Cherry (2009) defined survey method of research as a data collection tool used to gather information about individuals. According to Enanoria (2005) survey method is a systematic method of gathering information from a sample or individuals for the purpose of describing the attributes of a larger population of which the individuals are members. It is less expensive than many other data collection techniques. More importantly, surveys can be used to collect information on a wide range of things, including personal, facts, attitudes past behaviors and opinions.

The survey research design is found to be relatively cheap and fastest way of collecting information and data on the accessibility and use of healthcare information by HIV/AIDS patients in the selected teaching hospitals and federal medical center in the North West Zone of Nigeria.

3.2 Population of the Study

Busher&Stephen (1980) stated that “a population is any set of persons or objects that possess at least one common characteristic.” The population of this study comprises of three selected tertiary health institutions in the North West zone of Nigeria. However, the subjects of the study were HIV/AIDS patients attending clinics and receiving anti-retroviral therapies in the selected tertiary health institutions. The population of the HIV/AIDS patients in the three selected tertiary health institutions is 25,705 as shown in Table 3.1.

Table 3.1 Population of the study

NAME OF INSTITUTIONS.	HIV/AIDS PATIENTS
Ahmadu Bello University Teaching Hospital,Zaria.	5,525
Aminu Kano University Teaching Hospital, Kano.	17,000
Federal Medical center, Gusau, Zamfara State.	3,180
Total	25,705

Source : Hospital clinical/Medical Record (2012).

3.3 Sample and Sampling Techniques

The idea of sampling is to obtain a part of the population from which some information of the entire population can be inferred. Afolabi (1993) observed that “if carefully selected, a population can save the time, energy, and expenses of the researcher”. A sample is a subset drawn to represent the relevant attributes of the whole set, such as individuals, objects or events etc. Rudolph (2002) defined sample as “a proportion of an entity or a subset which must represent as much as possible the entire population”.

To draw sample from the study, the population of the entire HIV/AIDS patients in the two (2) University Teaching Hospitals and one (1) Federal Medical Center receiving antiretroviral therapy are 25,705.

The researcher used stratified random sampling technique that consists of 1.5% of the population of HIV/AIDS patients receiving antiretroviral therapy due to the fact that the population of HIV/AIDS patients is large. Stratified random sampling technique was used to select 356 male and female HIV/AIDS Patients out of 25,705 total number of the population of

HIV/AIDS patients attending clinic in the three selected tertiary health institutions. To determine an efficient method of sample size needed to represent a given population, Krejcie & Morgan's (1970) table of determining sample size was used. It suggested that as the population increases, the sample size increase at a diminishing rate and remains relatively constant at slightly more than 380 cases.

Stratified random sampling technique is good for selecting the subjects that represent the universal population. According to More & George (2006), individuals are chosen at a random and not more than once to prevent bias that would negatively affect the validity of the result of the experiment. More (2007) noted that this particular sampling technique is very effective and reliable especially in a medical study because it is the most basic sampling procedure to draw sample. This technique was used because the population was subdivided into male and female group of HIV/AIDS patients. In order to ensure that certain characteristics such as gender, qualifications, age of patients and name of healthcare institutions were not excluded in the research, stratified sampling technique was used. The technique ensures that all sub – groups are selected subjectively by the researcher to represent the population of subjects of study from the North/West zone of Nigeria.

Table 3.2 Sample Size

NAME OF INSTITUTIONS	HIV/AIDS PATIENTS		Total
	Male	Female	
Ahmadu Bello University Teaching Hospital, Zaria.	35	48	83
Aminu Kano University Teaching Hospital, Kano.	130	95	225
Federal Medical center, Gusau, Zamfara State.	24	24	48
Total	189	167	356

Source: Hospital Clinical/Medical Record (2012).

From table 3.2, out of 25,705 HIV/AIDS patients receiving anti-retroviral therapy in the selected tertiary health institutions, the researcher used simple random sampling technique to select 356 (1.5%) male and female.

3.4 Instrument for Data Collection

The research instruments used for collecting data in this study was questionnaire, due to the vulnerable nature of the subjects under study. The purpose of using questionnaire was to collect data on the availability, accessibility and use of healthcare information by HIV/AIDS patients in the selected tertiary health facilities in North-West Zone of Nigeria.

3.4.1 Questionnaire

Questionnaire was used to collect information needed to answer the research questions in chapter one. Mohammed (2005) posited that “the instruments” for data collection are said to be valid when they are able to provide correct responses from the subjects of the sample studied.

A set of questionnaire was constructed using both open and closed ended questions based on the research questions raised in the study. Respondents were offered set of answers in order to choose the one that most closely represent their views. The questionnaire was divided into seven (7) sections. Section A contained four items which include the demographic information of the respondents, such as gender, age, level of education/ professional qualifications, name of health institutions. Section B contained three (3) items on the types of healthcare information available on HIV/AIDS in the North-West Geo-political Zone of Nigeria. Section C contained three (3) items on the sources of information on HIV/AIDS. Section D contained four (4) items on the awareness of information on HIV/AIDS in the North-West Geo-political zone of Nigeria. Section E contained four (4) items on access to healthcare information on HIV/AIDS. Section F contained two (2) items on use of healthcare information on HIV/AIDS. Section G contained two (2) items on challenges to healthcare information on HIV/AIDS in the North-West Geo-political zone of Nigeria.

3.5. Reliability and Validity of Instrument

The questionnaire was validated by experts' opinions. The questionnaire for this study was given to my supervisors for proper verification and corrections; to research experts, and professional librarians, for necessary inputs, corrections, and advices were sought wherever necessary. Their criticism was necessary for the improvement of items in the format of the research instrument. This is because the researcher's aim was to enable the questionnaire address urgent and emerging issue of health problems.

The questionnaire was adequately designed in line with the level of understanding of the respondents, and to enable them respond appropriately to the health issues at stake. However, the reliability of the contents of the questionnaire was determined by using a split-half coefficient method to test the reliability coefficient.

A pilot study was conducted by using the medical personnel of Federal Medical Center, Lokoja, Kogi State in North Central Zone of Nigeria, who is directly involved in providing healthcare services for HIV/AIDS patients as research assistant. The subjects that participated in the pilot study were 15 HIV/AIDS patients attending clinic, while r was at 0.62, making it clear that the instrument for this data was reliable.

3.6 Procedure for Data Collection

The researcher solicited for the assistance and approval of the Ethical Committee of the three tertiary health institutions, the Chief Medical Director, Consultant Physician and the Consultant Hematologist of the selected University Teaching Hospitals and the Federal Medical center for the administration of the questionnaire to the HIV/AIDS patients during their clinic days. However, the respondents were given enough time to fill the questionnaires, which were later collected.

3.7. Procedure for Data Analysis

To enable the researcher analyze the data adequately, descriptive and inferential statistical tools for analysis was adopted. Frequency distribution and percentages was used for descriptive analysis, while T-test of independent sample of inferential statistical tool was adopted to test the hypotheses.

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CHAPTER FOUR.

DATA PRESENTATION, ANALYSIS AND DISCUSSION.

4.0 Introduction

This chapter contains the analysis of data collected for the study of accessibility and use of healthcare information by the HIV/AIDS patients in the North West Zone of Nigeria. The opinion of the respondents was statistically analyzed using the instrument already discussed in the last chapter. This chapter is made up of four sections. The first section consists of response rate and the demographic characteristic of the respondents in frequencies and percentages. In the second section, data is presented while the research questions are addressed, analyzed and discussed in relations to the accessibility and use of healthcare information by HIV/AIDS patients in the North West Zone of Nigeria. In the third section, the hypothesis of the study is tested.

4.1 Response Rate and Demographic Characteristics of the Respondents

4.1.1. Response Rate

The response rate arising from the copies of the questionnaire administered is as shown in table 4.1

Table 4. 1 Response Rate

Name of Health Institutions.	Copies of Questionnaire		Percentage Rate %
	Distributed	Returned	
Ahmadu Bello University Teaching Hospital, Zaria.	83	83	23.3

Aminu Kano Teaching Hospital, Kano	225	225	63.2
Federal Medical Center, Guzau, Zamfara State.	48	48	13.5
Total	356	356	100.0

Table 4.1 shows that a total of 356 copies of the questionnaire were administered and returned. Research assistants were used for the distribution of questionnaire. The filings of the questionnaire were supervised and returned in the selected health institutions in the North West zone of Nigeria. The questionnaire were found usable for the data analysis; which represent 100% return rate. The number comprises of 83(23.3%) male and female HIV/AIDS patients from Ahmadu Bello University Teaching Hospital, Zaria, 225 (63.2%) from Aminu Kano University Teaching Hospital, Kano, and 48(13.5) from Federal Medical center, Guzau, Zamfara State.

4.1.2 Demographic Characteristics of Respondents

A total of 365 respondents were randomly selected from health institutions in the North West Zone of Nigeria of which the responses were analyzed. The demographic characteristics of the respondents which were selected in line with the availability, accessibility and use of healthcare information by HIV/AIDS patients in the North West Zone of Nigeria were age of the respondents, sex of the respondents and level of education of the respondents.

Table 4.2 Demographic Characteristics of the Respondents

Gender	Frequency	Percentage.(%)
Male	188	52.8
Female	166	46.9
No Response	1	.3
Total	356	100
Educational Qualification.		
1. PhD/Specialist/Consultant	7	2.0

2. MB'BS	8	2.2
3. First Degree/HND	90	25.3
4. OND/NCE	105	29.5
5. SSCE Holders	37	10.4
6. FSLC. Holder	18	5.1
7. Not Literate	7	2.0
8. Others	81	22.8
9. No response	3	0.8
Total	356	100
Age of Respondents.		
a. Less than 20 years old.	28	7.9
b. 20 – 30.	112	31.5
c. 31 – 40	138	38.8
d. 41 – 50	58	16.3
e. 51 – 60	16	4.5
f. 61 and above.	4	1.1
Total	356	100

Key:

First School Leaving Certificate (FSLC).

Senior School Certificate Examination (SSCE).

Ordinary National Diploma/National Certificate in Education (OND/NCE)

Higher National Diploma (HND).

Bachelor of Medicine/Bachelor of Surgery (MB'BS)

Table 4.2 reveals that 188(52.8%) of the respondents were male while 166(46.9) were female. In terms of age distribution, the table indicates that the highest number of HIV/AIDS patients were between the ages of 31 to 40 and they numbered 138(38.8%), followed by 112((31.5%) who were between the ages of 20 – 30, while 28(7.9%) were between 20 years below. The table also reveals that out of 356 respondents, the highest

number of HIV/AIDS patients were either OND or NCE certificate holders who numbered 105(29.5%), while 90(25.3%) were first degree holders followed by 37(10.4%) that were Senior Secondary School Certificate Examination (SSCE) holders, while Those with Ph.D degrees numbered only 26(7.3%).

4.2. Data Presentation and Analysis

This section consists of the data analysis concerning, accessibility and use of healthcare information by HIV/AIDS patients, the presentations of which are followed by interpretations.

4.2.1 Health Care Information Available For HIV/AIDS Patients Using

The Health Facilities In The North-Western States Of Nigeria

Analysis of the percentage rate of responses arising from types of healthcare available for HIV/AIDS patients using health facilities in the North-West Zone of Nigeria is as shown in table 4.3.

Table 4.3. Healthcare Information Available and sought for by HIV/AIDS**Patients**

Healthcare Information on HIV/AIDS.	Response					
	Yes		No		Undecided	
	No.	%	No.	%	No.	%
Signs/symptoms of HIV/AIDS	222	62.4	119	33.4	15	4.2
Mode of Prevention of HIV/AIDS transmission among citizenry	191	53.7	149	41.9	16	4.5
Avoidance of mother to child transmission of HIV virus	201	56.5	139	39.0	16	4.5
Measures to adopt/total abstinence from casual and unprotected sex.	158	44.4	182	51.1	16	4.5
Available HIV/AIDS testing centers for early detection of diseases.	163	45.8	176	49.4	16	4.5
Available treatment, care and support of those affected with HIV/AIDS in various centers.	164	46.1	176	49.4	16	4.5
Available drugs/antiretroviral therapies	157	44.1	183	51.4	16	4.5
HIV/AIDS counseling centers (non-drug therapies)	94	26.4	246	69.1	16	4.5
First Aids facilities in case of accident and emergency.	111	31.2	229	64.3	16	4.5
Methods of managing associated infections, complication and diseases	117	32.9	223	62.6	16	4.5
Alternative drugs and non-drug supplements and tips healthy living	92	25.8	248	69.7	16	4.5
Others. Please specify	26	7.3	315	88.5	15	4.2

Table 4.3, revealed that the healthcare information available and sought for by majority of HIV/AIDS patients was the signs and symptoms of HIV/AIDS were 222 (62.4%) responses, followed by prevention of mother to child transmission with 201 (56.5%) responses, method of Prevention of HIV/AIDS transmission among the populace were 191 (53.7%) responses, Available treatment, care and support of those affected with HIV/AIDS in various Centres were 164 (46.1%), while other types of healthcare information were 26 (7.3%). This findings are in line with what UNAIDS (2010) recommendation that people should endeavor to search for various information about signs and symptoms of HIV/AIDS, preventions and types of recommended drugs for the treatment. The report emphasized that

signs and treatments are having a significant impact on the reductions of new infections (WHO Report, 2011).

4.2.2 Sources of Health Care Information on HIV/AIDS By Patients Using Health

Facilities In The North-West Of Nigeria

Table 4.4 contains analysis of various sources of healthcare information on HIV/AIDS consulted by respondents.

Table 4.4 Sources of healthcare information on HIV/AIDS

Information Source	Response					
	Yes		No		Undecided	
	No.	%	No.	%	No.	%
Medical Library resources	145	40.7	201	56.5	10	2.8
Hospital Bulletin	176	49.4	177	49.7	3	.8
Workshops/Seminars/Conferences.	67	18.8	286	80.3	3	.8
Newspaper Articles	70	19.7	283	79.5	3	.8
Posters and journal Publications	220	61.8	133	37.4	3	.8
Radio and Television programmes	239	67.1	114	32.0	3	.8
Public Libraries and information Centers	111	31.2	242	68.0	3	.8
Online Resources (e-books etc)	103	28.9	250	70.2	3	.8
Websites and Virtual resources	103	28.9	250	70.2	3	.8
Guides for clinical care.	117	32.9	236	66.3	3	.8
Center for disease control and preventions (State/Federal)	118	33.1	235	66.0	3	.8
Health resources and services administration.	81	22.8	272	76.4	3	.8
Research initiatives and Findings(PubMed, Medline, HINARI etc.)	63	17.7	290	81.5	3	.8

Schools curriculum/campaigns.	68	19.1	284	79.8	4	1.1
Majalisa	4	1.1	352	98.9	0	0.0
Churches/Mosques	25	7.0	331	93.0	0	0.0
Others (Facebook, TwitterNewsletter).	12	3.4	344	96.6	0	0.0

From Table 4.4, it can be clearly seen that sources of information consulted by HIV/AIDS patients for the prevention and care include: Radio and Television programmes had 239(67.1) responses, posters and journal publication 220(61.8%), followed by hospital bulletin with 176 (49.4%) response and medical library resources with 145(40.7%). The least available source of information was Majalisa which had 4(1.1%). Based on the findings, it can be concluded that the most popular sources of information available for patients were Radio and Television programmes, posters and journal publications (Sawyer, 2010).

4.2.3. Relevance of Healthcare Information Source on HIV/Aids to The

Information Needs of HIV/AIDS Patients

Responses arising from questionnaire administered on degree of relevance of healthcare information source available on HIV/AIDS to the information needs of the patients are analyzed in Table 4.5.

Table 4.5 Degree of Relevance of Healthcare information Source Available on HIV/AID to the Information Needs of HIV/AIDS Patients

Sources of Healthcare Information.	Response					
	Yes		No		Undecided	
	No.	%	No.	%	No.	%
Online Information Resources and Services by Referral Physicians.	136	38.2	193	54.2	27	7.6
Online Discussion Forum by Specialist Doctors	125	35.1	203	57.0	28	7.9
Health Databases on Dietary Supplement	112	31.5	216	60.7	28	7.9
Printed sources (Journals, Magazines, Handbills, Pamphlets, Newsletters,	204	57.3	124	34.8	28	7.9

Electronic Journals (monthly, Bi-Monthly, Quarterly, Bi-Annual and Annual Journal Publication)	63	17.7	265	74.4	28	7.9
CD-ROMsJ Search and Databases	21	5.9	307	86.2	28	7.9
Others (Friends and Family members)	15	4.2	314	88.2	27	7.6

From Table 4.5, it is observed that healthcare information source was found to be highly relevant to the information needs of the HIV/AIDS patients. The most frequently used information source on HIV/AIDS was journals, magazines, handbills, pamphlets, and newsletters with 204(57.3%) responses; followed by online information resources and services by referral physicians. This outcome is in line with Sawyer's (2010) who posited that Internet is a huge source of convenient information. He further advised librarians to make effort to identify the right source of quality information by using different formats such as print books, periodicals, microforms, multimedia (Video tapes) DVDs and databases.

4.2.4 Extent of Awareness of Healthcare Information by HIV/AIDS Patients Using the Health Facilities in the North Western States of Nigeria

Table 4.6 contains the rate of awareness of healthcare information on HIV/AIDS by respondents.

Table 4.6 Awareness of Health Information on HIV/AIDS

Channel of information	Responses					
	Yes		No		Undecided	
	No.	%	No.	%	No.	%
Public Announcement	164	46.1	185	52.0	7	2.0
Television Broadcast	190	53.4	159	44.7	7	2.0
Telephone contact	87	24.4	262	73.6	7	2.0
Radio	179	50.3	170	47.8	7	2.0
Newspaper	154	43.3	195	54.8	7	2.0
Library Websites	30	8.4	89.6	319	7	2.0
Center for Disease control	76	21.3	273	76.7	7	2.0
Hospital News bulletin	90	25.3	259	72.8	7	2.0
State/Federal news agencies control on HIV/AIDS	103	28.9	246	69.1	7	2.0
Internet	110	30.9	239	67.1	7	2.0

Other Websites	70	19.7	279	78.4	7	2.0
Social Networking	86	24.2	263	73.9	7	2.0
Friends /Relatives	94	26.4	255	71.6	7	2.0
Conference/Seminar/Workshops	121	34.0	228	64.0	7	2.0
Posters	93	26.1	256	71.9	7	2.0
Notice Boards						
Journal Publications	69	19.4	280	78.7	7	2.0
Libraries and Information Centers	67	18.8	282	79.2	7	2.0
Others	7	2.0	340	95.5	9	2.5

Table 4.6 shows the awareness of healthcare information and the channel of information dissemination through television broadcast had 190(53.4%) responses, Radio broadcasts had 179(50.3%) responses, Public announcement had 164(46.1%) responses, Newspaper 154 (43.3%) responses, Friends and relatives had 94(26.1%) responses, Hospital news bulletin with 90(25.3%) responses, Telephone contact 87(24.4%), Social networking 86(24.2%), Centers for disease control had 76(21.3%). Other websites had 70(19.7%), Journal publications 69(19.4%). Libraries and information centers 67(18.8%). Library websites had 30(8.4%). Other means of awareness have 7 (2.0%).

Based on the findings, it can be concluded that majority of HIV/AIDS patients got their information through television broadcast and radio which is in line with Komolafe (2008) who opined that librarians should be advocates and educators in AIDS information dissemination, collaborating with both government and non-governmental agencies in packaging health information for the benefit of all. WHO (1988) organized an awareness campaign worldwide to enable both individuals and communities participate in creating awareness and to end the silence and shame surrounding HIV/AIDS in African continents, Asian and Pacific Island communities.

4.2.5 The Extent Of Awareness Of The Prevalence Of HIV/AIDS Infection

And Related Diseases By HIV/AIDS Patients Using Healthcare

Facilities In The North-Western States Of Nigeria

Figure 4.1 contains the analysis of level of awareness of healthcare information on HIV/AIDS.

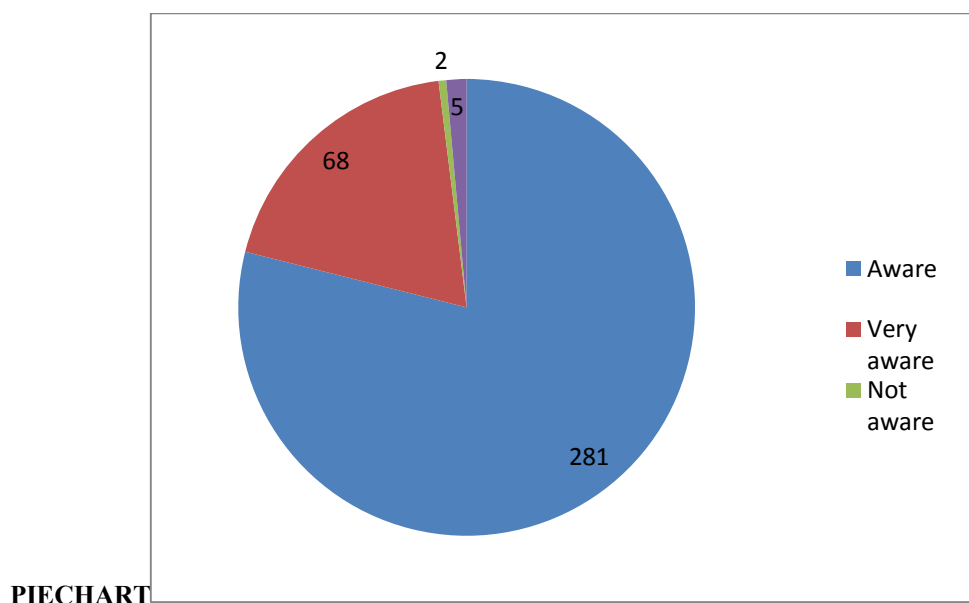


Fig. 4.1 Level of Awareness of Healthcare information on HIV/AIDS

From the figure 4.1, it was observed that the highest percentage of HIV/AIDS patients numbering 281 (78.9 %) were aware of healthcare information on HIV, followed by those who were very aware 68(19.1%), the respondents that are not aware are 2 (0.6%) while those who did not respond at all was just 5 (1.4%).

4.2.4 Extent of Accessibility to Healthcare Information by HIV/AIDS in the North Western States of Nigeria

Table 4.7. Contains analysis of level of access to healthcare information on HIV/AIDS in the North-West Zone of Nigeria.

Table 4.7 Access to Healthcare Information Resources on HIV/AIDS

Accessibility	Responses											
	Very often		Often		Fairly Often		Not often		Undecided responses		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Online free open source	40	11.2	67	18.8	29	8.1	84	23.6	136	38.2	356	100.0

CD – ROMs Search	13	3.7	25	7.0	17	4.8	107	30.1	194	54.5	356	100.0
Internet	179	50.3	46	12.9	36	10.1	58	16.3	46	12.9	356	100.0
Online Subscriptions	14	3.9	20	5.6	25	7.0	92	25.8	205	57.6	356	100.0
Health Databases	48	13.5	37	10.4	20	5.6	54	15.2	197	55.3	356	100.0
Medical Library Card Catalogues	41	11.5	38	10.7	23	6.5	55	15.4	199	55.9	356	100.0
Library OPAC System	11	3.1	15	4.2	14	3.9	77	21.6	239	67.1	356	100.0
File Folder	119	33.4	18	5.1	18	5.1	40	11.2	161	46.2	356	100.0
Print Journals	103	28.9	71	19.9	36	10.1	23	6.5	123	34.6	356	100.0
Bulletins	97	27.2	60	16.9	31	8.7	25	7.0	143	40.2	356	100.0
Posters	116	32.6	58	16.3	31	8.7	23	6.5	128	36.0	356	100.0
Seminar, Conferences and Workshops	54	15.2	44	12.4	26	7.3	62	17.4	170	47.8	356	100.0
Others (Specify).	9	2.5	8	2.2	2	.6	17	4.8	320	89.9	356	100.0

The result on table 4.8 shows that the highest level of accessibility was through the internet has 179 (50.3%) very often responses and 46 (12.9%) often responses. This is followed by use of printed journals which had 103 (28.9%) and 71 (19.9%) very often and often responses respectively. The lowest level of accessibility was through other sources with only 9 (2.5%) and 8 (2.2%) very often and often responses respectively. The other information sources through which respondents accessed information included Facebook, Twitter, google search, LinkedIn etc. with 2 (.6%). Based on these findings, UNAIDS (2011) confirmed that nearly 50% of people living with HIV/AIDS have access to antiretroviral drugs due to the fact that they make use of relevant healthcare information available. This significantly reduced the rate of new infections globally, (WHO, 2009), www.nov.edu.ng.

4.2.5 Purpose of use of healthcare information on HIV/AIDS in the North-Western States of Nigeria

The rate of responses arising from questionnaire administered on the use of healthcare information by HIV/AIDS Patients is contained in Table 4.9.

Table 4.8 Use of Healthcare Information by HIV/AIDS Patients

Purpose of Information Use	Response					
	YES		No		Undecided	
	No.	%	No.	%	No.	%
To create Awareness	233	65.4	96	27.0	27	7.6
To educate people about what they need to know about HIV/AIDS.	271	76.1	58	16.3	27	7.6
To increase level of preventive measures against HIV infections	241	67.7	88	24.7	27	7.6
To control the spread of HIV infection among children and adult	164	46.1	165	46.3	27	7.6
To ensure good quality of life.	145	40.7	184	51.7	27	7.6
To help increase high level of hygiene among HIV/AIDS patients.	118	33.1	211	59.3	27	7.6
To reduce stigmatization and discrimination.	113	31.7	216	60.7	27	7.6
To encourage openness/confidence	31	8.7	298	83.7	27	7.6
Others (Facebook, Twitter, emails)	9	2.5	320	89.9	27	7.6

The result on Table 4.4 shows that healthcare information used to educate people about what they need to know about HIV/AIDS had 271(76.6%) responses which was the highest followed by the information used to increase the level of preventive measures against HIV/AIDS infections with 241(67.7%) responses, while the least used information on the list was the information used to encourage openness and confidentiality with 31(8.7%) responses and other information not specified with 9(2.5%) responses. This is in support of Faboyinde (2006) who further supported Tiarniyu (1999) that “knowledge and information has become the most important tool for productivity, increased wealth and prosperity”. Without making use of health information, we cannot move the nations forward, the prospect of any successful nation depend on the strength of their youth. Adequately utilizing health information will definitely guarantee safety and better hope for the future.

4.2.6 Challenges Faced By the HIV/AIDS Patients in the North-Western

States in Accessing Health Care Information on HIV/AIDS

Analysis of challenges face by HIV/AIDS patients with regards to access to healthcare information is contained in Table 4.10.

Table 4.9 Challenges of Access to Healthcare Information by HIV/AIDS

Patients

Challenges	Response					
	Yes		No		Undecided	
	No.	%	No.	%	No.	%
Low Connectivity	183	51.4	140	39.3	33	9.3
Inadequate Supply of information resources	163	45.8	158	44.4	35	9.8
Computer Illiteracy	151	42.4	170	47.8	35	9.8
Inadequate funding of awareness programmes	124	34.8	197	55.3	35	9.8
Lack of willingness of patients to seek for information due to stigmatization	128	36.0	193	54.2	35	9.8
Lack of commitment on the part of government support patients/medical personnel.	85	23.9	236	66.3	35	9.8
Lack of willingness of the people to go for HIV test to know their status.	162	45.5	158	44.4	36	10.1
No access to electronic information resources.	73	20.5	247	69.4	36	10.1
Irregularity in power supply.	202	56.7	118	33.1	36	10.1
Ignorance of people who do not believe that HIV is real	130	36.5	190	53.4	36	10.1

The result in Table 4.10 shows the highest percentage of respondents who agreed that there was free access to electronic information resources were 247(69.4%), followed by respondents who did not agreed that there was no commitment on the part of government to support patients and medical personnel numbering 236(66.3%). The least response was those who agreed that there was no access to electronic information resources numbering 73(20.5%),

while 36(10.1%) patients did not respond at all. This outcome is in contrast with Reitz et.al (2005) in the study he conducted and found out that the greatest challenge that HIV/AIDS patients are facing was discrimination and stigmatization. He found out that out of 1,021 healthcare professionals who are respondents in 163 sampled from public tertiary health facilities, 9% of them reported refusing to attend or care for HIV/AIDS patients, 9% indicated that they had been refused admission into the hospital, while 59% agreed that HIV/AIDS patients should be in a separate ward. Reasons were hugely based on insufficient education and utilization of current information on position of HIV/AIDS trends in the society.

4.2.7 Suggested Solutions to the Challenges Facing Access to Healthcare

Information

Table 4.11 contains the suggested solution to the challenges facing access to healthcare information as proffered by the respondents.

Table 4.10 Suggested solutions to the Challenges facing access to Healthcare

Information

Suggested Solution	Response	
	No.	%
Making relevant information available and accessible.	122	34.3
Public enlightenment and sensitization	132	37.1
Continue education Programmes	13	3.7
Provision of adequate health facilities and healthcare delivery.	89	25.0
Total	356	100.0

From table 4.11, the result shows that public enlightenment and sensitization programme as a suggested solution to access to healthcare information on HIV/AIDS with 132(37%) responses is higher than any other suggested solutions and the least was 13(3.7%) responses for continuing education programme for both the young and adults. The findings are in support of Dixon and Keshinro (2012) who noted that accessibility and usability of health information are important challenges that public health and information specialist must address in order to curtail the spread of HIV/AIDS infection in the society. This opinion is further supported by Car (2004) as he emphasized training of medical librarians on how to access health information and as well provide information services to their users.

4.3 Test of Hypotheses

H_{0.1} There is no significant difference in the types of health care information on HIV/AIDS available to the selected male and female HIV/AIDS patients in the North-Western States of Nigeria.

To test this hypothesis, t- test of independent sample was used and the results are shown in Table 4.12.

Table 4.11.T-test on the Significant Difference between Availability of Healthcare Information among Male and Female HIV/AIDS Patients in the North – Western States of Nigeria

Variables	N	Mean	Std. Dev.	Std. Error	T	df	p	Decision Rule
Male	12	78.5	28.9	8.8	1.39	22	1.72	Accepted
Female	12	62.7	25.6	7.8				

T= 1.39 < P 1.72 df 22 < 0.05

Table 4.12 shows that the t value of 1.39 is less than the P value of 1.72 at the 0.05 level of significant set for the study. Therefore H_0 is retained because the P value is greater than the t value. The result shows that there is no significant difference in the availability of health information to male and female HIV/AIDS patients in the selected tertiary health institutions. The null hypothesis was therefore accepted. This outcome is in line with Adebimpe and Adekoya (2014) who emphasized that management board in hospitals should provide an enabled environment so that both health workers and patients could avail themselves opportunities that abound in the use of healthcare information, thereby increasing the level of awareness about the deadly virus through the Television broadcast, Radio broadcast, seminar and conferences etc. Anyakoha (2005) supported that speedy transition to electronic publishing has further revolutionized the world to a global village and making it much easier for patients and healthcare professionals access and use available healthcare information.

H0.2 There is no significant difference in the level of access to healthcare information on HIV/AIDS among the selected male and female HIV/AIDS patients in the North-Western States of Nigeria.

To test this hypothesis, t – test was used and the results are shown in the table 4.13

**Table 4.12 T-test for Significant Difference in Accessibility to Information
Among Male and Female HIV/AIDS Patients in the Selected
Tertiary Health Institutions in the North- Western States of
Nigeria**

Variable	N	Mean	Std. Dev.	Std. Error Mean	t.	df	P.	Decision Rule
Male	13	62.3	28.8	8.2	0.56	24	1.71	Accepted

Female	13	49.6	29.1	8.3				
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T = 0.56 < P 1.71 while df = 24 @ 0.05

Table 4. 13 show the t-value of 0.56 is lower than the P value of 1.71 at the 0.05 level of significance and at df of 24. The result shows that there is no significant difference among the male and female HIV/AIDS patients in accessibility to information in the selected health institutions in North-Western States of Nigeria. The null hypothesis is therefore retained and accepted. This outcome was supported by Adebimpe and Adekoya (2014) who emphasized that access to healthcare information through computers, websites, databases and health information communication technologies are highly relevant for effective healthcare delivery in the hospitals. In support of this outcome, WHO (2010) designed an information outreach that is community based as part of strategy to ensure that healthcare information in all forms gets to the hands of people living with HIV/AIDS. Black (2002) further supported that access to online resources required the involvement of all stakeholders such as web developers, product vendors, university instructors, programme directors, courseware designers and librarians to make sure that all resources are accessible to all facets of their user's community.

H0.3 There is no significant difference in the level of usage of health care information on HIV/AIDS among the selected male and female HIV/AIDS patients in the North Western States of Nigeria.

To test this hypothesis, t – test was used and the results are shown in the table 4.14

Table 4.13 T-test On The Significant Difference In The Utilization Of Healthcare Information Among The Male And Female HIV/AIDS Patients In The Selected Health Institutions In The North –Western StatesOf Nigeria

Variable	N	Mean	Std. Dev.	Std. Error Mean	T	df	P	Decision Rule
Male	9	79.1	43.7	15.6	1.1	16	1.75	Accepted
Female	9	68	42.2	15.1				

T = 1.1 < P (1.75), df = 16 @ 0.05

Table 4.14 shows the t-value of 1.1 is lower than the P value of 1.75 at the 0.05 level of significance and at df of 16. The result shows that there is no significant difference among the male and female HIV/AIDS patients in the utilization of health information in the selected health institutions in North-West Zone of Nigeria. The null hypothesis was therefore retained and accepted. This outcome is in line with the opinion of Rajagopal (2013) who emphasized the use of health information as the most promising tool for improving the overall quality, safety and efficiency of the healthcare delivery system. Among different stakeholders of healthcare

services, patients are the major beneficiaries of healthcare information system. Tiarniyu (1999) emphasized the use of information for the development and progress of all the social structures in the community, ranging from family, religious, educational, political institutions and especially health sector.

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CHAPTER FIVE

SUMMARY, CONCLUSION, RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the study, major findings, conclusion, recommendations and suggestions for further research..

5.1 Summary

In the Introductory Chapter, the focus of the study was to investigate the level of accessibility and use of healthcare information by HIV/AIDS patients in the selected tertiary health institutions in the North-Western States of Nigeria. To achieve this, five research questions were formulated and three hypotheses were tested.

Chapter Two consisted of review of relevant literature in which the researcher established the level of accessibility and use of healthcare information by HIV/AIDS patients in order to curtail the spread of HIV/aids infections in the North-Western states of Nigeria.

In chapter Three, a survey research method was adopted for conducting the study while the researcher used stratified random sampling technique for the selection of the samples. A total number of 356 male and female HIV/AIDS patients were randomly selected out of the total of 25,705 registered patients in the selected tertiary health facilities in the North Western States of Nigeria. The selected tertiary health institutions include: Ahmadu Bello University Teaching Hospital, Zaria, Kaduna State, Aminu Kano Teaching Hospital, Kano, Kano State and Federal Medical Center, Guzau, Zamfara State.

In chapter Four, the data collected were analyzed by using both descriptive and inferential statistical tools. Frequency distributions with simple percentages were used for data analysis. Hypotheses of the study were tested by using t-test of independent sample, while data collected were analyzed and interpreted.

5.2 Summary of Findings

The summaries of findings are presented as follows:

1. Signs and symptoms of HIV/AIDS, prevention of mother to child infection, available testing centers, available treatment centers, care and support of the affected were the major information sought for by the HIV/AIDS patients. However, first aids facilities, method of managing associated diseases and non-drug supplement information were less sought for by HIV/AIDS patients under study.

2. Radio, Television program and Posters were the major sources of information for HIV/AIDS patients. However, journal publications were less consulted information source by HIV/AIDS patients in the selected tertiary healthcare institutions under study.
3. The highest percentage of HIV/AIDS patients were very aware of healthcare information, while those who were not aware of available information are very few.
4. Access to healthcare information through the Internet was very often, while print journal publications were very often accessed by the HIV/AIDS patients.
5. The major challenges of accessibility to healthcare information by HIV/AIDS patients were low connectivity and irregularity of power supply, while few agreed that inadequate supply of information resources and lack of willingness to go for test to regularly confirm the viral load in the body system hindered their access to healthcare information.

Findings of the Hypotheses showed that:

1. The result of Ho.1 shows that there is no significant difference in availability of health information among male and female HIV/AIDS patients in the selected tertiary health institutions in the North-West Zone of Nigeria. Therefore, the null hypothesis was accepted.
2. The Ho.2 result shows that there is no significant difference in the level of access to healthcare information among the male and female HIV/AIDS patients in the selected health institutions in North-West Zone of Nigeria. Therefore, the null hypothesis was retained and accepted.
3. The Ho.3 result shows that there is no significant difference among the male and female HIV/AIDS patients in utilization of health information in the selected health institutions in North-West Zone of Nigeria. The null hypothesis was therefore retained and accepted.

5.3 Conclusion

Based on the findings, the study concluded that although there are available health information on HIV/AIDS such as signs and symptoms of HIV/AIDS, preventive methods and avoidance of mother to child transmission of HIV/AIDS, antiretroviral drugs and therapy, care and support of the affected were available but were hindered by inadequate funding of awareness programme and low dissemination of available information and illiteracy.

There was access to healthcare information through various sources and formats, however hindered by factors such as ignorance of people who do not believe in the real existence of HIV/AIDS virus and such patients may never go for test.

The purpose of use of information was to educate people, create awareness and increase level of preventive measures against the spread of HIV/AIDS diseases. There was no significant difference in the use of healthcare information among male and female HIV/AIDS patients. An effective use of healthcare information was no doubt hindered by inadequate availability of electronic information resources, irregularity of power supply, and lack of commitment on the part of government to support patients and healthcare providers.

5.4 Recommendations

Based on the findings of the study, the following recommendations were made:

1. Healthcare providers should provide more useful information on HIV/AIDS and also adopt good information management system to always inform HIV/AIDS patients daily administration of drugs and therapies to keep them fit so as to avoid emergence of resistance to drugs.
2. Use of Social media i.e Twitter, Facebook, LinkedIn and email messages should be encouraged as a complementary source of information and communication among HIV/AIDS patients to obtain health information tips regularly posted by medical practitioners
3. Awareness of healthcare information should be intensified through public enlightenment programme and continuous education programme by the federal government and healthcare providers to curtail the risk of spreading HIV infection. Hospitals should regularly print more news bulletins and posters to increase the awareness of the risk of HIV infection among people.
4. Access should be facilitated by ensuring that mobile technologies suppliers provide full connectivity for effective utilization, while government to hugely invest more on ICT infrastructure to enable common man have access to health information.
5. Problem of low connectivity, irregularity of power supply and adequate supply of health facilities and funding should be tackled by the government to facilitate easy flow of information. Language translation is also needed for those who are illiterate and may not be able to read or write English language. Alternatively, use of mobile devices i.e. laptops, Handset, iPhones, iPad, Android, should be adopted to increase level of accessibility to online tips on health information.

5.5 Suggested Areas for Further Studies.

The following suggestions are offered for future research:

1. Application of information technology to service delivery and quality healthcare services in Nigerian Tertiary Health Institutions.
2. Assessment of Availability and Utilization of healthcare Information and Communication Technologies (HICT) by Healthcare Providers in Nigerian Tertiary Health Institutions.
3. Availability, Accessibility and Use of Social Media resources in Promoting Healthcare Information in The South West Zone of Nigeria.
4. Assessment of Information System and Medical Record of HIV/AIDS patients in the North-Central States of Nigeria.

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APPENDIX 1

QUESTIONNAIRE

QUESTIONNAIRE ON ACCESSIBILITY AND USE OF HEALTHCARE INFORMATION BY HIV/AIDS PATIENTS USING TERTIARY HEALTH INSTITUTIONS IN THE NORTH-WESTZONE OF NIGERIA

Department of Library and Information Science,
Faculty of Education,
Ahmadu Bello University,
Zaria.

Dear Respondents,

I am a Master's Degree student in the above named department carrying out research titled: "Accessibility and Use of Healthcare Information by the HIV/AIDS Patients Using Selected Tertiary Health Institutions in the North West Zone of Nigeria.

The information requested for is purely for academic research purpose and shall be treated in strict confidentiality. Please help to respond honestly to the questions as the identity of each respondent will not be required.

Thanks for your anticipated cooperation.

Ibinaiye Irewolede Dorcas. (Mrs).

Researcher.

Instruction: Please tick where applicable []

SECTION A

Demographic Information of Respondents.

Bio-Data

1. Gender:

a. Male []

b. []

2. Name of Health Institution.....

3. Educational Qualification.

(Please tick your highest qualification).

a. Ph. D/Specialist/Consultancy []

b. MB'BS []

c. First-degree/HND []

d. OND/NCE []

e. O/Level certificate holder []

f. Primary School Cert. []

g. Not literate []

h. Others. Please Specify.....

4. Age of Respondents

a. Less than 20 years old []

a. 20-30 “ “ “ “ []

- b. 31-40 “ “ “ “ []
- c. 41-50 “ “ “ “ []
- d. 51-60 “ “ “ “ []
- e. 61 years and above []

Section B.

Types of Healthcare Information Available and Sought for By HIV/AIDS Patients.

5. Indicate the type of available healthcare information you normally seek for? [Tick as many as possible].

- a. Early sign/symptoms of HIV/AIDS []
- b. Mode of Prevention of HIV/AIDS transmission among citizenry []
- c. Avoidance of child to mother transmission of HIV virus. []
- d. Measures to adopt/total abstinence from casual and unprotected sex []
- e. Available HIV/AIDS testing centers for early detection of diseases. []
- f. Available treatment, care and support of those affected with HIV/AIDS in various centers. []
- g. Available drugs/antiretroviral therapies []
- h. HIV/AIDS counseling centers (non-drug therapies) []
- i. First Aids facilities in case of accident and emergency []
- j. Methods of managing associated infections, complication and diseases.[]
- k. Alternative drugs and non-drug supplements and tips healthy living. []
- l. Others. Please specify..... []

6. How readily available are Healthcare information sources on HIV/AIDS?

- a. Very readily available []
- b. Readily available []
- c. Available []
- d. Rarely available []
- e. Not available []

7. Are the information available relevant to the needs of the HIV/AIDS patient?

- a. Very Relevant []
- b. Relevant []
- c. Fairly Relevant []
- d. Not Relevant []
- e. Undecided []

Section C.

Sources of available Healthcare Information on HIV/AIDS.

8. Indicate your sources of information on HIV/AIDS from the table below:

[Tick as many as possible].

- a. Medical Library resources in the Teaching Hospitals []
- b. State and federal medical health centers []
- c. Hospital Bulletins []
- d. Workshops, Seminars and conference proceedings. []
- e. Newspaper Articles []
- f. Posters and journal Publications []
- g. Radio and Television programmes []
- h. Public libraries and Information Centres []
- i. Online resources (e-books, e-journals etc) []
- j. Websites and virtual resources []
- k. Guides for clinical care. []
- l. Centre for Disease Control and Prevention (State and Federal) []
- m. Health resources and services administration. []
- n. Research initiatives findings (PubMed, Medline etc). []
- o. Schools []
- p. Majalisa []
- q. Churches/Mosques []

r. Others (Please specify)..... []

9. Indicate the format of information source you prefer to access.[Tick as many as possible]

Formats of Healthcare Information	Most Preferred	More Preferred	Preferred	Not Preferred	Never Preferred
HTML					
PDF					
MS WORD					
POWER POINT					
PRINT					

10. Are the available information sources relevant to your information needs

Sources of Healthcare Information.	Very Relevant	Quite Relevant.	Relevant.	Not Relevant	Never Relevant.
Online information resources and services by referral physicians.					
Online discussions forum by Specialist Doctors					
Health database on dietary supplement					
Printed sources Journals Magazines, Handbills, Pamphlets, Newsletters					
Electronic Journals monthly, bi-monthly, quarterly, bi-annual annual publication					
CD-ROM					

search and databases					
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Section D

Awareness of Healthcare Information on HIV/AIDS.

11. Are you aware that there is available healthcare information on HIV/AIDS?

- A. Very Aware []. B. Aware []. C. Fairly Aware [] D. Not Aware []
E. Undecided [].

12. What is your level of awareness of the prevalence of HIV/AIDS infection and related diseases?

- a. Very much aware [], b. Aware [] c. Fairly aware [] d. Not aware [] e. Undecided []

13. Are you also aware of information source for the prevention, care and antiretroviral therapy on HIV/AIDS?

- a. Very much aware [] b. Aware [] c. Fairly aware []. Not aware. [] e. Undecided []

14. Through what means were you informed of available healthcare information on HIV/AIDS? [Tick as many as possible].

- | | |
|----------------------------------|--------|
| a. public announcement | [] |
| b. Television broadcast | [] |
| c. Telephone contact | [] |
| d. Radio | [] |
| e. Newspapers | [] |
| f. Internet | [] |
| g. Website | [] |
| h. Social Networking | [] |
| i. Friends/relatives | [] |
| j. Conference/seminars/workshops | [] |
| k. Posters | [] |

- l. Journal publications []
- m. Libraries and information centers []
- n. Library websites []
- o. Center for diseases control []
- p. Hospital News Bulletin []
- q. State and federal Agencies control of HIV/AIDS []
- r. Notice boards []
- s. Churches []
- t. Mosques []
- u. Others.

Section E.

Access to Healthcare information on HIV/AIDS.

15. How often do you access healthcare information on AHIV/AIDS? [Tick as many as possible].

S/.no.	.Type of information Source.	Very often	Often	Fairly often	Not often
A	Online free open source and search databases				

B	CD-ROMs Search				
C	Internet				
D	Online subscription				
E	Health databases				
F	Medical library card catalogues				
G	Libraries OPAC system				
H	File folder				
I	Journals				
J	Bulletins				
K	Posters				
L	Seminars, conferences and workshops.				
M	Others (specify)				

16. Do you have free access to adequate information you seek for on HIV/AIDS

a. Very adequately []

b. Adequately []

c. Fairly adequate []

d. Not adequately []

e. Very inadequately []

17. Do you have free access to available healthcare information?

a. Very accessible []

b. Accessible []

c. Fairly Accessible []

d. Not Accessible. []

e. Very inaccessible []

18. Through what other means do you normally access your information?

a. Information resources in Teaching Hospitals and General Hospitals []

b. State and Federal Ministries of Health. []

c. At the centers where HIV/AIDS services are made available. []

d. Medical libraries and information centers. []

e. Others,(specify).....

Section F

Use of Healthcare Information by HIV/AIDS Patients.

19. For what purposes do you use information obtained for? [Tick as many as possible]

a.To create awareness []

b. to educate people about what they need to know about HIV []

c. To increase level of preventive []

d. To control the spread of HIV infection among children and adult []

- e. To ensure good quality of []
- f. To increase level of hygiene among the people living with HIV []
- g. To reduce stigmatization and discrimination of infected patients []
- h. To encourage openness/confidence []
- i. Others (Please specify).....

20. How readily do you use available healthcare information?.

- a. Very Readily []
- b. Readily []
- c. Fairly Ready. []
- d. Not Readily []
- e. Undecided []

Section G.

Challenges of accessing Healthcare Information on HIV/AIDS.

21. What are the challenges faced by the HIV/AIDS patients with
Regards to access to health information. [Tick as many possible]

- a. low internet connectivity []
- b. Inadequate supply of information resources and facilities. []
- c. Computer illiteracy []
- d. inadequate funding of awareness programs. []
- e. willingness of patients to seek for information due to stigmatization []

- f. NO commitment on the part of government to support the patients []
- g. Medical personnel in supplying information []
- h. lack of interest of the people to go for HIV/AIDS test. []
- i. No access to electronic information resources. []
- k. Ignorance of the people who do not believe that HIV/AIDS exist. []

22. What is the best way you think access to health information can be improved for effective utilization? (Please provide alternative response)

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