ASSESSMENT OF AWARENESS, USE AND INFORMATION DISSEMINATION TO HEPATITIS PATIENTS FOR HEALTH LITERACY BY LIBRARIANS IN SPECIALIST HOSPITALS IN NORTH-CENTRAL, NIGERIA

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JANUARY, 2023

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A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF TECHNOLOGY IN LIBRARY AND INFORMATION SCIENCE

JANUARY, 2023

ABSTRACT

The study was on the assessment of awareness, use and information dissemination to hepatitis patients for health literacy by librarians in specialist hospitals in North-central, Nigeria. The study was guided by seven objectives and seven corresponding research questions. Among the objectives of the study were to: find out types of information resources and services available in specialist hospital libraries in North-central, Nigeria, identify types of information resources and services provided by librarians to hepatitis patients for health literacy in North-central, Nigeria, the factors affecting the level of health literacy among the hepatitis patients in North-central, Nigeria to mention but a few. Survey research design was adopted for the study. The total population for the study was 1,700 hepatitis patients and 20 medical librarians in the specialist hospitals studied. The sample size of the population was 313 drawn from Krejcie and Morgan (1970) sample size table for determining the sample size of a population. Questionnaire and observation checklist were the instruments used for data collection. Out of 313 copies of questionnaire administered, 254 copies were filled, returned and used for the analysis. Descriptive statistical tool involving frequency counts and percentages, mean and standard deviation were used to analyse the data. The findings of the study revealed that the types of information resources and services available in the specialist hospitals were books, professional journals, newspapers, posters/handbills, newsletters, dictionaries, conference proceedings, encyclopedias, library orientation service to mention but few. Similarly, medical librarians disseminated information to hepatitis patients mainly through posters/ fliers/handbills with ($\overline{x}$=3.33; SD=0.83) value, library websites with ($\overline{x}$=2.96; SD=0.46) value, conferences with ($\overline{x}$=3.00; SD=0.50) value and workshops and seminars with ($\overline{x}$=3.20; SD=0.70) value to enhance their health literacy on hepatitis virus. The study revealed further that inadequate awareness of information resources and services with ($\overline{x}$=2.99; SD=0.49) value, inadequate current information resources on hepatitis with ($\overline{x}$=3.08; SD=0.58) value and inadequate search skill and limited number of skilled librarians with ($\overline{x}$=3.27; SD=0.77) value were factors affecting the level of health literacy among hepatitis patients in the study areas. The study recommended among others that the management of specialist hospitals in North-central, Nigeria should provide or install Internet services as well as extend their services to the use of e-mail, Short Message Services (SMS) in meeting the information needs of hepatitis patients and other groups of library users, the management of special libraries should create awareness of their information resources and services through library orientation, organising conferences, workshops and seminar to enlighten the users especially on Internet resources, medical standard and guidelines, newsletter and encyclopedia and how they can be used to meet the information need of hepatitis patients.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Health literacy is a concept that relatively deals with possessing the ability to identify the health information needs on how to locate and use information. The World Health Organisation (WHO) (2012) refers to health literacy as the concept of an individual's cognitive and social skills which determine the motivation and ability to gain access to, understand, and use information in ways to promote and maintain good health. In this way, health literacy holds greater value beyond an ability to read pamphlets and successfully set appointments. Increased health literacy is essential for empowerment which in turn might result in liberated personal, social, and cultural development. Ultimately, this might result in enhanced health behaviours (Ajuwon, 2015). The definition of functional health literacy includes a basic ability required to navigate a health care system (Squiers *et al.,* 2013). Researchers have discovered in the last decade that health literacy strongly predicts health status, more so than socioeconomic status, age, or ethnicity (Dubow, 2011).

Similarly, Ajuwon (2015) has equally revealed that there is a strong relationship between the inability to read and adequate care of one's health among patients with chronic or terminal diseases such as hepatitis. Adibe (2010) opined that hospitalised patients who had low health literacy had an increased chance of reporting poor health and were more likely to have been hospitalised compared to those patients who had high health literacy. He further argued that those patients with low health literacy who were diagnosed with chronic illnesses had a poor understanding and education regarding their illnesses. Pirani *et al.* (2017) revealed a relationship between poor health

literacy and less knowledge and understanding of chronic illnesses in patients with hepatitis. Ill-health and diseases are now recognised as barriers to economic growth and subsequently to national development in developing countries (Strittmatter & Sunde 2011); it is therefore obvious that achieving development goal calls for improving health status of a nation's population. Health literacy is concerned with the capacities of people to meet the complex demands of health in modern society.

Similarly, health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decision (US Department of Health & Human Services, 2011b). Acquisition of health literacy skill is fundamental to fully participate in managing personal and family health issues. Developing health literacy among people has been thought to be very important across the world due to clear association between low health literacy and poor health outcomes, and the potential to reduce these outcomes (Berkman *et al.*, 2010).

Consequently, several national and international organisations such as World Health Organisation (WHO) have promoted health literacy as a research priority (WHO, 2010).Others are National Agency for Food and Drug Administration and Control (NAFDAC), Hospitals, Primary Health Centres and Libraries are institutions that support health literacy programme through campaign and provision of relevant health information to the people.

Libraries can be major players described as information provision (Ogunsola, 2011). In other words, the services provided by the library pervades all sectors of life including the provision and dissemination of information on healthy living especially on what could improve the health and wellbeing of hepatitis patients. Therefore, libraries should

offer guidance to community members on diverse needs related to learning about health and health care. Also, library may also provide services that enhance access to health science and also sought research regarding medical development and clinical trials for better services.

Libraries that are usually regarded as custodians of knowledge should be proactive in bringing to the notice of hepatitis patients information on the causes, effects, control including the current hepatitis drugs in the prevention treatment of hepatitis. This could be done through the services they render and the resources they have at their disposal. These services could be rendered in different types of libraries, such as academic, school, public, and special libraries.

Special libraries are types of libraries established for the sole purpose of supporting and enhancing the actualisation of the goal of the parent organisations or institutions, like specialist hospitals. Special libraries provide specialised information resources on a particular subject for their clienteles (Shumaker, 2011). The special library which includes those found in specialist hospitals are designed to assist physicians, health professionals, medical students, patients and medical researchers in locating health and scientific information to improve, update, access and evaluate health care services. Uzohue and Yaya (2016) opined that special libraries in health organisations are set up to take care and meet the information needs of professional health workers within and outside the organisations that are saddled with the responsibilities of providing health care services to patients visiting the health centres. In the same vein, the specialist hospitals as well as their libraries deal with specific subjects, and established to serve not only the medical practitioners like the doctors and midwives but also medical students, hepatitis patients and other individuals who may wish to carry out research in the areas of medical line.

Shafack (2016) asserted that purpose of the librarians in specialist hospitals is to satisfy the information needs of the target users in the quest for educational, research and patient-care missions through the acquisition of the information resources that can support their needs. Therefore, librarians in the specialist libraries should provide health information services that would avail the public and doctors on how to protect themselves from different diseases. Also, information resources on related hepatitis cases, report from libraries in hepatitis research institutes can avail researchers and the public with information that can aid research towards finding a lasting cure to this disease. In the same vein, specialist libraries should be able to provide access to global biomedical information sources that will assist clientele to keep abreast of current knowledge and information in their specialties. This is paramount since specialist libraries should strive to provide an enabling environment where hepatitis patients and other users can seek and use information or study and explore new knowledge source.

Libraries in specialist hospitals should collaborate with health professionals in getting health information as well as provide recreational reading for patients and serve the information needs of physicians and medical staff. Mohammed (2010) argued that the objectives for setting up the library in specialist hospitals include: collection development in terms of resources and services, selection process, library orientation and the organisation of library resources. Providing adequate information resources and services will help in delivery of actual information to hepatitis patients and other information seekers. Okeke *et al.* (2017) noted that hospital libraries, should take cognisance of providing knowledge based information for quality health of the patients. It is also the role of libraries in specialist hospitals to organise a campaign programme to create awareness on how hepatitis patients can judiciously use health information resources tailored to their health needs.

Librarians in specialist hospitals are well-positioned to improve access to credible information, provide expert assistance in navigating health resources and regulations, and work with partners to develop and deliver relevant programs and services that boost health and wellness of hepatitis patents. Patients use libraries in specialist hospitals as trusted access point to find, understand, and act on health and wellness information. Liu and Briggs (2015) opined that libraries also provide remote services, by phone, email, instant messages and even delivery services.

Health and wellness information is made accessible by librarians through variety of media by building and maintaining carefully created (physical and digital) collection. Libraries offer health information seekers high quality resources on a full range of topics. While focused on serving the information needs of medical professionals, librarians in specialist hospitals also provide collections for use by patients and their families, including videos that teach methods of home care for chronic condition diseases such as hepatitis. Libraries do not only provide access to high quality health information, but also help people build the health literacy skills needed to navigate health information (Malachowski, 2011). In addition, libraries enable access to this information by offering Internet access, digital literacy and health literacy training and other sustained forms of support in order to fully inform the users on how to protect themselves from various deadly diseases such Human Immunodeficiency Virus (HIV), Cancer, Diabetes, Heart diseases, Stroke and Cerebrovascular diseases, Kidney and Hepatitis disease.

Hepatitis virus is a serious burden that causes potential life- threatening inflammation of the liver, which is characterized by acute and chronic forms of liver disease. According to World Health Organisation (WHO) (2013) global health report of viral hepatitis more than 240 million population where affected by chronic liver disease. The liver is a vital

organ that process nutrients, filters the blood, and fights infections. When the liver is inflamed or damaged, its function can be affected. Hepatitis which is an inflammation of the liver can lead to a condition which can be self-limiting or can progress to fibrosis (scaring), cirrhosis or liver cancer (WHO, 2013).

Apart from drinking alcohol, using toxins substance and certain medication conditions hepatitis virus are the most common cause of hepatitis in the world. Hepatitis could be A, B, C, D and E types. Hepatitis A is spread primarily through food or water contaminated by faeces from an infected person. Rarely, it spreads through contacts with infected blood. Hepatitis B is spread through contacts with infected blood, through sex with an infected person, and from mother to child during childbirth, whether the delivery is vaginal or via caesarean section. Hepatitis C is spread primarily through contact with infected blood, less commonly it can spread through sexual contact and child birth. Hepatitis D is spread through contact with infected blood, this disease only occurs at the same time as infection with Hepatitis B or people who are already infected with Hepatitis B, and Hepatitis E is spread through food or water contaminated by faeces from an infected person (U.S. Department of Health and Human Services, 2011a).

Nigeria has a high burden of viral Hepatitis B and C at a prevalence rate of 11.2% and 2.0% respectively (WHO, 2017a).This information is in line with Nigeria Federal Ministry of Health (2018) which noted at a briefing on July 30, 2018 that the government was articulating strategies that would lead to a reduction in the number of more than 22million Nigerians infected with Hepatitis B and more than 4 million with Hepatitis C. The viral hepatitis pandemic takes a heavy toll on lives, communities and health systems. It is responsible for an estimated 1.4 million deaths per year from acute infection and hepatitis-related liver cancer and cirrhosis a tool comparable to that of

HIV and tuberculosis (WHO, 2016a). It is worth noting that the health of many Nigerian citizens is at stake. Many Nigerians are living with a life-threaten disease which they are not aware of due to the fact that viral hepatitis is a silent killer. Many a time it does not manifest any symptom on the patients until later when the liver has started getting damaged. Some individuals when suffering the disease ignore to go for treatment because they are ashamed of what people will say about them. They are not aware that this viral hepatitis can be controlled and managed like other diseases, if detected on time.

Awareness as a variable is necessary for prevention of hepatitis disease. It can play important roles on the health of many Nigerians living with this disease. Ogholikhan and Schwarz (2016) indicated that awareness is the ability to directly know and perceive, to feel or to be cognisant of a particular events. In other words, it is a state of being conscious of something. Similarly, awareness is a state where a person knows about his health condition. Lack of awareness has caused many patients to leave with this viral hepatitis for a long time that drugs could no longer work on them and their liver would damage to the extent that would result to liver transplant, costing millions of naira. Many people are hepatitis virus carrier, but are ignorant of the symptoms, treatment, and how to manage it. In the same vein, many are aware of their current health status, but are ignorant on how to access relevant and current health information tailored to their needs (WHO, 2017b).

Viral Hepatitis can lead to cirrhosis, liver failure and liver cancer, but infection is often silent and symptomless until the development of significant liver disease, which can occur years after initial infection. As such, infection frequently goes undetected. Approximately one-third of people with chronic Hepatitis B infection and three quarters of people with chronic Hepatitis C infection in Nigeria are unaware that they are

infected (Nigeria Hepatitis Summit Report (NHSR) (2018). Lack of one's knowledge of infection status means that people fail to seek needed care and treatment which could lead to serious consequences as 15% - 25% of people with Hepatitis B infection and estimated 37% of people with Hepatitis C infection according to Institute of Medicine (IM) (2010) will die as a result of their infection if they do not receive needed treatment. Fortunately, awareness, care and treatment can reduce the progression of liver disease caused by viral hepatitis. In many cases treatment for Hepatitis C can eliminate the virus from the system. To help people living with viral hepatitis benefit from this early detection of this virus and treatment, awareness needs to be created. Awareness that can help victims detects early and seeks for support improving general understanding of viral hepatitis and its health consequences and also increase disease awareness which could be addressed via public health campaign and information dissemination (Shimakawa *et al.,* 2017).

Another variable needed for health literacy with emphasis to hepatitis disease is information dissemination. Information dissemination in the health context according to National Institute of Cancer (2013) is the collection, analysis, and disseminating of information which is useful in the prevention, diagnosis, and treatment of cancer. Similarly, information dissemination according to Matingwina (2015) focused its attention on disease prevention and treatment; indicating that information can be disseminated to create awareness among the general public to those who are infected with hepatitis without them knowing.

Information dissemination is a key element in health promotion efforts. A good number of people have been reported dead for lack of information about certain diseases such as hepatitis. Dissemination of information is an important function that should be properly and professionally handled, especially in a predominantly illiterate and large rural

populated country like Nigeria (World Bank, 2011). If information is disseminated through inappropriate channels, no matter what the intensity and frequency are, it will be as bad as not communicating at all. Disseminating health information can improve knowledge transfer from librarians and health professionals to hepatitis patients and others alike that will help maintain and improve their health and other diseases that could be life threatening.

With the advent of Information and Communication Technology (ICT), Obasola and Mabawonku (2018) opined that the dissemination of health information is a strategy for preventing pregnancy abnormalities, birth complications and preventions of diseases. Ferguson *et al.* (2013) showed that the information method seemed to have little impact on health outcome. In this 21st century various channels of disseminating information to patients on health issues are available everywhere. It is paramount to note that the value of any specialist library lies in the effective utilization of its information resources available to the community/users it serves.

The term use as an important variable to prevent hepatitis disease involves consulting and acquiring knowledge about the disease. That is, getting information from the library mostly with the help or aid of a librarian which satisfies the information needs of users. Anyaoku (2015) stated that library use involves consultation, reading, and borrowing of library resources. Information resources are relevant if they are used for research activities and health issues in libraries such as those located in specialist hospitals. Such resources include print, non-print and electronic materials such as online books, journal in medicines, online newspapers, magazines, online databases, online encyclopaedias and dictionaries. Use of information resources will assist in making information resources such as reference materials, serial publications, electronic resources and audio-visual resources adequate, current and relevant for users in order to satisfy their

information needs. For adequate information needs to be provided much is desired from the librarians in specialist hospitals. For instance, the hepatitis patients are not only expected to be aware of hepatitis virus existence but information should be disseminated on how to manage the disease as well as use information for better treatment.

Based on the aforementioned, it is important to stress that special libraries through various information and communication Technology (ICT) media can create awareness in this study area to enable public to see reasons why they need to know their hepatitis status. In line with the first Nigeria hepatitis summit report (2018) the number one goal of the summit among others was to:

1. "Improve health seeking behaviour among Nigerians through disease awareness and as more people become aware of the disease, it will help them discover their status and encourage them to seek treatment as appropriate."

Librarians as custodians of information can play an important role in creating awareness, disseminate information and encourage the public to use information and this will serve as preventive measures to hepatitis patients thereby boost their level of health literacy. It is on this basis that the study tends to carry out the assessment of awareness, use and information dissemination to hepatitis patients for health literacy by librarians in specialist hospitals in North-central, Nigeria.

1.2 Statement of the Research Problem

World Health Organisation (WHO) and other health organisations such as National Agency for Food and Drug Administration and Control(NAFDAC), National Institute for Pharmaceutical Research and Development (NIPRD),National Health Insurance Scheme, National Primary Health Care Development Agency (NPHCDA) and National Institute of Medical Research (NIMR) have organised campaigns, provided medical

services and information resources tailored towards the identification, treatment and prevention of Hepatitis virus with the view of improving the health literacy of the affected patients. In the same vein, specialist hospital libraries in Nigeria are funded by parent bodies to purchase relevant information resources and infrastructures geared towards promoting health services awareness, treatment and prevention of deadly diseases including hepatitis.

However, many patients according to WHO report (2018) have died due to lack of awareness of hepatitis and prompt treatment of the disease. Similarly, many people have developed liver cancer caused by hepatitis which might be due to inadequate dissemination and use of information that would have helped them manage hepatitis virus. The inadequate information and its use may have affected health literacy level of the hepatitis patients in the society.

This study, therefore intends to assess the awareness, use and information dissemination to hepatitis patients for health literacy by librarians in specialist hospitals in North-Central, Nigeria.

1.3 Aim and Objectives of the Study

This study assessed awareness, use and information dissemination to Hepatitis patients for health literacy by librarians in specialist hospitals in North-central, Nigeria. The specific objectives were to:

1. find out the types of information resources and services available inspecialist hospitals libraries in North-central, Nigeria.
2. identify the types of information resources and services provided by librarians to hepatitis patients for health literacy in North-central, Nigeria.

3. determine the level of awareness of information resources and services among patients for health literacy in specialist hospitals in North-central, Nigeria.
4. find out the methods used in disseminating information by librarians to hepatitis patients for health literacy in specialist hospitals in North-central, Nigeria.
5. ascertain the level of library use by hepatitis patients in specialist hospitals in North-- central, Nigeria.
6. find out how hepatitis patients use information disseminated for health literacy by librarians in specialist hospitals in North-central, Nigeria.
7. determine the factors affecting the level of health literacy among the hepatitis patients in North-central, Nigeria.

1.4 Research Questions

The following research questions guided the study:

1. What are the types of information resources and services available in specialist hospitals libraries in North-central, Nigeria?
2. What are the types of information resources and services provided by librarians to hepatitis patients for health literacy in North-central, Nigeria?
3. What is the level of awareness of information resources and services among patients for health literacy in specialist hospitals in North-central, Nigeria?
4. What are the methods used in disseminating information by librarians to hepatitis patients for health literacy in specialist hospitals in North-central, Nigeria?
5. What is the level of library use by hepatitis patients in specialist hospitals in North-central, Nigeria?

6. How do hepatitis patients use information disseminated for health literacy by librarians in specialist hospitals in North-central, Nigeria?
7. What are the factors affecting the level of health literacy among the hepatitis patients in North-central, Nigeria?

1.5 Hypotheses

The following null hypotheses guided the present study and were tested at 0.05 level of significance.

1. There is no significant relationship between awareness and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.
2. There is no significant relationship between information dissemination and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.
3. There is no significant relationship between information use and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.

1.6 Significance of the Study

The findings from the study will benefit hepatitis patients, librarians, Federal Government of Nigeria, health practitioners, researchers and students.

The study will enable hepatitis patients to get reliable and authentic information regarding treatments, preventions and new drugs for managing the disease. The study will also create awareness concerning hepatitis disease, the causes and treatment to the people.

Librarians will benefit from the study by knowing the current health care information resources available on hepatitis drugs utilised by patients. This will enable them reduce the spread of the disease in the society and creates easy access to the available information as well as ensure effective dissemination and use of health care information by hepatitis patients.

Federal Government of Nigeria will benefit from the study by creating more awareness on viral hepatitis and by giving a nationwide visibility to eliminate the deadly disease in the country. It will also enable them to provide health infrastructures for testing and screening of hepatitis virus as it is rarely available in some hospitals.

Health practitioners will also benefit from the study by urging the government to build their capacity at all levels to cope with demands for screening and vaccination services.

Students will benefit from the study by gaining more awareness and knowledgeable of the disease thereby reducing some ugly life style practices observable in most university in Nigeria especially in the area of sexual intercourse.

Researchers will benefit from the study as it would add to the number of study and literature on hepatitis.

1.7 Scope of the Study

The study covered specialist hospitals in North-central Zone of Nigeria namely:, Dalhatu Araf Specialist Hospital, Lafia Nasarawa State, Kogi State Specialist Hospital, Lokoja, Plateau State Specialist Hospital, Jos, The content scope of the study focused on how awareness, use of information and information dissemination by librarians to hepatitis patients for healthy literacy is achieved in specialist hospitals in North-central, Nigeria.

1.8 Operational Definition of Terms

The following terms were defined as used in the study;

Assessment is the establishment of relationship between awareness, information dissemination and use of information provided by librarians to hepatitis patients in specialist hospitals in North – central, Nigeria.

Awareness is the knowledge of information about hepatitis disease among patients in specialist hospital in North-central, Nigeria.

Health literacy the ability to which hepatitis patients know how to obtain, process ,understand and use basic health information (services) on hepatitis in specialist hospitals in North-central, Nigeria

Hepatitis is a virus that cause inflammation of the liver and can lead to liver cirrhosis among patients in North-central, Nigeria

Hepatitis patients are those people that are suffering from viral hepatitis disease and they are receiving treatment in specialist hospitals in North-central, Nigeria

Information dissemination is the collection, analyses and spreading of information which is useful in the prevention of hepatitis disease among patients in North-central, Nigeria.

North-central Zone is a region among the six geo-political Zones in Nigeria that contained specialist hospitals studied.

Specialist hospital is a Nigeria Government owned hospitals that provide facilities for management of hepatitis and other sicknesses in North-central, Nigeria.

Use of information is the utilisation of information by hepatitis patients in order to improve their level of health literacy and avoid hepatitis disease.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework

Figure 2.1 showed the relationship between the independent variable and dependent variable the constructs were derived from the theories adopted for the study.

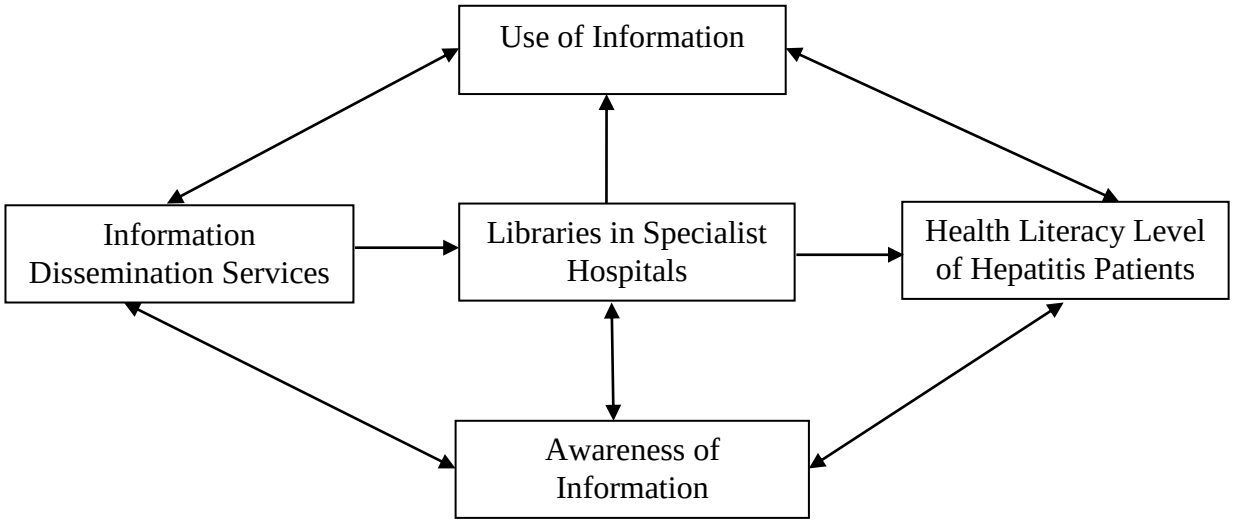


Figure 2.1: Conceptual Framework of the Study. (The figure is an original constructs designed by the researcher in 2021)

The Figure 2.1 depicted the relationship among the major variables in the topic of the research. It showed that if hepatitis patients are aware of accurate, relevant and up-to-date information that could help to better their health condition, their health would under normal circumstances receive a positive boost. The arrows in the diagram equally pointed to the fact that if the information is properly disseminated with appropriate media and the patients make use of the disseminated information they would under normal condition enjoy healthy life style.

Furthermore if proper and accurate information could be disseminated to the patients, it is imperative for libraries in specialist hospitals to be equipped with the relevant information resources which when the patients access and use would under normal circumstances improve the quality of their lives. In other words as the patients are aware of relevant information, the proper information is disseminated to them and they equally use the disseminated information, their health information literacy level would increase which would under normal circumstances boost the health and the wellbeing of the hepatitis patients. Information is an empowerment tool and access, proper dissemination and use of information would increase the literacy level and health and wellbeing of hepatitis patients.

2.2 Theoretical Framework

2.2.1 The health belief model

The Health Belief Model is a theory that attempts to explain health-seeking behavior by examining how people perceive disease severity, their likelihood of contracting that disease, the benefits of taking preventive action, and the cost of taking preventive action (Strecher & Rosenstock, 1997).Emphatically, Rosenstock (1974) postulated that Health Belief Model (HBM) was developed in the 1950's to explain the reason why people do not engage in health related programs to detect and prevent diseases even when it is free of charge and the services usually within their reach. This study will adopt this theory because the theory equally attributes to hepatitis patients who do not see the need to participate in health programs and treatment despite the fact that they are vulnerable to this killer disease.

Janz *et al.* (2002) opined that health belief model became popular as a result of United State America (USA) public health programme conducted in the 1950's which received poor turn out with only few eligible adults who participated in the tuberculosis programme provided within their neighborhood free of charge. Conner and Norman (2005) further added that an individual will respond to the recommended health action depending on his/her evaluation of the alternatives available, the benefits and the related cost of performing the recommended health behaviour. In the same vein, hepatitis patients will take action to prevent hepatitis disease if they are aware of the various useful information that can help in purchasing the right drugs needed.

Health Belief Model (HBM) according to Rosenstock (1974) describes the individual's action to treat and prevent disease via consideration of four central variables. The first variable is the individual's perceived susceptibility to disease where an individual would seek preventive health services if he or she believes they are susceptible to disease. In other words, hepatitis patients would only seek health care services when believed to have been affected by the virus.

The second variable is the individual's perception of illness severity; if a person does not perceive the illness as serious, he would not seek treatment or prevention. This entails that hepatitis patients will only seek treatment or prevention when they perceive the dangers of the virus to their health, most times when the liver is affected. The individual's rational perception of benefits versus costs is the third variable where an individual would not take action unless the treatment or prevention is perceived as having greater benefits than costs. This means that hepatitis patients would only go for treatment when they believe that the money spent on purchasing drugs for treatment would result in restoring back their health. The fourth variable is the individual's clues to action where media, friends, family or well-known citizens can provide an impetus

for prevention. The absence of clues to action would reduce the likelihood of prevention.

However, Carpenter (2010) observed that individuals are less likely to do anything in preventing health problem which is not likely to afflict them. Similarly, hepatitis patients will only seek health care service or medical attention in preventing hepatitis illness only when they believe that they have been affected by the disease.

2.2.2 Big 6 Skills Model

Big 6 Skills model was developed by Michael B. Eisenberg and Robert E. Berkowitz in 1987. The Big 6 Skills model covers six components, namely task definition, strategy information retrieval, determination of access location, information use, synthesis, and evaluation. Each of the six steps has two sub-skills. Task definition requires hepatitis patients to identify the exact information problem presented to them. They must also identify the types of information needed to solve the problem. They must have a clear hypothesis, a specific question, and a clear understanding of what is needed to answer that question. The information-seeking strategies stage requires hepatitis patients to identify all the possible sources of information and then evaluate each source to determine which are best for them to use.

The next two steps are the location and access and use information, which consists of traditional bibliographic skills. Hepatitis patients must find personal resources such as books, magazines, reference materials, and Web sites and find the information within each source through the use of tables of contents, indexes, and other resource-specific tools. Next, they must engage each source (read, view, or listen) and extract specific information from it by applying note taking, highlighting, and summarizing.

However, synthesis requires hepatitis patients to make a decision, create a product, or formulate an answer. Synthesis is linked to task definition in that hepatitis patients are expected to answer the specific question they created when initially engaging in the problem-solving process. Finally, evaluation requires hepatitis patients to evaluate their final product (whether it is a decision, paper, etc.) and evaluate how well they performed the information problem-solving task. Based on these 6 steps, this study will assess the awareness, use and information dissemination to hepatitis patients for health literacy by librarians in specialist hospitals in North Central Nigeria.

2.3 Concept of Health Literacy Vis a Vis Hepatitis Patients

According to the WHO (2011a) health literacy (HL) is the key determinant of the health and wellbeing of an individual. It is one component of various literacies mentioned in the field of health and education, for instance; cultural literacy, technology literacy, media literacy and scientific literacy (DeWit *et al.,* 2017). Since the emergence of the term health literacy in 1970s, it has been defined in multiple ways with varying conceptualizations. HL is defined as the ability of a person to carry out health-related literacy (Sorensen, 2012). Moreover, some studies defined HL as an ability to perform various cognitive and social skills in order to gain, comprehend and utilize knowledge. HL is also considered as the ability of a person to improve health and well-being, and make decisions related with health care (Poureslami *et al.,* 2017). According to past research studies, HL has three levels: basic or functional level (skills to read and write in daily life); communicative or interactional level (social, cognitive as well as literacy skills); and critical level (able to use knowledge and deal with situations) (Kilfoyle *et al.,* 2016). The efforts continued to understand and define the mechanisms and effects of HL.

Health literacy is an outcome of health promotion and has been defined differently by different authors. It is important for patients living with hepatitis illness to be aware of the causes preventive measures necessary to be taken in prevent it. Berkman *et al.* (2010) stressed that health information is a critical component of community system and is essential for generating and reporting data for the national level which in the long run enhances development. In support of this, the World Health Organization (WHO) (2014) affirmed that health information gives clearer picture of health and sickness across entire population and this knowledge can help prevent the spread of disease and improve individual health. Sorensen (2012) defined health literacy as the ability to locate medical facilities, schedule and keep appointments, describe, monitor, and measure symptoms, follow prescribed medication or treatment regimens, adjust medications or treatment as needed, seek care when appropriate, determine risk and take preventive actions.

Similarly, Beauchamp *et al.* (2015) opined that health literacy means motivation and ability of individuals to gain access to, understand and use information in ways which will promote and maintain good health. For instance, it is expected that if the hepatitis patients are aware of information, gain access to and use it, their level of information literacy will be improved and invariably lead to good health. According to Jacobs *et al.* (2017) the Medical Library Association defined Health Information Literacy (HIL) as the set of abilities needed to recognise health information needs, identify likely information sources and use them to retrieve relevant information, assess the quality of the information and its applicability to a specific situation and analyse, understand and use the information to make good health decisions. In other words, health information literacy is the ability to obtain, process and understand basic health information and services to make appropriate health decisions.

Medical librarians working in healthcare settings are often at the forefront of health literacy awareness efforts for healthcare professionals and patients generally. Online tutorials and in person workshops for physicians, nurses, medical residents, and patients have focused on understanding the needs of health literacy-challenged patients, screening for health literacy, awareness of consumer health resources, and demonstrating communication strategies to utilize in practice including plain language and active listening.

Duhon and Jameson (2013) opined that the health information literacy needs of patients have been described in four broad categories: consumer health information, informed consent, information literacy, and critical thinking techniques. Medical librarians have designed health literacy efforts focused on each of these needs using traditional and non-traditional approaches. Health literacy outreach to patients is traditionally delivered by medical librarians via hospital or consumer health libraries in the form of training on the use of medical databases and consultations about a variety of health topics.

A survey of academic health sciences libraries revealed that 86% of libraries affiliated with hospitals or medical centers reported they participated in health information outreach, compared to 49% of academic libraries unaffiliated with healthcare centers and 28% of general academic libraries (Duhon and Jameson, 2013). Due to their proximity to clinical environments, hospital libraries have a unique opportunity to provide patients with bedside delivery of information, facilitate partnerships with clinical staff like nurses, social workers and residents, and participate in outreach activities such as patient information rounds, health education lectures, and health fairs (Oelschlegel *et al.,* 2014; Vaughn *et al.,* 2014). Online portals containing health information are another health literacy effort for patients who require librarians' involvement, both in the provision and creation of content and in addressing barriers

involving patients' ability to find and evaluate information within the portal (Vaughn *et al.,* 2014).

Librarians in specialist hospitals should provide means for easy accessibility and dissemination of information that can be used by hepatitis patients to maintain good health. Osborne (2012) opined that health literacy involves two parts which include: patients or anyone receiving health communication and the providers or anyone giving end health communication. Health literacy is important to patients, while others see it as important to all people in the community regardless of their health status. The later perception insists on preventive and control mechanisms for diseases, while the earlier show that health literacy is for people who are already affected by diseases. Since people need to stay healthy, health literacy then become an important thing to everyone.

Libraries in specialist hospitals and other types of libraries have been noted to support community development in various areas such as education, economic, research and health. Libraries act as information providers to governmental and non-governmental organisations and institutions to support them in order to achieve the desired objectives. Libraries are known to be the centre of knowledge which collect various information resources including health information resources for the users, local gateway to knowledge capable of providing basic conditions for lifelong learning, independent decision-making and cultural development of individuals as well as social groups (Anyaoku, 2015). It is through libraries that some communities get informed on health and other socio-economic matters especially as it relates to hepatitis and other known illnesses or diseases.

Libraries in specialist hospitals perform the role of collecting vital, quality and relevant health information resources for combating hepatitis in the society. According to Negi

(2014), libraries should collect and compile health information, store them in suitable media which can be easily accessed by policy and decision-makers as well as other health information users. Negi (2014) further opined that librarians are advised to partner with community health workers which include medical doctors or veterinary doctors and other health personnel in order to gain access to vital health information issues for health development and disease awareness. Anyaoku (2015) argued that libraries are able to collect vital health information, including information resources on how to avoid the circumstances that cause health problems, and on providing preventative health programs and treatment programs. Libraries in specialist hospitals should therefore, be able to harness and store relevant health information resources which can help in combating hepatitis in the society.

Promotion of health information resources is important in order to raise awareness of hepatitis disease and how to combat it. It is the obligation of specialist hospital libraries, academic libraries as well as public libraries to provide accessible and reliable health information sources and services to the community which they serve. In the view of Nalluri and Gaddam (2016) libraries and health centres can help in disseminating health care information to unprivileged community especially the rural community. It is the role of Medical librarians or health information officers to promote and enhance access to health information as they are capable of providing needed assistance through training and through the selection, repackaging, and dissemination of relevant materials (Negi, 2014). Libraries should disseminate health information about the causative agent of hepatitis virus and preventive measures. Promotion of health information should be made by using brochures, leaflet, newspapers, magazines etc which should be distributed to the public with the aim of increasing awareness about the diseases and how to fight them.

Libraries are supposed to provide training and health education to the community on health literacy for combating hepatitis. Litzenberger (2016) opined that libraries should organise seminars on health education, the education which will help people to change their behaviour and hence, combat hepatitis and other diseases that could be bothering them. Ogunsola (2011) opined that librarians should make sure they impart knowledge of health literacy for combating hepatitis and other disease infection to health information consumers. They should provide training on how to use ICT devices to access health information for combating communicable diseases. Through training or library orientation programs provided by libraries, hepatitis patients should be able to access information resources especially in the use of Information Technology (IT) based resources to satisfy their information needs.

Litzenberger (2016) further opined that apart from training and seminars, libraries particularly Medical libraries can create e-repositories for systematic documentation of health information resources or virtual library of health promotion practice, which will include good practices and lesson learned, which will be consulted by practitioners, policy-makers and academicians. The repositories will help various health information consumers such as the hepatitis patients to make best health decisions concerning hepatitis and how to combat it. Also, the repositories will help health practitioners, doctors, decision makers and politicians to get useful information which in turn will help them to make good decisions on how to protect the community and combat hepatitis virus.

The experience from other countries like United States of American (USA), California showed that health promotion in the library is not a new thing. According to

International Federation of Library Association (IFLA) (2012) 81% of local government library authorities in England provide access to e-information on health and wellbeing as well as literacy skills to support health literacy so as to improve access and use of health information. Special libraries are involved in informing their clients about important health issues through speeches from doctors, nurses and others from health professionals as well as provision of specialize health services for the disabled (Litzenberger, 2016). In addition, ICT has brought a tremendous medium by which special libraries can keep their users updated on health issues

Specialist hospitals can use the opportunities provided by ICT to disseminate information to hepatitis patients on the prevention, control and treatment measures necessary to take in the prevention of hepatitis. Information and Communication Technologies (ICT) provide immense opportunities to store, process, retrieve, disseminate and share information. It provides tools such as radio, telephone, mobile phones, newspapers, television and website which can be used to disseminate and share information that can fight hepatitis and other infectious diseases in the society. Kozma and Vota (2014) indicated that in Tanzania, health information has been promoted and disseminated through library's websites, organisation's websites, mass media, newspapers, meetings, exhibitions and other information communication materials.

The specialist hospitals can as well disseminate information to hepatitis patients through their library websites and through exhibitions by creating awareness on hepatitis and how best to treat it or avoid getting contact with it. Library Success (2014) submitted that advance in ICT has made dissemination and access of information more possible as more information have been made available through the Internet and other multimedia formats, it is possible for electronic learning, the use of text messaging, web 2.0, and online social networks are becoming increasingly common in the daily lives of people

even in some developing countries. Mobile devices such as smartphones, Personal Digital Assistants (PDAs), and laptops as well as wireless and satellite communications are giving remote communities an opportunity to be connected and have access to health information hence, expanding the possibility of providing health literacy. All these opportunities can be used in the libraries in specialist hospitals to fight hepatitis virus in the society.

2.4 Concept of Hepatitis Virus

Hepatitis virus is one of the major viruses that cause severe illness and often death among individuals in the world today. Generally, hepatitis refers to the inflammatory condition of the liver which among other things is mostly caused by infection with one of the hepatitis viruses (A, B, C, D or E). World Health Organisation (WHO) (2017b) opined that viral hepatitis is caused by some group of viruses known as hepatitis A–E, that is, Hepatitis A Virus (HAV), Hepatitis B Virus(HBV), Hepatitis C Virus (HCV), Hepatitis D Virus (HDV), and Hepatitis E Virus (HEV)Similarly, Kumar (2011) opined that Hepatitis is an inflammation of the liver caused by infection with a virus or by drugs and alcohol, It is characterized by hepato cellularnecrosis and may be acute or chronic. HAV and HEV are transmitted by ingestion of contaminated food or water while HBV, HCV, and HDV are usually transmitted as a result of parental contact with infected bodily fluids, such as during transfusion of contaminated blood or blood products, invasive medical procedures using contaminated equipment, sexual intercourse, and horizontal and vertical transmission (Focaccia, 2013; Ogholikhan & Schwarz, 2016).

Hepatitis B is a disease caused by a blood borne virus known as (HBV) virus. WHO (2016b) opined that hepatitis B virus is a contagious life threatening disease of the liver

which ranges in severity from a mild illness of few weeks to a critical lifelong illness causing both forms of acute and chronic Viral Hepatitis. WHO (2016b) stated further that it is considered to be more easily transmitted, with degree of infectiousness 50 to 100 times higher than Human Immunodeficiency Virus (HIV).

WHO (2016a) opined that an estimated 240 millions of people are chronically infected with Hepatitis B globally and a contributor to an estimated 686,000 to 786,000 deaths worldwide each year due to its complications including cirrhosis and liver cancer. Similarly, American academy of paediatrics (2015) posited that proximately 5% of the world's population are carriers of HBV. Like HIV, there are healthy carriers who show no symptom of Hepatitis B and may be unaware of their Hepatitis B status thereby making them potential risk to others. Hence, Hepatitis B virus is a serious health problem worldwide including Nigeria.

Hepatitis B and Hepatitis C remain serious public health issues that affect 325 millions of people globally and has led to approximately 1.34 million deaths annually (WHO, 2017). Most of these deaths are caused by untreated chronic hepatitis infections, resulting in cirrhosis and liver cancer (WHO, 2018). Chronic Hepatitis B and C infections account for approximately two-thirds of all cases of liver cancer globally (WHO 2018). According to WHO (2017a) hepatitis report 1.75 million adults were newly infected with Hepatitis C virus (HCV) in 2015, largely due to drug use via injections and unsafe injections in health care settings.

Ogholikhan and Schwarz (2016) opined that viral hepatitis is the eighth primary cause of mortality worldwide that has resulted in 1.44 million deaths in 2010. United Nations (UN) (2015) posited that by 2030, their agenda intends to finish with the epidemics of

AIDS, tuberculosis, malaria, and neglected tropical diseases and to also combat hepatitis, waterborne diseases and other communicable diseases.

The symptoms of acute hepatitis disease are tiredness, loss of appetite, nausea, vomiting, abdominal pain, dark urine, loss of appetite, yellowing of the skin, diarrhea and eyes (WHO, 2016b). However, some people do not have symptoms but they are carriers. Apart from drinking alcohol, using toxins substance and certain medication conditions, hepatitis virus is the most common cause of hepatitis in the world. Hepatitis could be A, B, C, D and E types (WHO, 2013).

(i.) Hepatitis A

Hepatitis A is an infectious disease of the liver caused by Hepatovirus A (HAV) (Matheny & Kingery, 2012).It was first isolated in 1979. Humans are the only natural host, although several non-human primates have been infected in laboratory conditions. Ryan and Ray (2014) opined that depending on conditions, HAV can be stable in the environment for months. The virus is relatively stable at low pH levels and moderate temperatures but can be inactivated by high temperature (185°F [85°C] or higher) formalin, and chlorine. Hepatitis A causes only acute hepatitis. HAV is transmitted mostly through exposure to contaminated food or water, or through exposure to infected persons. A safe and effective vaccine is available. WHO estimates that worldwide, Hepatitis A caused approximately 11,000 deaths in 2015 (accounting for 0.8% of the mortality from viral hepatitis) (WHO, 2010).

(ii.) Hepatitis B

Hepatitis B is a disease caused by a blood borne virus known as Hepatitis B Virus (HBV). It is a contagious life threatening disease of the liver which ranges in severity

from a mild illness of few weeks to a critical lifelong illness. In other words Hepatitis B is in form of both acute and chronic viral hepatitis (Kozma & Vota, 2014).

One of the important priorities for elimination and control of HBV is to know the factors involved in HBV transmission especially in the endemic regions (Kesieme *et al.*, 2011). Hepatitis B is transmitted through percutaneous or mucosal contact with blood and body fluids infected with HBV. Such body fluid includes saliva, menstrual, vagina and seminal fluid. It can also be contacted during birth from an infected mother to her child, sexual intercourse with an infected partner, direct contact with the sore of an infected person as well as sharing needles/syringe or other drug injection equipment (U.S. Department of Health and Human Services, 2011a).

While it is possible for anyone to be infected with the disease, those at greater risk of being infected with Hepatitis B include infants born to infected mothers, persons with infected or multiple sex partners , users of intravenous drugs, men who have sex with men, people who live or travel to geographical regions with high Hepatitis B virus endemicity, persons with sexually transmitted diseases (STDs), healthcare and public safety workers exposed to blood on the job, hemodialysis patients as well as those living with infected persons among others (Abeje & Azage, 2015). Hepatitis B and its consequences including liver cancer and cirrhosis can be prevented by testing and vaccination. However, other protective measures include condom use during sex, avoiding sharing of needles and personal care items like toothbrush and razor, wearing of latex or plastic gloves before touching blood, and avoiding tattooing as much as possible especially when the sterility of the tattooing equipment is not guaranteed (WHO, 2016a). The basic test for acute HBV infection is called the "Hepatitis B CoreImmunoglobulin(IgM) Antibody test". People who have acute Hepatitis B show positive IgM antibodies on this test. Those recently exposed to HBV can protect

themselves by taking hepatitis B immune globulin (HBIG) within 24 hours after exposure. It is important to state here that the most effective protection against Hepatitis B is the Hepatitis B vaccine which according to Schillie *et al.* (2018) is up to 95% effective against Hepatitis B, if all the shots in the vaccination series is received (3 or 4 shots given at different times). The vaccine is also important because it provides protection against the infection for at least 20 years (Mast, 2015).

The Advisory Committee on Immunization Practices (ACIP) recommended that all children receive their first dose of Hepatitis B vaccine at birth and complete the vaccine series by age 6-18 months. This vaccination includes routine screening of all pregnant women for hepatitis B surface antigen (HBsAg) and post exposure immune prophylaxis of infants born to HBsAg-positive women. Vaccination of children and adolescents who were not previously vaccinated, are at increased risk for infection (Chi *et al.,* 2018).Similar recommendation was also made by Centers for Disease Control and Prevention that Hepatitis B vaccination should be administered to all unvaccinated people traveling to areas with intermediate to high prevalence of chronic Hepatitis B (HBV surface antigen prevalence ≥ 2%) (Kateera *et al.,* 2015).

(iii.) Hepatitis C, D and E

Hepatitis C is spread primarily through contact with infected blood, less commonly it can spread through sexual contact and child birth. Hepatitis D is spread through contact with infected blood, this disease only occurs at the same time as infection with Hepatitis B or people who are already infected with Hepatitis B, while Hepatitis E is spread through food or water contaminated by faeces from an infected person (U.S. Department of Health and Human Services, 2011b).

2.5 Awareness of Information Vis a Vis Health Literacy

Lack of awareness and knowledge of information needed to combat hepatitis virus among hepatitis patients in specialist hospitals is a growing concern to the public. This has been caused by poor communication and inadequate interaction between the infected Patients and the library, coupled with the fact that most of the patients at the early stage are never aware that they are carrier of the disease. Similarly, library's failure to apply marketing strategies to promote its services and boost knowledge of such patients is also an issue (Namugera, 2014). If the library is to promote awareness of its services and activities, there must be continual interaction with its users. This interaction can be influenced by both factors directly related to the library, such as how efficiently and effectively it is run, the relevance of the information it provides and the communication channels it employs.

Awareness is usually a function of having knowledge of collection and utilizing it. Once collections are made available in the libraries of Specialist hospitals, users can be made aware of the existence of these collections through display of new arrival in the notice boards; through bulletins as well as compilation of table of contents. These services will go a long way to improve the patients' health literacy. However poor level of awareness according to Abedoh *et al.* (2017) and Salman *et al.* (2018) will automatically lead to non-utilization of resources and low level of health literacy will persist among the hepatitis patients. However, libraries can use different means to create awareness about their services and available information resources to the affected patients. It has been emphasized by Merck (2011) that to win the battle against hepatitis, improved public awareness and education is required.

WHO (2011b) as earlier indicated revealed that 80% of patients at the initial infection stage of HCV do not exhibit any symptoms. As a result, undiagnosed patients can unknowingly continue to spread the virus to others because their health literacy level is

low. Various studies have been conducted globally to assess the level of awareness and knowledge of Hepatitis C infection (Treloar *et al.,* 2011) and it was revealed that patients lack knowledge of the risk factors, preventive measures, complications, and treatment, indicating low level of their health literacy. The desired health care seeking behaviour is that an individual responds to an illness by seeking, first and foremost, help from a trained allopathic doctor, in a formally recognized health care setting (Salahuddin *et al.,* 2010). Studies found that patients with hepatitis also visit non-medical professionals such as homeopaths, hakims, faith healers (Porter, 2012) or prefer alternative treatments like herbal medicine, acupuncture, and folk healing. Literature highlights several reasons on why hepatitis patients access nonmedical approaches or alternative treatments. A few of such reasons include adverse side effects of medical treatment, financial issues, parental advice, cultural practices, lack of knowledge about hepatitis and low level of health literacy , beliefs and perceived benefits of alternative treatments (Evon *et al.,* 2010). However, literature also reveals that none of the alternative treatments has proven to be effective for treating hepatitis Type B and C infection (Lu *et al.,* 2010).

Identification and boosting of health literacy level of infected people is very important. Most infected patients with HBV and HCV infections are not aware of their infections. Younus *et al.* (2016) revealed that awareness about HCV among infected patients was very low and there were lots of misconceptions among females and less educated people whose health literacy is low. Similarly, Roushan *et al.* (2013) opined that adolescents' level of health literacy and knowledge about HBV is equally low in the society. Infected patients with low level of health literacy also have low knowledge of transmission ways. Hepatitis virus as a major threat to the public health needs public awareness programs including campaigns to attract attention (Karimi-Sari *et al.,* 2017). Efforts to

improve the level of health literacy of the hepatitis patients are an important role in the treatment process. Viral hepatitis, especially hepatitis B and C, have been considered as silent killers for decades. However, the prevention and control of viral hepatitis infection was globally noticed in 2016. Thus, policy makers, health workers, and the public gathered to realize the vision of eliminating viral hepatitis in the world by the year 2030 (WHO, 2016a).

2.6 Information Dissemination by Librarians Vis a Vis Health Literacy

Before the present day information age, libraries were known for housing information resources both in printed and non-print formats and disseminate them to meet the information needs of their users. Ogunsola (2011) opined that libraries before now were known to be physical buildings for housing collections of books, journals, manuscripts and other recorded information. In the present day, libraries have metamorphosed from the traditional means of providing or rendering services to their users to the use of Information and Communication Technology facilities such as the Internet, software packages and other Internet accessories to meet the aspiring demand and needs of users. Through the use of technology, the library walls have been broken. Users including hepatitis patients are now able to access information remotely through digital and or virtual libraries to meet their information needs on hepatitis and other illnesses bothering or likely to afflict them. This to a great extent improves their health literacy.

Librarians in the specialist hospitals can facilitate the dissemination of information to hepatitis patients through social media with the use of Information and Communication Technology (ICT). Fagbola *et al.* (2011) opined that the birth of technology and continuous ICT developments are changing libraries particularly medical libraries in the

acquisition, storage, organisation, maintenance and the methods of information dissemination and rendering services. Some of the methods that can be used by librarians to disseminate information to hepatitis patients and other library users regarding their information needs in the 21st century include: the use of technology such as laptops, smartphones, television, radio, computers to mention but a few.

2.6.1 Online public access catalogues (OPAC) and networked databases

With the presence of online catalogues, hepatitis patients and other library users can retrieve and access information resources relevant to their need in a timelier manner. The present day OPACs can be accessed through the use of mobile technology such as cell phones. Library users including hepatitis patients no longer need to be within the walls of the library to access information resources relevant to their needs. They can use online OPACs and library databases at the comfort of their homes or workplaces to access information from the library. Pub-Med (2017) opined that information seekers retrieve various information sources through mobile Online Public Access Catalogues (OPACs) and mobile based databases which contain biomedical literature with more than 26 million citations which includes full-text content.

2.6.2 Personal space/my library

Personal space/My Library is a self-service platform where library users including hepatitis patients can manage their personalised accounts with custom-made collections. Hepatitis patients can set up and manage their profile, preferences for catalogue searches, receive alerts on reserved items, check their records, track inter-library loan request, renew borrowed items and document delivery requests (Saxena & Yadav, 2013). Liu and Briggs (2015) opined that Personal space/My Library platform presents new opportunities for electronic data interchange and selective information dissemination. Through Selective Dissemination of Information (SDI), librarians in the specialist hospitals can disseminate information to hepatitis patients on hepatitis and other information needs since their profile are already known by the librarian. Saxena and Yadav (2013) opined that through this service platform, librarians can send customized scanned documents, images, audio books and e- books to library users'

personalized accounts. Prabhakaran and Kalyani (2014) opined that Personal space/my library serves as a good platform for e-learning and distance learning. Through distance or e-leaning learning, hepatitis patients can learn more about hepatitis and better ways of maintaining the virus to live longer and healthier.

2.6.3 Short message service (SMS) notification

It entails the use of mobile telephony systems to disseminate information in the form of text messages and multimedia content such as videos, images and audio files. Librarians in the specialist hospitals can notify their users including hepatitis patients through the use of SMS in the form of audio files, videos and images. Kumar (2014) opined that libraries use this service to alert patrons regarding outstanding fees, renewals, provision of call numbers, inter-library loan issue, return notification and items on hold and new arrivals. Verma and Verma (2014) posited that an integrated library management software is used to generate notifications on inter-library loan, renewals, provision of call numbers and outstanding fees through the use of Libsys 0.7, AIM Hack, My Info Quest, Mosio's Text a Librarian, Upside wireless-used by University of California,Los Angeles(UCLA) Libraries.

2.6.4 Social media networks

Librarians in specialist hospitals can also make use of the social media platforms for information dissemination to hepatitis patients and other users of the library on hepatitis and other diseases. Social networks are more appropriate for use on disseminating information and delivering personalised information resources to hepatitis patients and other groups of individuals. Prabhakaran and Kalyani (2014) opined that SMS notification can also be used through the use of social media networks such as WhatsApp and Imo and other web applications such as Google Alert, Twitter, Facebook

and Pinterest. Similarly, Library success (2014) opined that Wiki offers a list of libraries with various types of SMS service notification including web based SMS and other mobile library services to interact with their clients.

2.6.5 Quick response (QR) codes

Quick response (QR) codes are two dimensional barcodes that direct users to the desired websites (Library success, 2014). It is a time saving technology that acts as a pointer to indexed or programmed Universal Resource Locators (URLs). The barcodes contain information about items to which QR code is attached. Saxena and Yadav (2013) opined that users with smartphones can use their camera features to scan images and decode the information they need. QR codes are also known as mobile tagging (Verma &Verma, 2014).

Librarians in the specialist hospitals can use this technique to direct hepatitis patients and other library users to relevant or important websites, either on a certain topic or library adverts. This is another good way of improving the level of health literacy of the hepatitis patients.

2.6.6 Online reference services

The high volumes of inquiries received by librarians can be overwhelming at times. Without being able to help users with relevant information for their needs within the least reasonable time, user service satisfaction will be affected. Lippincott (2010) argued that technology has made it possible for librarians and information providers to attend to multiple user queries at the same time. Through this medium, librarians in the specialist hospitals can satisfy the needs of multiple patients at the same time with relevant information for their needs and also improve their level of health literacy.

2.6.7 Library websites

The library websites are being used in various libraries for dissemination of information and announcing news of upcoming events to their users. Nalluri and Gaddam (2016) posited that techniques such as CSS (Cascading Style Sheets) or ADR (Auto-Detect and Reformat Software) are used to enable websites to rearrange and adapt to the size of the mobile device being used by the library users. Negi (2014) argued that with the influence of mobile technology, libraries are transforming websites into mobile friendly interfaces. Every library should have a website that will enable information dissemination and access by all types of users.

2.6.8 Mailing lists

This is the most common method of information dissemination. Using email in library services is paramount and allows for groups of people including hepatitis patients to receive personalised information at the same time.

2.7 Information Resources and Services

In a medical or research libraries, the provision of information resources and services is very instrumental in meeting the information needs of their users. Information services such as Current Awareness Service (CAS) and Selective Dissemination of Information (SDI) are very important services rendered to users by medical librarians. It is a statutory duty which the medical libraries provide to their diverse group of users to boost their level of health literacy and also meet their information needs. In view of this, the medical library is an indispensable institution and its major function entails the provision of various collections or resources both in print and non-print formats for easy access and retrieval by users. The library plays a very important role in the health sector

and an active health sector needs well organised documented health related information for research, teaching, learning and patients care on hepatitis and other health challenges.

Information and communication technology (ICT) encourages creation and sharing of information. Uzohue and Yaya (2013) defined ICT as the set of activities which are facilitated by electronic means in the processing, transmission and display of information. As stated earlier, it is used to perform certain activities in the libraries including CAS and SDI to meet the information needs of users such as the hepatitis patients.

Components of ICT include computer, radio, television, telephone and Internet connectivity. The application of ICT in the library has resulted in the effective management of library services and resources especially in the area of CAS and SDI. Oduwole *et al.* (2012) was of the opinion that more dynamic, challenging and practical user-friendly services such as CAS,SDI, literature searching, Indexing and abstracting services and functional ICT services should be given priority. Through CAS and SDI, current information resources available on hepatitis can be disseminated to patients, as well as improve their health literacy level.

Libraries however, including libraries in the specialist hospitals are facing new challenges, new demands, new expectations and varieties of information services to meet the users' needs and requirements. Medical librarians have to adopt various tools and techniques offered by ICT to satisfy the information needs of users as well as those living with hepatitis.

Uzohue and Yaya (2013) pointed out that the fast pace of technological developments have changed the way library users access and retrieve information. This is seen in the

effective delivery and dissemination of information which has been made easier with the use of web 2.0 and its technologies. Information and communication technologies have brought significant changes from the traditional ways of rendering CAS and SDI services to its users. With the increasing need for information by hepatitis patients, medical librarians need competitive intelligence skills in utilising ICT tools and techniques in gathering actionable information that meets the needs of the users, improve their level of health literacy as well as providing information for informed decisions in their areas of interest. In this case medical librarians have to select, acquire, process, evaluate, analyse and disseminate information to satisfy the needs of the users. This can be done through the Internet.

Internet is vital information source that provides health professionals with numerous information resources to meet urgent needs and answers to patient cases. Due to time limitations most often, health professionals would like to seek information from sources that are reliable, convenient and easy to access. The nature of health communication is changing globally as more people are relying on the Internet for health information (Unegbu, 2013). According to Edem (2013). Internet has spread technological literacy and given people all over the world fast access to vast resources. Oluokun (2015) maintained that the Internet affords healthcare practitioners unprecedented access to huge volume, high quality, current and relevant health care information that would always assist them to improve health literacy of the patients.

Internet provides healthcare practitioners with access to relevant and latest information resources on the diagnosis, prevention, knowledge and treatment of different ailment. The Internet health information resources is vital to health professionals in providing answers that will help them give best advice to patients and provide treatment to different diseases. Therefore, Internet health information resources are web-based

documents that can be accessed through a remote server over the Internet. Examples of these web-based health information resources are Hinari, MEDLINE, Bioline International, PubMed Central (PMC), Public Library of Science (PLOS) and Nursing Journals to mention but a few. Anjaian (2013) asserted that Internet-based health information is accessed from a variety of sources, which includes: websites run by organisations, homepages owned by individual doctors, online support groups where people actively exchange health information and blogs authored by health advocates, caregivers or those pursuing self-help (Oluokun, 2015).Therein, to meet the growing demand for online health information, hepatitis patients and other individuals can access various mediums, such as websites, chat rooms, support groups, listservs, newsgroups and emails; and by so doing their level of health literacy would be improving.

2.8 Use of Information Vis a Vis Health Literacy

The major aim of every library is for it to satisfy the information needs of the clientele. Hepatitis patients are not an exception and the availability of information resources in the library are the key variables that facilitate information use. Hepatitis patients' use of library is another variable that influences their level of health Literacy. Cox and Janti (2012) identified use of information as an activity which measures the worth of an item in a library or any organisation. It is therefore reasonable to assume that the more hepatitis patients use the specialist hospital library, the more familiar the hepatitis patients will be with its resources, including its electronic resources and this would positively influence their health Literacy level.

Adeleke and Nwalo (2017) believed that awareness is an integral part of availability which in turn leads to utilization. The awareness of information resources indicates the extent to which hepatitis patients have adequate information and knowledge of the

presence of print and electronic information resources in the library. This awareness urges and encourages them to utilize the information resources in the library.

Thus, if hepatitis patients use the library primarily as a quiet and convenient place to do research about their health, they may be aware of its resources, as compared to those who never set a foot in the library. Several studies have shown that hospital patients use the library mostly as a place to make photocopies, but do not make great use of some of the available library services, such as interlibrary loan and the reference desk (Akpan-Atata & Enyene, 2014).

Similarly, scientific information through information and health practitioners, if utilised, can reduce the risk of illness and death (both maternal and infant). Ojewole and Oludipe (2017) in their study reveal that more than half, 52.2% of the respondents depended on their doctors for information, followed by their Mother-in-Laws 48.7%, while the least source of information is books/ magazines .This means that hepatitis patients do not use the library as they mostly use other sources of information and this would negatively affect their level of health Literacy.

2.9 Hepatitis Patients and their Information Behaviour

Li *et al.* (2016) stated that individuals are motivated to seek information to satisfy their needs. Information seeking behaviour involves personal reasons for seeking information, the kinds of information which are being sought, and the ways and sources with which needed information is being sought. The desire to seek information means that there is a need to be satisfied. Andualem *et al.* (2013) opined that information seeking behaviour is the purposive searching for information because of a need to satisfy some goals. Therefore, information seeking behaviour can be seen as the manner

exhibited by the hepatitis patients when searching for information relevant to their needs and development.

In the course of seeking for information, hepatitis patients may interact with manual information systems such as the library or newspapers or with computer-based systems such as the Web or Internet.

Hepatitis patients have various information needs and use many information sources to meet those needs. The specialist hospital library is one vital resource as it serves as a central hub for hepatitis patients to access health information resources, personal help, and other resources to foster their health literacy. According to Kaphingst *et al.* (2014) hepatitis patients' information behaviour is closely connected to their health related needs. Other researches indicated that it is difficult for hepatitis patients to evaluate the quality of resources found in the Internet. Hepatitis patients obviously according to Graffigna *et al.* (2016) do not feel too comfortable with formalised library resources as they tend to avoid the library's web-based resources such as guides, portals and the like and they often have difficulties in distinguishing between different databases and information tools. From time to time they use library resources without any idea of the underlying library system. Hepatitis patients want simple and common interfaces and they do not want to go to different vendors or databases with different search requirements and interfaces, they want ease of use and simplicity. The information the hepatitis patients select is often randomly chosen and the choice is based on a least effort principle. It is important to note that an enormous variability exists among hepatitis patients depending inter alia on their health behaviour and probably also their psychological profile as evidenced by Graffigna *et al.* (2016) in their study.

The concept of information behaviour is nothing but how people approach and handle information. The phenomenon of information behaviour within the hepatitis patients is not only supportive of health literacy but also serves to sustain motivation towards an effective outcome of objectives. The growth of information and hepatitis patients increasing information needs are of variety and diversity of level, frequency, volume and use. This complex situation appears to be ambiguous and heterogeneous in character and makes information needs of particular group of users and information flow from a specific organization or situation difficult to determine. Again the use of information is so complex that there cannot be a single system to cope up with the task of effective retrieval without assessing their specific use. This situation has given rise to the growing concept of information searching and the manner of determining the pattern of searching is said to be considered as information seeking behaviour.

2.10 Challenges Affecting the Level of health Literacy among the Hepatitis Patients

In Nigeria, certain issues affect the extent to which information is disseminated by librarians in the specialist hospitals to hepatitis patients in order to affect their level of health literacy. Among these are:

Cost / funding

Though the cost of maintaining e-library in any type of library is high, it is even more risky maintaining the status quo. Librarians including those working in the specialist hospitals cannot afford to remain where they are, it is either they adapt to new trends or perish. Achala and Sinha (2010) opined that the greatest challenge facing libraries in Nigeria is that of funding. The provision of improved, effective, efficient and sustainable information services, as well as access to a wide array of knowledge and

information sources in the face of dwindling funding is not feasible. Funds are needed to cater for a whole range of services in the library of the 21st century, yet government subventions in the education and health sectors are not adequate (Emezie & Nwaohiri, 2013). This affects the rate at which information can be disseminated by librarians to their users particularly those vulnerable to one disease infection or the other. This no doubt validates the fact that fund is a prerequisite for effective management of specialist libraries in the digital age.

Resistance to changes:

Change as popularly said is inevitable. According to Acheampong (2012) change is a phenomenon that is inevitable for progress. It is not easily accepted in any society because of fear of the unknown. They are not sure of what change may bring to their profession. Resistance to changes in libraries will limit the extent that librarians can go in managing their libraries and also satisfying the information needs of their users particularly those living with hepatitis.

Lack of well-defined ICT policy:

Enweani (2018) opined that libraries in Nigeria are yet to come up with uninformed ICT-based service policy. This can be seen as the same with special libraries such as those in the specialist hospitals. Such policy will articulate what is required for sustainable ICT-based library services in the digital environment, areas of digital library services to be given top priorities, ICT training need of library staff and strategic plan to ensure continuous maintenance of ICT facilities. According to Uchechukwu (2018) most university libraries in Nigeria do not have a well-defined ICT-policy to guide and regulate the application of ICT to library services delivery. There is need to address pertinent issues relating to the expediency of ICT training needs of librarians, the nature

of ICT-based library services, the ratio of library allocation that should go into ICT-based library services.

Poor internet connectivity

In the 21st century libraries, the Internet play a vital role in providing information on Hepatitis diseases but equitable access to the Internet in Nigerian libraries is yet to be realised as Olabude (2007) opined that there are many constraints that are leading to the poor Internet development in Africa. One of this is the initial capital outlay to install Internet facilities. Olabude (2007) added that the constraints to the poor Internet connectivity in Africa can be seen as a result of huge depts and foreign exchange rates required in purchasing the facilities. Chigbu and Dim (2012) opined that there is no efficient telecommunication and power supply base: to serve as spring board for the development of Internet services in Africa. The Internet is seen as a store house of current and relevant information use by many including hepatitis patients to satisfy their queries. As such, poor Internet connectivity prevents Hepatitis Patients from gaining access to current researches and publications on hepatitis diseases, hepatitis drugs as well as how best to prevent the disease.

2.11 Empirical Review of Related Literature

Lee (2010) examined health literacy, health status, and healthcare utilization of Taiwanese adults: results from anational survey. The purpose of the study was to assess the prevalence and socio-demographic covariates of low health literacy in Taiwanese adults and to investigate the relationships between health literacy and health status and health care utilization. A national survey of 1493 adults was conducted in 2008. Health literacy was measured using the Mandarin Health Literacy Scale. Health status was measured based on self-rated physical and mental health. Healthcare utilization was measured based on self-reported outpatient clinic visits, emergency room visits, and hospitalisations. Approximately thirty percent of adults were found to have low

(inadequate or marginal) health literacy. They tended to be older, have fewer years of schooling, lower household income, and reside in less populated areas. Inadequate health literacy was associated with poorer mental health (OR, 0.57; 95% CI, 0.35-0.91). No association was found between health literacy and health care utilization even after adjusting for other covariates. Low (inadequate and marginal) health literacy is prevalent in Taiwan. High prevalence of low health literacy is not necessarily indicative of the need for interventions. Systematic efforts to evaluate the impact of low health literacy on health outcomes in other countries would help to illuminate features of health care delivery and financing systems that may mitigate the adverse health effects of low health literacy. The relationship of this study to the present study is that they both have health literacy as a variable in the titles.

In a similar study, Dickens *et al.* (2013) examined Nurse Overestimation of patients' health literacy. The aim of the study was to compare inpatient nurses' estimate of their patient's health literacy to the patient's health literacy using Newest Vital Sign as the health literacy measurement. A total of 65 patients and 30 nurses were enrolled in this trial. The results demonstrated that nurses incorrectly identify patients with low health literacy. In addition, overestimates outnumber underestimates 6 to 1. The results reinforce previous evidence that health care providers overestimate a patient's health literacy. The overestimation of a patient's health literacy by nursing personnel may contribute to the widespread problem of poor health outcomes and hospital readmission rates. The relationship of this study to the present study is that they both have health literacy as a variable in the titles.

In another study, Pathmanathan and Lakshmanan (2014) assessed the awareness and knowledge of Hepatitis B by residents of Punchong, Malaysia. The objective of the study was to assess the level of awareness and knowledge of Hepatitis B infection in the

selected area of Punchong, Malaysia. A cross sectional study was conducted among 400 subjects (> 12 years of age) using a questionnaire method as a means for data collection, the data was analysed using the Statistical Package for Social Sciences (SPSS) software. The study reported that age groups, ethnic group as well as educational qualification are major factors that determine level of awareness and knowledge of Hepatitis B. The result showed that there is low level of awareness among the sampled respondents and respondent who were aware of Hepatitis B never took vaccine. The study however recommended that the level of awareness and knowledge should be improved through health education and frequent vaccination programs on Hepatitis B among the public; especially in Puchong, Malaysia. The study is related to the present study in the title.

Pirani *et al.* (2016) investigated the level of awareness of Hepatitis C among patients suffering from Hepatitis C in Karachi, Pakistan. The objective of the study was to assess the level of awareness about Hepatitis C among patients suffering from hepatitis it. The research design of the study was a descriptive, cross sectional study while a total number of 250 HCV patients participated in the study and questionnaire method was the means of data collection.

The findings of the research study revealed that patients suffering from Hepatitis C have misconceptions about disease transmission, its risk factors and the availability of preventive vaccine for Hepatitis C. The researchers therefore, recommended that there is a need to improve public awareness about common diseases and their prevention. The similarity of this study and the current study is that they both attempt to study awareness variables and also both used questionnaire as a method of data collection.

Okeke *et al.* (2017) investigated the status of medical library resources and services in teaching hospitals in Enugu State, Nigeria. The main objective of the study was to find

out the information resources and services available for medical library users towards quality health care provision. Five medical libraries of major teaching hospitals were used for the study with 980 registered users as the study population from where 245 users were sampled. Observation checklist was used to collect data on resources while questionnaire was used to collect data from the respondents on the services provided. The Medical Library Association Standard guided the analysis of data from observation while frequency counts and mean scores were used to analyse data from the questionnaire. Major findings showed that though some of the required resources and services are available and provided by the medical libraries, most of the required resources and services are not adequately provided by these libraries. This study is related to the present study in the area of methodology.

In another Study, Ntlotlang and Grand (2016) examined the role of libraries in the dissemination of health information in Botswana. The main objective of this study was to investigate the role of public libraries in the dissemination of health information in the southern part of Botswana, namely, Kgatleng and Kweneng districts. The survey research design was adopted for the study and purposive sampling procedure was used to obtain the sample size of the population. The sample size consisted of 120 respondents and six interviewees. Data were collected from both library staff and users using copies of questionnaire and interview. The results of the study showed that public libraries are striving to provide accurate and useful health information to members of the community by collecting and availing both print and electronic health information sources. The findings further indicated that public libraries have marketing programmes that they use in raising awareness of health information to their clientele. The marketing programmes include outreach, library brochures/leaflets, newsletters and library exhibitions. The results of the study also showed that there were some challenges that

hindered the library users to access and use health information (e.g. lack of appropriateness of information resources and limited number of health information sources).This study is related to the present study in terms of the methodology.

Furthermore, Shonhe and Jain (2017) analysed a study on information dissemination in the 21st century: the use of Mobile technologies. The aim of the paper was to determine the library services provided via the use of mobile technology, benefits of mobile technology, to establish requirements for propitious implementation of mobile based library service, discuss advantages and disadvantages of mobile technologies and aspects of user readiness to access information through mobile technology. The findings of the study were gathered through the use of literature review and preliminary online study. Convenience sampling was used to collect data from 62 respondents, using questions based on the Technology Readiness Index (TRI). Major findings from this study, revealed that users were ready to accept mobile technology as they possessed the skills and have positive attitude towards mobile technology. The study recommended that Botswana libraries should embrace the changes and implement the right structures for the 21st century library that will enable to meet the expectations of the community that is willing to accept new innovations. This study is related to the present study in the title.

In the same vein, Ahmadi (2018) examined health literacy among students of Farhangian University. The aim of the study was to assess health literacy and related factors in students of this university. The study adopted survey research method. Questionnaire was used. The questionnaire contained 33 items tapping into five dimensions: health information, reading, understanding, appraisal, and behavioural intention. Each item was rated on a 5-point scale giving a total score ranging from 0 (the worse) to 100 (the Best).The sample size was 932 students. Data were analysed using

descriptive statistical tests. The mean age of participants was 26/03 (SD=9/6) years and almost 70% were female. Overall, the health literacy (HL) score of the students was 67.28 (SD= 13.21). Among all students 10/5 % showed inadequate HL, 34/4 % problematic HL, 45/1% sufficient HL, and 10% excellent HL. HL was significantly associated with age, gender and marital status. As the prevalence of high limited health literacy among future teachers is a barrier against enhancing the health literacy of students at schools, there is a need to design, implement and evaluate different educational interventions to address limited health literacy among this population. The relationship of this study to the present study is that they both have health literacy as a variable in the titles.

Similarly, Sokey *et al.* (2018) carried out a study on media use for health information dissemination to rural communities by the Ghana Health Service. The aim of the study was to assess the patterns and challenges of media use for disseminating health information to rural communities by the Ghana Health Service (GHS), focusing on the ShaiOsudoku district of the Greater Accra Region, as a case study. A case study approach using the convenient and purposive sampling techniques was used to sample 210 community members within ShaiOsudoku district, two directors with the GHS and four community health workers. Descriptive analysis was used to examine the quantitative data, while qualitative thematic content analysis was used for the interview data from the GHS staff. The study revealed that the GHS mostly used print media for health information dissemination namely leaflets, posters, billboard, and interpersonal channels like doctors, community health workers, family, friends, town cries, group discussions, etc. MoTech (Mobile technology for community health) and telehealth are some of the technologies piloted in delivering health information or care via the mobile phone to rural communities in the district. Challenges in disseminating health

information in the communities were inadequate mobile network connectivity, infrastructure, training and sensitization, among others. The findings suggested that the GHS can enhance its health information dissemination roles by supporting the use of traditional media with the overwhelming advantages of media such as mobile phones to disseminate health information to rural communities. The relationship of this study to the present study is that they both have information dissemination as a variable in the titles.

In a similar study, Okenwa *et al.* (2019) investigated maternal reasons for non-receipt of valid Hepatitis B birth dose amongmother-infant pairs attending routine immunization clinics, in South-east, Nigeria. A hospital-based cross-sectional survey was conducted among mother-infant pairs attending immunization clinics at randomly selected health facilities in Enugu State, Nigeria. Overall, 344 mothers with their infant children in this study were interviewed using structured questionnaire. Data on maternal reasons for non-receipt of valid HepB-BD by their infants and their recommendations on ways to improve valid HepB-BD uptake, were collected. Overall, 254 (73.8%) infants did not receive valid HepB-BD. Major reasons for its non-receipt were vaccine not available at place of delivery (91.3%, n = 232), delivery did not take place on immunizationday (75.6%, n = 192), lack of awareness on timing of valid HepB-BD (72.8%, n = 185), long distance from the health facility (5.1%, n = 13) and fee payment for immunization (6.3%, n = 16). Of the 384 maternal recommendations, 143 (37.2%) emphasized female literacy while 87 (22.7%) indicated prepositioning the vaccines at labor rooms to improve valid HepB-BD uptake. The study concluded that the low receipt of valid HepB-BD among infants attending routine immunization clinics, found in this study were attributed to lack of maternal awareness on timing of HepB-BD and poor integration of child delivery and immunization services. We recommend educating

mothers on benefits of a timely HepB-BD and pre-positioning the vaccines at the labour rooms. This study is related to the present study in the area of methodology used in collection of data.

In the same vein, Tingting *et al.* (2019) investigated the barriers to the prevention and control of hepatitis B and hepatitis C in communities from the perspectives of hepatitis patients, residents, and healthcare providers in South Western China. A total of 26 participants were recruited through purposive sampling. Data were collected by in-depth face-to-face interviews from September 2015 to May 2016 in two communities from Chongqing and Chengdu, China. A thematic framework was applied to analyze the qualitative data from the interviews. The critical factors of barriers to hepatitis prevention and control in the districts included poor cognition of residents regarding Hepatitis B and Hepatitis C, severe stigma in society, inadequate health education, and the provision of unsatisfactory medical services. Strengthening health education and improving services for treating patients with hepatitis are suggested to make further progress. A substantial gap remains between the need and currently available services for hepatitis patients and residents. Delivering quality prevention and control health services, improving health education, and reducing stigma in society are recommended to improve the prevention and control program for Hepatitis B and C in communities. This study is related to the present study in the title

Similarly, Anyaoku (2017) investigated the relationship between patients' access to health information and coping with chronic diseases. The aim of the study was to examine the association between patients' demographics, access to health information on coping and self-efficacy in managing chronic illnesses. This is a correlation study.

The population for this study was seven hundred and eighty-four patients with chronic diseases in two Federal Government Teaching Hospitals in South-East, Nigeria. A Questionnaire and a Coping with Chronic Diseases Self-Efficacy Scale were instruments for data collection. Correlation analysis showed that access to coping information was positively and significantly correlated with self-efficacy in managing chronic diseases. Multiple Regression analysis suggested that disease type was the only patient characteristics significantly associated with self-efficacy when patients have access to coping information. The study conclude that the significant associations indicated that health information can enable patients develop self-efficacy for coping with chronic diseases. Hospital administrators and all stakeholders involved in health care should create an enabling environment for information sharing and flow to patients with chronic diseases. Librarians should play some roles in creating access to health information for patients with chronic diseases through developing and promoting consumer health information resources. This study is related to the present study in the area of methodology.

In addition, Oriogu *et al.* (2017) investigated the use of internet health information resources and information seeking behaviour among health professionals in federal medical center, Abuja. Five research questions guided the study and the data collection instrument used was structured questionnaire, the study adopted survey research method. The finding showed that (83.7%) of the respondents had average levels of Internet use proficiency. The study revealed that majority of the respondents rarely use e-book, e-journals, Websites, e-newspapers/ Bulletins. The finding showed that the respondents only use African Journal Online (AJOL) and Nursing Journals. Based on the information seeking behaviour of the respondents, it was revealed that (85.7%) of the respondents do not have understanding of limitations of Internet resources. The

challenges encountered by majority of the respondents are slow connection of the Internet, lack of awareness of the available Internet health information resources in the library, poor/lack of subscription of e-databases and lack of time. The study finally recommended that health institutions should endeavour to provide basic information technology literacy training to health professionals, maintain continuous subscription of health e-databases, create awareness of open access health information resources and also improve effective access to Internet connection. The relationship of this study to the present study is that they both have use as a variable in the titles.

2.12 Summary of Literature Review

The overall literature reviewed from journal articles, Internet sources and other relevant publications showed that much work has been done on use and dissemination of library resources and services by patients in hospitals. Prior literatures also reported that, libraries especially special libraries in medical centres have crucial role to play in proper health information dissemination to meet health related needs of patients as the case may be.

However, there exists a dearth of literature in the area of health literacy programmes designed by librarians for proper dissemination and use as preventive measures for some chronic diseases common found among patients in medical centres like Hepatitis. In an attempt to operationalise awareness, dissemination and use as variables from prior literatures, most literatures focused on health information resources in a general sense. This Chapter reviewed articles on health literacy as related to hepatitis patients, an overview of hepatitis virus, awareness of information vis a vis health literacy, Information dissemination vis a vis health literacy, Information resources and services, Use of information vis a vis health literacy, hepatitis patients and their information

behaviour and challenges affecting the level of health literacy among the hepatitis patients. However, none of these reviews assessed the awareness, use and information dissemination to hepatitis patients for health literacy by librarians in specialist hospitals in North-central, Nigeria and this is the gap the study tried to fill in literature.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

The study adopted survey research design. The survey research design was considered suitable for this study as it usually describes and interprets data collected on a large population. Survey research design according to Ibrahim (2013) is used to assess a situation with a view to correcting inadequacies or effecting improvements. Moreover, survey research method is a type of descriptive research which could be used to sample data, describe and explain what is in existence or non-existence on the present status of a phenomenon that is undergoing investigation. Sharma (2017) stated that descriptive survey research method deals with describing the situation of a given population using some characteristics that are common among them. It is a process that involves a number of steps such as planning survey, questionnaire design, sampling, data collection, data processing and drawing conclusion.

3.2 Population of the Study

The total population for the study comprised1,700 hepatitis patients and 20 Librarians working in specialist hospitals in North-central, Nigeria. These specialist hospitals included: Dalhatu Araf Specialist, Lafia Nasarawa State, Kogi State Specialist, Lokoja and Plateau State Specialist Jos. The breakdown is shown in Table 3.1:

Table 3.1: Population of the Study

S/N	Name of Specialist Hospitals	Medical Librarians	Hepatitis Patients
1	Dalhatu Araf Specialist Hospital, Lafia Nasarawa State	13	688
2	Kogi State Specialist Hospital, Lokoja	3	570
3	Plateau StateSpecialist Hospital , Jos	4	442
	Total	**20**	**1700**

Source: Hepatitis Register Book in Specialist Hospitals (2019 and 2020)

3.3 Sample and Sampling Technique

The sample size of the population was 313 hepatitis patients and all the 20 medical librarians in the specialist hospitals. Krejcie and Morgan 1970 recommended Table for determining sample size of a population where it is stated that, for a population of 2,000 a sample size of 322 should be used and for 3,000 population a sample size of 341 should be used for a study. Therefore, for a population size of 1,700 a sample size of 313 was adequate. This shows that a sample size of 313 was obtained from 1700 at a level of confidence of 95% and at margin error of 0.5. The researcher used random sampling technique to select 313 out of the 1,700 target population of patients that visited the three Specialist Hospitals for the study as shown in Table 3.2.

The idea of sampling is to obtain a part of the population from which some information of the entire population can be inferred or generalised. A sample is a subset drawn to represent the relevant attributes of the whole set, such as individuals, objects or events.

Rudolph (2002) defined sample as a proportion of an entity or a subset which must represent as much as possible the entire population.

Table 3.2: Sample Size of the Study

S/N	Name of Specialist Hospitals	Medical Librarians	Hepatitis Patients
1	Dalhatu Araf Specialist Hospital, Lafia Nasarawa State	13	115
2	Kogi State Specialist Hospital, Lokoja	3	100
4	Plateau State Specialist Hospital , Jos	4	98
	Total	**20**	**313**

3.4 Instruments for Data Collection

The research instruments used for the study are self-designed questionnaire with adopted four (4) Likert's scale and observation instrument. The researcher considered the use of questionnaire as the main instrument for data collection because it is the most appropriate method for gathering opinion from a large population. The study adopted structured questionnaire for both the medical librarians and the hepatitis patients. The designed questionnaire for the title, “Assessment of Awareness, Use and Information Dissemination to Hepatitis Patients for Health Literacy by Librarians in Specialist Hospital in North-central, Nigeria is called AULHP. The questionnaire designed for the medical librarians was divided into Sections A-D. Section ‘A’ covered the demographic information of the librarians, while Section ‘B’ covered observation check list, Section C will be method used for dissemination of information, Section ‘D’ covered level of

library use. Similarly, the questionnaire designed for the hepatitis patients covered Sections A-E. Section 'A' covered the demographic information of hepatitis patients, while Section 'B' covered the information resources and services provided to them by librarians, Section 'C' covered level of awareness of information resources and services in the libraries, Section 'D' covered how patients use information disseminated for health literacy by librarians.

Observation checklist was used to assess the facilities available in the library use for dissemination of information to hepatitis patients.

3.5 Validity of the Research Instruments

The research instruments were validated using content and face validity for clarity and relevance of the items of the objectives of the study. The researcher's supervisor was given the drafted copy of the questionnaire to cross check the content of the instruments with regards to the objectives of the study. A statistician and two (2) other lecturers in the Department of Library and Information Technology, Federal University of Technology, Minna were equally be given the instruments to make necessary inputs which were effected in the questionnaire.

3.6 Reliability of the Research Instrument

Reliability of the research instrument is the process where an instrument consistently measure what it is supposed to measure. The reliability of the research instrument for this study was ascertained using pilot study. A pilot study was conducted in Specialist Hospital, Asaba Delta State. Some 30 copies of the questionnaire were shared to both the librarians and the hepatitis patients. Their responses were analysed using Cronbach Coefficient Alpha formula. The overall reliability of the two tested questionnaire were

0.88 for medical librarians and 0.83 for hepatitis patients, indicating that the instrument is reliable. The result is attached as Appendix C (p. 118)

3.7 Procedure for Data Collection

The researcher collected and attached a letter of introduction from Head of Department, Library and Information Technology, Federal University of Technology, Minna to the Specialist Hospitals to be studied. The questionnaire were administered and collected personally by the researcher. The researcher adopted3 research assistants in these hospitals to assist in distributing and collecting the data. The patients were distributed the questionnaire on their visiting days and whoever that did not filled and returned immediately were followed up by the research assistants. The administration and collection of copies of the questionnaire was done within the period of two (2) months

3.8 Method of Data Analysis

The data collected were analysed using descriptive statistics such as frequency counts and percentages as well as mean and standard deviation and Pearson Product Moment Correlation (PPMC). The descriptive statistics was used to measure demographic information of the respondents and research questions in the study, while Pearson Product Moment Correlation (PPMC) was used to test the null hypotheses in the study.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Response Rate

A total number of three hundred and thirteen (313) copies of questionnaire were administered to the respondents in the three (3) specialist hospitals studied. A total of 254 copies of questionnaire were filled, returned and found usable for the analysis representing 81% response rate. Table 4.1 shows the response rate based on the copies of questionnaire administered returned and their percentage(s) in each of the specialist hospitals studied.

Table 4.1: Response Rate by Hospitals

S/N	Name of Specialist Hospitals	No. of Administered Questionnaire	No. of Returned Questionnaire	Percentage(s) (%)
1	Dalhatu Araf Specialist Hospital, Lafia Nasarawa State	115	105	91
2	Kogi State Specialist Hospital, Lokoja	100	83	83
3	Plateau State Specialist Hospital, Jos	98	66	67
	Total	**313**	**254**	**81**

The result from Table 4.1 revealed that 115 copies of questionnaire were administered to hepatitis patients attending Dalhatu Araf Specialist Hospital, Lafia Nasarawa State, 105 copies representing [91%] were returned, 100 copies of questionnaire were administered to hepatitis patients attending Kogi State Specialist Hospital, Lokoja 83

copies representing [83%] were returned and 98 copies of questionnaire were administered to hepatitis patients attending Plateau State Specialist Hospital, Jos , 66 copies representing [67%] were returned.

Table 4.2 showed the response rate of questionnaire by category of the respondents.

Table 4.2: Response Rate of Questionnaire by Category of the Respondents

S/N	Name of Specialist Hospitals	No. of administered questionnaire to medical librarians	No. of returned questionnaire from medical librarians	Percentages (%)	No. of administered questionnaire to hepatitis patients	No. of returned questionnaire from hepatitis patients	Percentages (%)
1	Dalhatu Araf Specialist, Hospital, Lafia Nasarawa State	13	8	62	115	105	91
2	Kogi State Specialist Hospital, Lokoja	3	3	100	100	83	83
3	Plateau State Specialist Hospital, Jos	4	4	100	98	66	67
	Total	**20**	**15**	**70**	**313**	**254**	**81**

Table 4.2 shows that a total of 13 copies of questionnaire were administered to the medical librarians in Dalhatu Araf Specialist Hospital, Lafia Nasarawa State,8 copies of the questionnaire representing [62%] were returned, 3 copies of the questionnaire were administered to the medical librarians in Kogi State Specialist Hospital, Lokoja, all the 3 copies were filled and returned representing 100% and 4 copies of the questionnaire were administered to the medical librarians in Plateau State Specialist Hospital, Jos, 4 of them were filled and returned representing [100%].

Similarly, 115 copies of the questionnaire were administered to hepatitis patients in Dalhatu Araf Specialist Hospital, Lafia Nasarawa State, 105 copies representing 91% were returned, 100 copies of the questionnaire were administered to hepatitis patients in Kogi State Specialist Hospital, Lokoja, 83 copies representing 83% were returned and 98 copies of the questionnaire were administered to hepatitis patients in Plateau State Specialist Hospital, Jos and 66 copies representing 67% were returned.

4.2 Descriptive Analysis of Demographic Data

The respondents were asked to indicate their demographic variables, Table 4.3 shows the responses based on the name of specialist hospitals, gender, qualification, years of experience, age, occupation and level of qualification.

Table 4.3: Demographic Data of the Respondents

Name of specialist hospitals (Medical Librarians)	**Frequency**	**Percentage(s)**
Dalhatu Araf Specialist Hospital	8	53
Kogi State Specialist Hospital	3	20
Plateau State Specialist Hospital	4	27
Total	**15**	**100**

Name of Specialist hospital (Hepatitis Patients)	**Frequency**	**Percentage(s)**
Dalhatu Araf Specialist Hospital	105	41
Kogi State Specialist Hospital	83	33
Plateau State Specialist Hospital	66	26
Total	**254**	**100**

Gender (Medical Librarians)

S/N	Gender	Dalhatu Specialist Hospital, Lafia	Kogi State Specialist Hospital, Lokoja	Plateau State Specialist Hospital, Jos	Frequency	Percentage(s)
1	Male	3	3	3	9	60
2	Female	5	-	1	6	40
	Total	**8**	**3**	**4**	**15**	**100**

Gender (Hepatitis Patients)

S/N	Gender	Dalhatu Specialist Hospital, Lafia	Kogi State Specialist Hospital, Lokoja	Plateau State Specialist Hospital, Jos	Frequency	Percentage(s)
1	Male	71	57	37	165	65
2	Female	34	26	29	89	35
	Total	**105**	**83**	**66**	**254**	**100**

Academic Qualifications (Medical Librarians)

S/N	Academic Qualifications	Frequency	Percentage(s)
1	BLIS/BTECH	12	80
2	MLIS/MIS/MTECH	3	20
4	Ph.D	-	-
	Total	**15**	**100**

Year(s) of Experience (Medical Librarians)

S/N	Year of Experience	Frequency	Percentage(s)
1	5-10 years	9	60
2	11-15 years	4	27
3	16-20 years	2	13
4	21-25 years	-	-
	Total	**15**	**100**

Age (Medical Librarians)

S/N	Age	Frequency	Percentage(s)
1	20-30 years	3	20
2	31-40 years	7	47
3	41-50 years	4	27
4	51 and above	1	6
	Total	**15**	**100**

Occupation (Hepatitis Patients)

S/N	Occupation	Frequency	Percentage(s)
1	Civil Servant	109	43
2	Farming	28	11
3	Business	68	27
4	Trading	36	14
5	Unemployed/house wife	5	2
6	Student	8	3
Total	**254**	**100**	

Level of Qualification (Hepatitis Patients)			
S/N	**Level of Qualification**	**Frequency**	**Percentage(s)**
1	No formal education	-	-
2	Primary education	54	21
3	Secondary education	83	33
4	Tertiary	117	46
	Total	**254**	**100**

The result from Table 4.3 shows that 8(53%) were medical librarians in Dalhatu Araf Specialist Hospital, Lafia Nasarawa State 3(20%) of medical librarians were from Kogi State Specialist Hospital, Lokoja, while 4(27%) of medical Librarians were from Plateau State Specialist Hospital, Jos. Similarly 105(41%) of hepatitis patients were attending and receiving treatment from Dalhatu Araf Specialist Hospital, Lafia Nasarawa State, 83(33%) of hepatitis patients were attending and receiving treatment from Kogi State Specialist Hospital, Lokoja and 66(26%) of the hepatitis patients were attending and receiving treatment from Plateau State Specialist Hospital, Jos .

On the other hand, 9(60%) of the medical Librarians were males, while 6(40%) of them medical librarians were females. Similarly, 165(65%) of the hepatitis patients were males while 89(35%) of them were females. This indicates that most of the respondents are males for both groups of the respondents.

Furthermore, 12(80%) of them were B.Tech/BLIS holders, 3(20%) of them were M.TECh/MLIS/MIS holders, while none of them were Ph.D holders

Table 4.3 equally showed that 9 (60%) of the medical librarians have 5-10 years of working experience, 4 (27%) of them have 11-15 years of working experience, 2 (13%) of them have 16-20 years of experience, while none of them have 21-25 years of experience.

In addition, 3 (20%) of the medical librarians were between the age bracket of 20-30 years, 7 (47%) of them were between the age range of 31-40 years , 4(27%) of the medical librarians were between the age range of 41-50 years , while only one medical librarian was between the age range of 51 and above

On the other hand, 109(43%) of the hepatitis patients were civil servants, 28 (11%) of them were farmers, 68(27%) were business men/women, 36(14%) were traders, 5 (2%) were unemployed/house wives and 8(3%) of the hepatitis patients were students. Lastly 54 (21%) of the hepatitis patients have primary education 83(33%) of the respondents have secondary education, 117 (46%) of respondents have tertiary education, while 0(%) of the respondents have no formal education.

4.3 Data Analysis

Research Question 1: What are the types of information resources and services available in specialist hospitals libraries in North-central, Nigeria?

Table 4.4 is an observation checklist of the types of information resources and services available in specialist hospital libraries studied.

Table 4.4: Information Resources and Services Available in Nasarawa, Kogi, and Plateau Specialist Hospital Libraries.

Information Resources	Name of Specialist Hospitals		
	Dalhatu Araf Specailist Hospital, Lafia	Kogi State Specialist Hospital, Lokoja	Plateau State Specialist, Jos
Textbooks on medical line	√	√	√
Magazines	-	-	-
Professional journals	√	√	√
Newspapers	√	√	√
Poster/handbills	√	√	√
Newsletter	√	√	√
Dictionaries	√	√	√
Internet resources	-	-	-
Medical standards and guidelines	-	-	-
Conference proceedings	√	√	√
Encyclopaedias	-	-	-
Manuals and guides on hepatitis	-	-	-
Information Services			
Hepatitis information services	√	√	√
Email alerts services to patients on health talk hour	-	-	-
Mobile phone alerts services	-	-	-
Library websites health information services	√	√	√
Reference Services	√	√	√
Document delivery services	√	√	√
Current awareness services	-	-	-
Selective dissemination of information service	-	-	-
Inter and Intra-library loan Services	-	-	-
Short message service(sms)	-	-	-
Library orientation Services	√	√	√
Internet Browsing services	-	-	-

Key [√] = Available, [-] = Not Available

The result in Table 4.4 shows the information resources and services available and those that are not available in the specialist hospitals studied. Information resources such as, textbooks on medical line, professional journals, posters and handbills, newsletters, dictionaries, conference proceedings, newspapers were all available in the libraries, while Encyclopaedias, Medical standards and guidelines, Magazines, Internet resources and Manuals and guides on hepatitis are not available in the Libraries. On the other hand, information service such as library website on health information service, reference service, Document delivery services, Hepatitis information services and library orientation services are the only services available in all the three specialist hospitals studied.

Research Question 2: What are the types of information resources and services provided by librarians to hepatitis patients for health literacy in North-central, Nigeria?

Tables 4.5a and 4.5b show the types of information resources and services that are provided by librarians to hepatitis patients.

Table 4.5a: Information Resources Provided by Librarians to Hepatitis Patients (Hepatitis Patients).

S/N	Statements	SA	A	D	SD	N	FX	$\bar{x}$	STD	Decision
		4	3	2	1	254				
1	The librarians use textbooks on medical line to enhance my health literacy	115	102	27	10	254	830	3.27	0.77	Agreed
2	The librarians use magazines information to enhance my health literacy	39	91	33	91	254	586	2.31	0.19	Disagreed
3	The librarians use professional journals to enhance my health literacy	88	125	32	9	254	800	3.15	0.65	Agreed
4	The librarians use newspapers to enhance my health literacy	116	127	7	4	254	863	3.39	0.89	Agreed
5	The librarians use posters/handbills to enhance my health literacy	112	122	12	8	254	846	3.33	0.83	Agreed
6	The librarians use newsletters to enhance my health literacy	101	95	35	23	254	782	3.08	0.58	Agreed
7	The librarians use dictionaries to enhance my health literacy	63	106	43	42	254	698	2.75	0.25	Agreed
8	The librarians use Internet resources to enhance my health literacy	26	81	100	47	254	494	1.94	0.56	Disagreed
9	The librarians use medical standards and guidelines to enhance my health literacy	21	29	99	105	254	478	1.88	0.62	Disagreed
10	The librarians use conference proceedings to enhance my health literacy	127	103	16	8	254	757	2.98	0.48	Agreed
11	The librarians use encyclopaedia to enhance my health literacy	34	40	70	110	254	506	1.99	0.51	Disagreed
12	The librarians use manual and guides on hepatitis to enhance my health literacy	10	23	121	100	254	451	1.77	0.73	Disagreed

Key: Strongly Agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD).

Table 4.5a shows that twelve items were listed for hepatitis patients to respond on the types of information resources and services provided to them by librarians on health literacy. Seven items produced high mean scores which were above the average mean mark of 2.50. These items include item 4: The librarians use newspapers to enhance my health literacy ($\bar{x}$=3.39; SD=0.89), item 5: The librarians use posters/handbills to enhance my health literacy ($\bar{x}$=3.33; SD=0.83), item 1: The librarians use textbooks on medical line to enhance my health literacy ($\bar{x}$=3.27; SD=0.77), item 3: The librarians use professional journals to enhance my health literacy ($\bar{x}$=3.15; SD=0.65), item 6: The librarians use newsletters to enhance my health literacy ($\bar{x}$=3.08; SD=0.58), item 10: The librarians use conference proceedings to enhance my health literacy ($\bar{x}$=2.98; SD=0.48) and item 7: The librarians use dictionaries to enhance my health literacy ($\bar{x}$=2.75; SD=0.25). On the other hand, five items produced low mean scores below the bench mark of 2.50. These include item 2: librarians use magazines to enhance my health literacy ($\bar{x}$=2.31; SD=0.19), item 8: librarians use Internet resources to enhance my health literacy ($\bar{x}$= 1.94; SD=0.56),item 9: The librarians use medical standards and guidelines to enhance my health literacy ($\bar{x}$=1.88; SD=0.62), item 11: librarians use encyclopaedia to enhance my health literacy ($\bar{x}$= 1.77; SD=0.73) and item 12: the librarians use manual and guides on hepatitis to enhance my health literacy ($\bar{x}$= 1.77; SD=0.73).

Table 4.5b: Information Services Provided by Librarians to Hepatitis Patients

S/N	Statements	SA	A	D	SD	N	FX	$\bar{x}$	STD	Decision
		4	3	2	1	254				
1	The librarians provide hepatitis information services to me	105	92	47	10	254	800	3.15	0.65	Agreed
2	The librarians provide e-mail alerts services to patients on health talk hour	8	18	89	139	254	403	1.59	0.91	Disagreed
3	The librarians provide mobile phone alerts services information to hepatitis patients	13	23	91	127	254	430	1.69	0.81	Disagreed
4	The librarians provide library website health information services to hepatitis patients	77	115	47	15	254	752	2.96	0.46	Agreed
5	The librarians provide reference services to hepatitis patients	95	99	39	21	254	776	3.06	0.56	Agreed
6	The librarians provide document delivery services to hepatitis patients	102	112	32	8	254	816	3.21	0.71	Agreed
7	The librarians provide Current Awareness Services (CAS) to hepatitis patients	9	13	125	107	254	432	1.70	0.8	Disagreed
8	The librarians provide Selective Dissemination of Information (SDI) to hepatitis patients	27	48	85	94	254	516	2.03	0.47	Disagreed
9	The librarians provide inter and intra library loan services to hepatitis patients	37	36	81	100	254	518	2.04	0.46	Disagreed
10	The librarians provide Short Message Services (SMS) to hepatitis patients	75	7	63	109	254	563	2.22	0.28	Disagreed
11	The librarians provide library orientation services to hepatitis patients	101	85	45	23	254	772	3.04	0.54	Agreed
12	The librarians provide Internet browsing to hepatitis patients	20	23	111	100	254	471	1.85	0.65	Disagreed

Key: Strongly Agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD).

The data presented in Table 4.5b equally shows the response of hepatitis patients on the information services rendered to them by medical librarians. Five items produced high mean scores which were above the average mean score of 2.50. These items include item 6: The librarians provide document delivery services to hepatitis patients ($\bar{x}$=3.21; SD=0.71), item 1: The librarians provide hepatitis information services to me ($\bar{x}$=3.15; SD=0.65), item 5: The librarians provide reference services to hepatitis patients ($\bar{x}$=3.06; SD=0.56), item 11: The librarians provide library orientation services to hepatitis patients ($\bar{x}$=3.04; SD=0.54) and item 4: The librarians provide library website health information services to hepatitis patients ($\bar{x}$=2.96; SD=0.46). On the other hand, seven items produced low mean scores below the average mean of 2.50 which include item 10: The librarians provide Short Message Services (SMS) to hepatitis patients ($\bar{x}$=2.22; SD=0.28), item 9: The librarians provide inter and intra library loan services to hepatitis patients ($\bar{x}$=2.04; SD=0.46), item 8: The librarians provide Selective Dissemination of Information (SDI) to hepatitis patients ($\bar{x}$=2.03; SD=0.47), item 12: The librarians provide Internet browsing to hepatitis patients ($\bar{x}$=1.85; SD=0.65), item 7: The librarians provide Current Awareness Services (CAS) to hepatitis patients ($\bar{x}$=1.70; SD=0.8), item 3: The librarians provide mobile phone alerts services information to hepatitis patients ($\bar{x}$=1.69; SD=0.81) and item 2: The librarians provide e-mail alerts services to patients on health talk hour ($\bar{x}$=1.59; SD=0.91).

Research Question 3: What is the level of awareness of information resources and services among hepatitis patients for health literacy in specialist hospitals in North-central, Nigeria? Table 4.7 shows the level of awareness of information resources and services among hepatitis patients for their health literacy.

Table 4.6: Level of Awareness of Information Resources and Services among Hepatitis Patients

S/N	Statements	VH	H	L	VL	N	FX	$\bar{x}$	STD	Decision
		4	3	2	1	254				
1	I am aware of the various types of textbooks available in the library	117	98	21	18	254	822	3.24	0.74	High
2	I am aware of the professional journals available in the library	107	112	27	8	254	826	3.25	0.75	High
3	I am aware of Internet resources available in the library	68	19	90	77	254	586	2.31	0.19	Low
4	I am aware of the medical standard and guideline available in the library	32	36	86	100	254	508	2.00	0.50	Low
5	I am aware of the conference proceedings available in the library	91	95	45	23	254	762	3.00	0.50	High
6	I am aware of the newsletter available in the library	109	73	7	65	254	734	2.89	0.39	High
7	I am aware of the manual and guides available in the library	10	43	99	102	254	469	1.85	0.65	Low
8	I am aware of encyclopaedia available in the library	20	33	111	90	254	491	1.93	0.57	Low

Key: VH= Very High, H= High, L= Low, VL= Very Low

The data presented in Table 4.6 shows that eight items were listed for hepatitis patients to respond on the level of awareness of information resources and services on health literacy. Four items produced high mean scores which were above the benchmark of 2.50 which include item 2: I am aware of the professional journals available in the library ($\bar{x}$=3.25; SD=0.75), item 1: I am aware of the various types of textbooks available in the library ($\bar{x}$=3.24; SD=0.74)), item 6: I am aware of the newsletters available in the library ($\bar{x}$=2.89; SD=0.39), and item 5: I am aware of the conference proceedings available in the library ($\bar{x}$=3.00; SD=0.50). Similarly, four items produced low mean scores which were below the benchmark of 2.50. These items include item 3: I am aware of Internet resources available in the library ($\bar{x}$=2.31; SD=0.19item 7: I am aware of the manual and guides available in the library ($\bar{x}$=1.85; SD=0.65), item 4: I am aware of the medical standard and guideline available in the library ($\bar{x}$= 2.00; SD=0.50) and item 8: I am aware of encyclopaedia available in the library ($\bar{x}$=1.93; SD=0.57).

Research Question 4: What are the methods used in disseminating information by librarians for hepatitis patients for health literacy in specialist hospitals in North-central, Nigeria?

Table 4.7 shows the various methods used in disseminating information by librarians to hepatitis patients.

Table 4.7: Methods used in Disseminating Information to Hepatitis Patients for Health Literacy

S/N	Statements	SA	A	D	SD	n	FX	$\bar{x}$	STD	Decision
		4	3	2	1	15				
1	Information on hepatitis is disseminated to hepatitis patients through posters/fliers/handbills	7	5	1	2	15	47	3.13	0.63	Agreed
2	Information on hepatitis is disseminated to hepatitis patients through weekly health talk	2	2	6	5	15	31	2.07	0.43	Disagreed
3	Information on hepatitis is disseminated to hepatitis patients through outreach services/programmes	5	7	1	2	15	44	2.93	0.43	Agreed
4	Information on hepatitis is disseminated to hepatitis patients through workshops/seminars	8	3	3	1	15	48	3.20	0.70	Agreed
5	Information on hepatitis is disseminated to hepatitis patients through yearly conferences organised by the specialist hospitals	1	1	8	5	15	28	1.87	0.63	Disagreed
6	Information on hepatitis is disseminated to hepatitis patients through the library website	4	7	3	1	15	48	3.20	0.70	Agreed
7	Information on hepatitis is disseminated to hepatitis patients through librarians talk hour	4	3	5	3	15	38	2.53	0.03	Agreed
8	Information on hepatitis is disseminated to hepatitis patients through e-mail alerts	2	4	6	3	15	35	2.33	0.17	Disagreed
9	Information on hepatitis is disseminated to hepatitis patients through mobile phone sms	2	3	6	4	15	33	2.20	0.30	Disagreed
10	Information on hepatitis is disseminated to hepatitis patients through films/video shows	1	3	7	4	15	31	2.07	0.43	Disagreed
11	Information on hepatitis is disseminated to hepatitis patients through radio/television messages	4	8	2	1	15	45	3.00	0.50	Agreed

Key: Strongly Agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD).

Table 4.7 reveals that eleven items were listed for medical librarians to respond on the various methods they employ in disseminating information to hepatitis patients. Six items produced high mean scores which were above the benchmark of 2.50. These items include item 4: Information on hepatitis is disseminated to hepatitis patients through workshops/seminars ($\bar{x}$=3.20; SD=0.70), item 6: Information on hepatitis is disseminated to hepatitis patients through the library website ($\bar{x}$=3.20; SD=0.70), item 1: Information on hepatitis is disseminated to hepatitis patients through posters/fliers/handbills ($\bar{x}$=3.13; SD=0.63), item 11: Information on hepatitis is disseminated to hepatitis patients through radio/television messages ($\bar{x}$=3.00; SD=0.50), item 3: Information on hepatitis is disseminated to hepatitis patients through outreach services/programmes ($\bar{x}$=2.93; SD=0.43) and item 7: Information on hepatitis is disseminated to hepatitis patients through librarians talk hour ($\bar{x}$=2.53; SD=0.03). On the other hand, five items produced low mean scores below the average mark of 2.50. These items include item 8: Information on hepatitis is disseminated to hepatitis patients through e-mail alerts/mobile phone SMS ($\bar{x}$=2.33; SD=0.17),item 9: Information on hepatitis is disseminated to hepatitis patients through mobile phone sms ($\bar{x}$=2.20; SD=0.30) item 2: Information on hepatitis is disseminated to hepatitis patients through weekly health talk ($\bar{x}$=2.07; SD=0.43), item 10: Information on hepatitis is disseminated to hepatitis patients through films/video shows ($\bar{x}$=2.07; SD=0.43) and item 5: Information on hepatitis is disseminated to hepatitis patients through yearly conferences organised by the specialist hospitals ($\bar{x}$=1.87; SD=0.63).

Research Question 5: What is the level of library use by hepatitis patients in specialist hospitals in North-central, Nigeria? Table 4.8 shows the level of library use among hepatitis patients in the specialist hospitals studied.

Table 4.8: Level of Library Use among Hepatitis Patients

S/N	Statements	VHL	HL	L	VLL	N	FX	$\bar{x}$	STD	Decision
		4	3	2	1	15				
1	The hepatitis patients use the library on daily basis	1	2	7	5	15	29	1.93	0.55	Low
2	The hepatitis patients use the library when they need Internet services	1	3	8	3	15	32	2.13	0.37	Low
3	The hepatitis patients use the library on weekly basis	3	4	6	2	15	38	2.53	0.03	High
4	The hepatitis patients use the library when they need current information	6	4	4	1	15	45	3.00	0.50	High
5	The hepatitis patients use the library on monthly basis	2	7	3	3	15	38	2.53	0.03	High
6	The hepatitis patients use the library only when they come for check-up	4	5	4	2	15	41	2.73	0.18	High
7	The hepatitis patients use the library only when they are sick	2	3	7	3	15	34	2.27	0.23	Low
8	The hepatitis patients use the library only when directed by librarians	2	1	7	5	15	30	2.00	0.50	Low
9	The hepatitis patients use the library during pregnancy period	3	3	6	3	15	36	2.40	0.10	Low
10	The hepatitis patients do not use the library at all	1	2	8	4	15	30	2.00	0.50	Low

Key: Very High Level (VHL), High Level (HL), Low (L), Very Low Level (VLL)

The data presented in Table 4.8 shows that ten items were listed for medical librarians on the level of library use among hepatitis patients. Four out of six items produced high mean scores which were above 2.50 bench mark. These items include: item 4: The hepatitis patients use the library when they need current information ($\overline{x}$=3.00; SD=0.50), item 6: The hepatitis patients use the library only when they come for check-up ($\overline{x}$=2.73; SD=0.18), item 3: The hepatitis patients use the library on weekly basis ($\overline{x}$=2.53; SD=0.03) and item 5: The hepatitis patients use the library on monthly basis ($\overline{x}$=2.53; SD=0.03). On the other hand, six items produced low mean scores below 2.5 bench mark which include item 9: The hepatitis patients use the library during pregnancy period ($\overline{x}$=2.40; SD=0.10), item 7: The hepatitis patients use the library only when they are sick ($\overline{x}$=2.27; SD=0.23), item 2: The hepatitis patients use the library when they need Internet services ($\overline{x}$=2.13; SD=0.37), item 8: The hepatitis patients use the library only when directed by librarians ($\overline{x}$=2.00; SD=0.50), item 10: The hepatitis patients do not use the library at all ($\overline{x}$=2.00; SD=0.50) and item 1: The hepatitis patients use the library on daily basis ($\overline{x}$=1.93; SD=0.57).

Research question 6: How do hepatitis patients use the information disseminated for health literacy by librarians in specialist hospitals in North-central, Nigeria?

Table 4.9 shows how hepatitis patients use information disseminated to them by medical librarians.

Table 4.9: Use of Information Disseminated by Librarians for Health Literacy among Hepatitis Patients

S/N	Statements	SA	A	D	SD	N	FX	$\bar{x}$	STD	Decision
		4	3	2	1	254				
1	The information provided helps me to take my drugs	12	23	89	129	254	428	1.69	0.81	Disagreed
2	The information provided enhances my awareness on how hepatitis is transmitted	95	94	49	16	254	776	3.06	0.56	Agreed
3	The information provided by librarians helps me to know how hepatitis is controlled	83	120	42	9	254	785	3.09	0.59	Agreed
4	The information provided enhances my knowledge on hepatitis	100	89	44	21	254	776	3.05	0.55	Agreed
5	The information provided improves my health status	27	48	75	104	254	506	1.99	0.51	Disagreed
6	The information provided helps me to avoid transmitting the virus to others	122	98	21	13	254	837	3.29	0.79	Agreed
7	The information provided helps me to always go for routine check-up	96	90	50	18	254	772	3.04	0.54	Agreed

Key: Strongly Agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD).

The data presented in Table 4.9 shows that seven items were listed for hepatitis patients to respond on how they use information disseminated to them by the medical librarians. Five items produced high mean scores above the bench mark of 2.50 which include item 6: The information provided helps me avoiding transmitting the virus to others ($\overline{x}$=3.29; SD=0.79), item 3: The information provided by librarian helps me to know how hepatitis is controlled ($\overline{x}$=3.09; SD=0.5), item 2: The information provided enhance my awareness on how hepatitis is transmitted ($\overline{x}$=3.06; SD=0.56), item 4: The information provided enhance my knowledge on hepatitis ($\overline{x}$=3.05; SD=0.55) and item 7: The information provided helps me to always go for routine check-up (=3.04; SD=0.54). On the other hand, two items produced low mean scores which were below the bench mark of 2.50. These items include item 5: The information provided improves my health status ($\overline{x}$=1.99; SD=0.51) and item 1: ($\overline{x}$=1.69; SD=0.81).

Research Question 7: What are the factors affecting the level of health literacy among hepatitis patients in North-central, Nigeria?

Table 4.10 shows the factors that affect the level of health literacy among hepatitis patients.

Table 4.10: Factors Affecting the Level of Health Literacy among Hepatitis Patients

S/N	Statements	SA	A	D	SD	n	FX	$\bar{x}$	STD	Decision
		4	3	2	1	254				
1	Inadequate information resources and services in the library	21	44	101	88	254	506	1.99	0.51	Disagreed
2	Inadequate awareness of information resources and services provided in the library	77	112	51	14	254	760	2.99	0.49	Agreed
3	Inadequate current information resources on hepatitis in the library	91	103	49	11	254	782	3.08	0.58	Agreed
4	Inadequate searching skills to search for information resources in the library	119	100	19	16	254	830	3.27	0.77	Agreed
5	Inadequate number of librarians available in the library	112	116	21	5	254	843	3.32	0.82	Agreed
6	Information resources on hepatitis in the library is not sufficient	95	120	30	9	254	809	3.19	0.69	Agreed

Key: Strongly Agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD).

The data presented in Table 4.10 shows the responses of hepatitis patients on factors affecting their level of health literacy. Five out of six items have high mean scores which were above 2.50 bench mark. These items include item 5: Inadequate number of librarians available in the library ($\bar{x}$=3.32; SD=0.82), item 4: Inadequate searching skills to search for information resources in the library ($\bar{x}$=3.27; SD=0.77), item 6: Information resources on hepatitis is not sufficient in the library ($\bar{x}$=3.19; SD=0.69), item 3: Inadequate current information resources on hepatitis in the library ($\bar{x}$=3.08; SD=0.58) and item 2: Inadequate awareness of information resources and services provided in the library ($\bar{x}$=2.99; SD=0.49). On the other hand, one item produced low mean scores below 2.50 bench mark, which is, item 1: Inadequate information resources and services in the library ($\bar{x}$=1.99; SD=0.51). The items with high mean scores indicate that these factors are really affecting the level of health literacy among hepatitis patients in the studied areas.

4.4 Testing of Hypotheses

H_{01}_There is no significant relationship between awareness and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.

Table 4.11 shows the relationship between awareness and health literacy among hepatitis patients

Table 4.11: Relationship between awareness and health literacy among hepatitis patients

Variables	n	df	Mean	SD	R	P
Awareness of hepatitis patients			21.01	4.31		
		252			0.249	0.05
	254					
Health literacy among hepatitis patients			33.03	7.07		

Table 4.11 shows that the correlation coefficient is 0.249, P>0.05. That is, critical value R is greater than P value of 0.05. Therefore, the null hypothesis is rejected. This implies that increase in awareness will improve or increase the level of health literacy among hepatitis patients in North-central, Nigeria.

H_{02}_There is no significant relationship between information dissemination and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.

Table 4.12 shows the relationship between information dissemination and health literacy among hepatitis patients

Table 4.12: Relationship between Information dissemination and health literacy among hepatitis patients

Variables	n	df	Mean	SD	R	P
Information dissemination			26.33	4.65		
	254	252			0.416	0.05
health literacy among hepatitis patients			33.03	7.07		

Table 4.12 shows that the correlation coefficient is 0.416, P>0.05. That is, critical value R is greater than P value of 0.05, indicating positive correlation. Therefore, the null hypothesis is rejected. This implies that increase in information dissemination by medical librarians will improve the level of health literacy on hepatitis among hepatitis patients in North-central, Nigeria.

H_{03}_There is no significant relationship between information use and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.

Table 4.13 shows the relationship between information use and health literacy among hepatitis patients

Table 4.13: Relationship between Information Use and health literacy among hepatitis patients

Variables	n	df	Mean	SD	R	P
Information Use			19.21	4.35		
	254	252			0.734	0.05
health literacy among hepatitis patients			33.03	7.07		

Table 4.13 shows that the correlation coefficient is 0.734, P>0.05. That is, critical value R is greater than P value of 0.05, indicating strong positive correlation. Therefore, the null hypothesis is rejected. This implies that adequate use of information disseminated by medical librarians will improve or increase the knowledge of health literacy among hepatitis patients in North-central, Nigeria.

4.5 Summary of Findings

Based on the results of the analysis, the following are the summary of findings:

1. The study revealed that the types of information resources and services available in the specialist hospitals are, textbooks on medical line, professional journals, newspapers, poster/handbill, newsletters, dictionaries, conference proceedings, document delivery Services, reference services and library orientation services to mention but a few.

2. Hepatitis patients indicated that medical librarians provide information resources such as newspaper, professional journals, dictionaries, newsletters and conference proceedings to enhance their health literacy. In addition they indicated that medical librarians provide them reference services (assistance), document delivery services and library orientation in meeting their information needs.
3. The level of awareness of information resources and services among hepatitis patients for health literacy is moderate.
4. Medical librarians indicated that hepatitis information is disseminated to hepatitis patients' mainly through posters/fliers/handbills, library websites and through conferences, workshops and seminars.
5. The level of library use among hepatitis patients is low.
6. The study revealed that hepatitis patients use the information provided to always go for routine check-up and avoid transmitting the virus to others.
7. Hepatitis patients indicated that factors such as inadequate awareness of information resources and services, inadequate current information resources on hepatitis, inadequate search skill and inadequate number of librarians were factors affecting the level of health literacy among hepatitis patients in the studied areas.
8. There is significant relationship between awareness and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.
9. There is significant relationship between information dissemination and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.
10. There is significant relationship between information use and health literacy among hepatitis patients in specialist hospitals in North-central, Nigeria.

4.6 Discussion of the Findings

The findings of the study as regards to research question 1, it is revealed there is availability of information resources such as, textbooks, Professional journals, newspapers, posters/handbills, newsletter, dictionaries and conference proceedings. The availability of these resources in specialist hospital libraries could be because they are commonly consulted information resources by various library users including hepatitis patients to satisfy their information needs .This is in line with the findings of Negi (2014) who stated that libraries should disseminate health information about the causative agents of hepatitis and preventive measures through brochures, leaflet, newspapers and magazines. Similarly, information services such as library websites, health information services, reference service and library orientation services were the only available services rendered in the specialist hospitals studied. This could be because of the limited number of medical librarians to provide and render effective services to hepatitis patients.

As regards to research question 2, the study revealed that medical librarians mainly provide information resources and services to hepatitis patients through the use of textbooks, professional journals, posters/handbills, newsletter, and conference proceedings and through, while the provision of services by medical librarian through email alerts, mobile phone alert, Current Awareness Services (CAS), Selective Dissemination of Information (SDI), Short Message Service (SMS) and services through Internet browsing to hepatitis patients were low. Librarians through the use of social media networks such as WhatsApp, Facebook, Twitter and Imo could disseminate information to hepatitis patients and other library users regarding hepatitis and its causes, prevention and control. This is in line with the findings of Prabhakaran and Kalyani (2014) who stated that social media network such

as Whatsapp, Imo, Twitter, Facebook and Pinterest were more appropriate for the dissemination and delivering personalized information on hepatitis and other diseases.

In response to research question 3, the study showed that the level of awareness of information resources and services among hepatitis patients for health literacy is moderate. The respondents indicated that their awareness on the availability of information resources and services help them to be aware of the various textbooks available in the library, medical journals, newsletter, dictionaries and the availability conference proceedings for health literacy, treatment and prevention of hepatitis (Table 4.5a). It is expected that hepatitis patients should be trained through library orientation programmes on how to access information resources, especially through the use of information and communication Technology (ICT) facilities to satisfy their information needs. On the other hand, the hepatitis patients' level of awareness of information resources and services on Internet resources, medical standards and guidelines, newsletters and encyclopaedia were low. This could be that the medical librarians are not adequate and well equipped with current and relevant information resources and also lack the knowledge of ICT to render effective services to hepatitis patients to meet their information needs on hepatitis, its treatment and prevention. This is in contrast with the findings of Ogunsola (2011) that librarians should be well trained on how to use ICT services to access health information for combating communicable diseases.

The analysis from research question 4, showed that hepatitis patients mainly utilised information disseminated on hepatitis through posters/handbills, fliers, outreach services programme, library websites, librarian's talk hour and through radio and television messages. Adequate dissemination of information by specialist hospitals can help change

the behaviour of hepatitis patients in terms of observing personal hygiene and how to prevent others from contacting the disease. The dissemination of information to hepatitis patients can be achieved through librarian's talk/ library orientation which should be centred on personnel hygiene including treatment and prevention of hepatitis. This is in line with the findings of Litzenberger (2016) who stated that libraries should organise seminar, outreach programmes on health education literary which will help people change their behaviour in combating diseases bothering them.

For research question 5, the study revealed that the level of library use among hepatitis patients were low. The use of information resources by library users in any library regardless of type is strictly based on the availability and accessibility of current and up-to-date information resources that can satisfy their information needs. The medical librarians indicated that hepatitis patients use the library when they need current information, when they come for checkups on monthly basis. The worth of any library including the specialist hospitals is the ability to provide to users current and up-to-date information resources to meet their information needs. The provision of current and up-to-date information especially to hepatitis patients is necessary in order to teach them how to prevent the transmission of the virus from one person to another as well as offer solution on treatment and preventive measures necessary to prevent or curtail its spread. This is in line with the findings of Cox and Janti (2012) who stated that the use of information in any library measures its worth. The use of library by hepatitis patients daily, when they need Internet services, when they are sick, when directed by librarian and during pregnancy period were very low. This could be attributed to the fact that hepatitis patients are not aware of the

importance of using a library to seek for health information. This is in line with the study of Adeleke and Nwalo (2017) that awareness is an integral part of availability which in turn leads to utilisation.

In line with the findings of research question 6, it is revealed that through information disseminated, hepatitis patients became more literate on how hepatitis is transmitted, controlled, things necessary to do in order to avoid transmitting the virus to others and provide clues on regular checkups. These could go a long way in preventing hepatitis and its spread in the study areas. This could be attributed to the fact that disseminating health information can help to improve knowledge transfer from medical librarians to hepatitis patients and they will be able to know the causes, treatment and preventive measures necessary to take in order to prevent hepatitis. This could be done through health education organised by librarians in conjunction with medical experts/practitioners to enlighten the hepatitis patients generally about hepatitis virus. This is in line with the findings of Lizenberger (2016) who stated that libraries should organise seminars on health education, the education which will help people to change their behaviour and hence, combat hepatitis and other disease that could be bothering them. Similarly, Ogunsola (2011) opined that librarians should make sure they impact the knowledge of health literacy for combating hepatitis and other disease infection to health information consumers.

In response to research question 7, the study revealed that the respondents agreed with all the factors affecting the level of health literacy among hepatitis patients with the exception of item 1 as presented on Table 4.10. This could be as a result of inadequate funding of specialist hospital libraries to acquire the necessary resources and lack of employment of adequate staff for effective and efficient information service delivery. This is in line with

the findings of Achala and Sinha (2010) that the greatest challenge facing libraries in Nigeria is that of funding. This indicated that the level of health literacy among hepatitis patients is negatively affected. As such, there should be provision of adequate and current information resources , awareness on existing information resources and service, employment of qualified librarians and ensuring that hepatitis patients are taught through library orientation how to search and access information resources for their needs.

4.6.7 Findings on the tested hypotheses

H_{01}_Relationship between awareness and health literacy among hepatitis patients in specialist hospitals in North-Central, Nigeria

The test of null hypothesis one shows that the result of data obtained on the relationship between level of awareness of information resources and services and health literacy among hepatitis patients led to the rejection of the null hypotheses. Table 4.11 inferred significant influence of awareness and health literacy with p-value = 0.05 which implied that there is a significant relationship. This implies that increase in awareness of information resources and services will lead to better health literacy and more awareness of hepatitis among patients in the specialist hospitals studied. Thus, there should be awareness through information dissemination of the preventive measures, complications and treatment of hepatitis by specialist hospital libraries to improve public awareness. This is necessary because through public health and public enlightening campaign on the dangers of hepatitis, the general public will be aware of hepatitis, its causes, treatment and prevention leading to reduction or total elimination of the virus. This is in line with the findings of

Merck (2011) that to win the battle of hepatitis, improved public awareness and education is required.

H_{02}_Relationship between information dissemination and health literacy among hepatitis patients in specialist hospitals in North-Central, Nigeria

The test of null hypothesis two shows that the result of data obtained on the relationship between information dissemination and health literacy among hepatitis patients led to the rejection of the null hypotheses. Table 4.12 inferred significant influence of information dissemination and health literacy with p-value = 0.05 which implied that there is a significant relationship. This implies that increase in information dissemination through the use of textbooks on medical line, medical standard and guidelines, manual and guides to mention but a few will improve the health knowledge of hepatitis patients by creating awareness about the virus, its transmission and prevention.

This agrees with the findings of Matingwina (2015) which stated that information dissemination focused on the disease prevention and treatment, indicating that information can be disseminated to create awareness among the general public and to those who are infected with hepatitis without them knowing.

H_{03}_Relationship between information use and health literacy among hepatitis patients in specialist hospitals in North-Central, Nigeria

The test of null hypothesis between information use and health literacy among hepatitis patients in the specialist hospitals studied has shown that there is significant relationship between them. The result of data obtained on the relationship between information use and

health literacy among hepatitis patients led to the rejection of the null hypothesis. Table 4.13 inferred significant influence of information use and health literacy with p-value = 0.05 which implied that there is a significant relationship. This implies that increase in the use of information will improve information acquired on hepatitis by patients in specialist hospitals studied. This is similar to the view of Tsafe (2014) who opined that the collection and services rendered by medical libraries are usually built upon and organised for maximum utilisation by clienteles they are meant for.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

In conclusion, the findings of the study revealed that no library irrespective of the type or kind can achieve its goals and objectives of meeting the information needs of users without the provision of adequate and current information resources as well as effective and efficient service delivery. The information resources in the specialist hospitals studied were highly available, while only few information services were rendered. Other factors such as inadequate number of librarians, insufficient current information resources, lack of awareness of resources and services rendered by the specialist hospitals to mention but a few were major factors confronting the level of health literacy among hepatitis patients in the studied areas .With these factors not given adequate attention, there would be little or no effective health literacy delivery by librarians to hepatitis patients necessary for the prevention and control of hepatitis spread in the areas studied.

5.2 Recommendations

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

1. The management of specialist hospitals should provide more information resources and services such as Internet resources, current awareness services, email alerts services, document delivery services in order for hepatitis patients to be up-to-date in health information.

2. The management of specialist hospitals in North-central, Nigeria should provide or install Internet services as well as extend their services to the use of e-mail, Short Message Services (SMS) in meeting the information needs of hepatitis patients and other groups of library users.
3. The management of specialist hospital libraries studied should create awareness of their information resources and services through library orientation, organising conferences, workshops and seminar to enlighten the users especially on Internet resources, medical standard and guidelines, newsletters and encyclopaedia and how they could be used to meet the information needs of hepatitis patients.
4. The management of specialist hospitals in North-central, Nigeria should create available channels through weekly health talks, films and video shows and through networked databases to disseminate information to hepatitis patients and the public on the causes, treatment and preventive measures.
5. The management of specialist hospitals should encourage the high use of library by hepatitis patients through provision of Internet services and current information resources.
6. The hepatitis patients should use the information provided to know how hepatitis is controlled, go for routine checkups and improve their health status as well as take care of the drugs and avoid transmitting the virus to others.
7. The management of specialist hospitals should create adequate awareness on available information resources and services through sms, e-mail alerts, phone calls and the like; provision of current information resources and train the hepatitis patients on searching skills.

5.3 Contribution to Knowledge

The study has contributes to knowledge in the following areas:

1. The study contributed to knowledge through the enhancement of information resources in forms of books, professional journals, conference proceedings which are made available to hepatitis patients in specialist hospitals with the view to curing them of their aliments as they utilise them.
2. The study revealed that librarians in specialist hospitals have a key role to play in ensuring that hepatitis patients are aware of relevant information resources and if properly disseminated to them it would go a long way to ensure their wellness and over all well-being.
3. The study revealed that inadequate provisions of current information resources, searching skills of hepatitis patients and limited number of skilled librarians are the factors affecting the health literacy of hepatitis patients.
4. The study has equally added to the already existing literature on effects of medical librarians in specialist hospitals in North-central, Nigeria.

5.3 Suggestions for Further studies

The following suggestions are made for further studies

1. It is suggested that a similar research on the assessment of awareness, use and information dissemination to hepatitis patients for health literacy by librarians in specialist hospitals in Nigeria.

2. Assessment of awareness, use and information dissemination to hepatitis patients for health literacy by librarians in specialist hospitals in Western Nigeria.
3. There is also the need for research on the assessment of awareness, use and information dissemination to hepatitis patients for health literacy by librarians in Teaching Hospitals in North-central, Nigeria.

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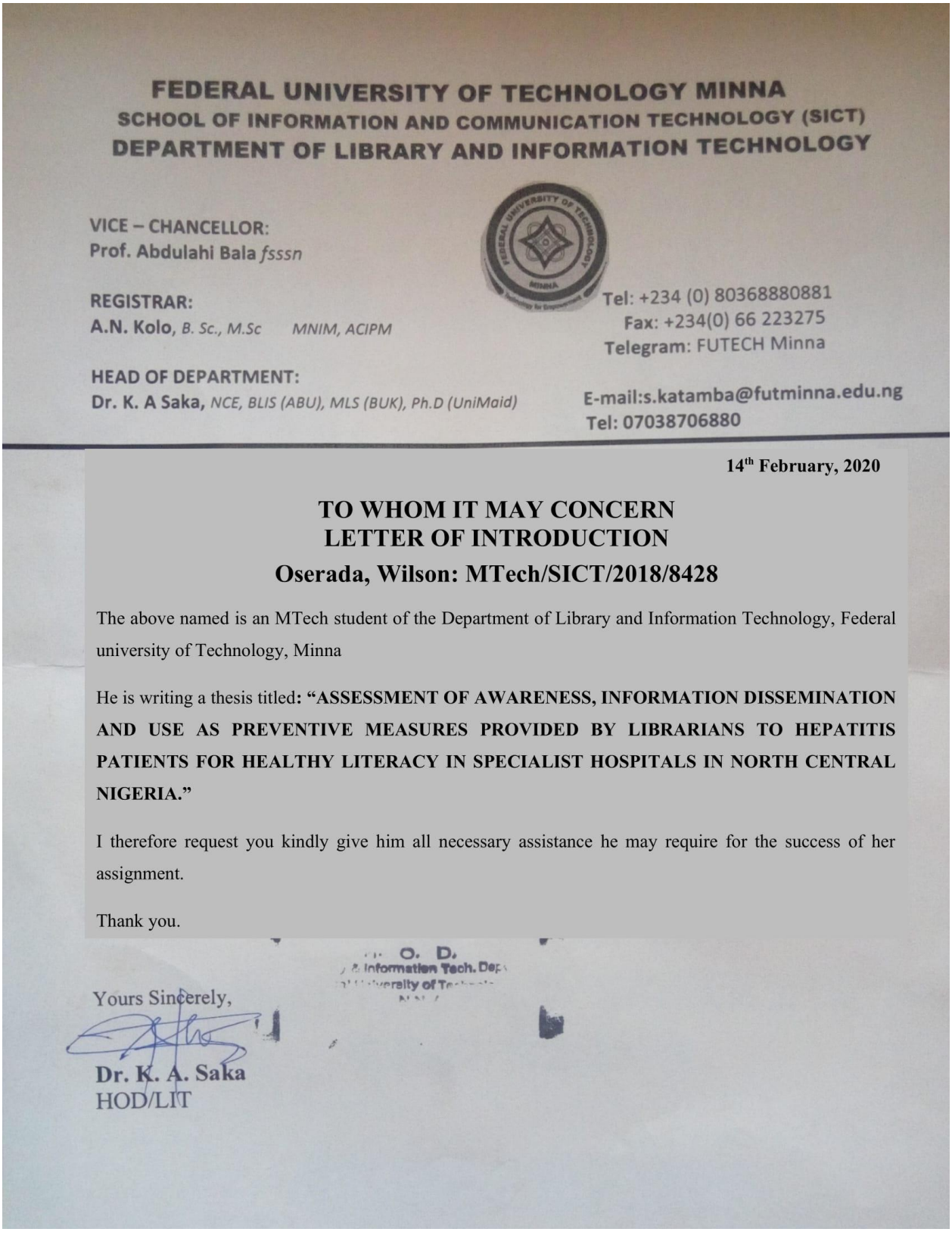
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APPENDIX A



FEDERAL UNIVERSITY OF TECHNOLOGY MINNA
SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY (SICT)
DEPARTMENT OF LIBRARY AND INFORMATION TECHNOLOGY

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14th February, 2020

TO WHOM IT MAY CONCERN
LETTER OF INTRODUCTION

Oserada, Wilson: MTech/SICT/2018/8428

The above named is an MTech student of the Department of Library and Information Technology, Federal university of Technology, Minna

He is writing a thesis titled**: "ASSESSMENT OF AWARENESS, INFORMATION DISSEMINATION AND USE AS PREVENTIVE MEASURES PROVIDED BY LIBRARIANS TO HEPATITIS PATIENTS FOR HEALTHY LITERACY IN SPECIALIST HOSPITALS IN NORTH CENTRAL NIGERIA."**

I therefore request you kindly give him all necessary assistance he may require for the success of her assignment.

Thank you.

Yours Sincerely,

Dr. K. A. Saka
HOD/LIT

APPENDIX B

QUESTIONNAIRE FOR LIBRARIANS IN SPECIALIST HOSPITALS

Department of Library and Information Technology,
School of Information and Communication Technology,
Federal University of Technology,
Minna,
Niger State.

Dear Respondent,

I am a postgraduate student of the Department of Library and Information Technology, Federal University of Technology, Minna with matriculation number MTECH/SICT/2018/8428. I am currently conducting a research titled "Assessment of Awareness, Use and Information Dissemination to Hepatitis Patients for Health Literacy by Librarians in Specialist Hospitals in North-Central, Nigeria". Please kindly complete the attached questionnaire as yourkind response will be appreciated and any information provided will be treated as confidential as possible and will be used for research purpose alone.

Thank you.

Yours faithfully,

Oserada, Wilson

MTECH/SICT/2018/8428

SECTION A: Demographic Information Medical Librarians

1. Name of Specialist Hospital……..
2. Gender a. Male { } b. Female { }
3. Qualification a. ND/HND { } b. BTechlit/BLS { } c. MTech/MLS { } d. Ph.D { }
4. Year of Experience a. 5-10 { } b. 11-15 { } c. 16-20 { } d. 21-25 { } e. 25 and above { }
5. Age a. 20-30 years { } b. 31-40 years { } c. 41-50 years { } 51 and above { }

OBSERVATION CHECKLIST

Research question 1: What are the information resources and services available in your library?

SECTION B: Information Resources and Services available in your Library

Please tick the available resources and services in your Specialist Hospital library

S/N	Information Resources	Available	Not Available
1	Textbooks on medical line		
2	Magazines		
3	Professional journals		
4	Newspapers		

5	Posters/handbills		
6	Newsletters		
7	Dictionaries		
8	Internet resources		
9	Medical Standards and guidelines		
10	Conference proceedings		
11	Encyclopedias		
12	Manuals and guides on hepatitis		
Others (please specify)			
	Information Services	**Available**	**Not Available**
1	Hepatitis information services		
2	Email alerts to patients on health talk hour		
3	Mobile phone alerts		
4	Library website health information services		
5	Reference Services		
6	Document Delivery Services		
7	Current Awareness Services		
8	Selective Dissemination of Information service		
9	Inter and Intra-library Loan service		
10	Short Messages Services (SMS)		
11	Library Orientation Services		
12	Internet browsing service		
	Others (please specify)		

Research question 4: What are methods used in disseminating information by librarians to hepatitis patients for health literacy in specialist hospitals in North-Central, Nigeria?

SECTION C: Methods used in disseminating information by librarians to hepatitis patients for health literacy

S/N	Statements	SA	A	D	SD
1	Information on hepatitis is disseminated to hepatitis patient through posters/ fliers/ handbills				
2	Information on hepatitis is disseminated to hepatitis patients through weekly health talks				
3	Information on hepatitis is disseminated to hepatitis patients through outreach services/programmes				
4	Information on hepatitis is disseminated to hepatitis patients through workshops/seminar				
5	Information on hepatitis is disseminated to hepatitis patients through yearly conferences organized by the Specialist Hospitals				
6	Information on hepatitis is disseminated to hepatitis patients through the library websites				
7	Information on hepatitis is disseminated to hepatitis patients through librarians' health				

	talks hour				
8	Information on hepatitis is disseminated to hepatitis patients through email alerts/mobile phone SMS				
9	Information on hepatitis is disseminated to hepatitis patients through film/video shows				
10	Information on hepatitis is disseminated to hepatitis patients through radio/television messages				
Others (please specify)					

Key: SA=Strongly Agreed, A=Agreed=Disagreed, SD=Strongly Disagreed

Research question 5: What is the Level of Library Use by hepatitis patients in specialist hospitals in North-Central Nigeria?

SECTION D: Level of library Use by hepatitis patients

S/N	Statements	VHL	HL	L	VLL
1	The hepatitis patients use the library on daily				
2	The hepatitis patients use the library when they need Internet service				
3	The hepatitis patients use the library on weekly basis				
4	The hepatitis patients use the library when they need current information				
5	The hepatitis patients use the library on monthly basis				
6	The hepatitis patients use the library only when they come for check up				

7	The hepatitis patients use the library only when they are sick				
8	The hepatitis patients use the library only when directed by librarian				
9	The hepatitis patients use the library during pregnancy period				
10	Hepatitis patients do not use the library at all				
Others (please specify)					

Key: VHL=Very High Level, HL=High Level, L=Low and VLL=Very Low Level

APPENDIX C

QUESTIONNAIRE FOR HEPATITIS PATIENTS

Department of Library and Information Technology,
School of Information and Communication Technology,
Federal University of Technology,
Minna.
Niger State.

Dear Respondent,

I am a postgraduate student of the Department of Library and Information Technology, Federal University of Technology, Minna with matriculation number MTECH/SICT/2018/8428. I am currently conducting a research titled "Assessment of Awareness, Use and Information Dissemination to Hepatitis Patients for Health Literacy by Librarians in Specialist Hospitals in North-Central, Nigeria". Please kindly complete the attached questionnaire as your kind response will be appreciated and any information provided will be treated as confidential as possible and will be used for research purpose alone.

Thank you.

Yours faithfully,

Oserada, Wilson

MTECH/SICT/2018/8428

SECTION A: Demographic Data

Name of the Specialist Hospital that you attended……

1. Gender a. Male { } b. Female { }

2. What is your main occupation? (Tick as applicable)

   a) Civil servant [ ]

   b) Farming [ ]

   c) Business [ ]

   d) Trading [ ]

   e) Unemployed/house wife [ ]

   f) Others (please specify)……

3. What is the highest level of education you attained?

   a) No formal education [ ]

   b) Primary education [ ]

   c) Secondary education [ ]

   d) Tertiary education [ ]

Research question 2: What are the types of information resources and services provided by librarians to hepatitis patients for healthy literacy in North Central, Nigeria?

SECTION B: What are the information resources and services provided by librarians to you?

Please tick the information resources and services provided by librarians in specialist hospital library

S/N	Statements	SA	A	D	SD
1	The librarians use textbooks on medical line to enhance my health literacy				

2	The librarians use magazines information to enhance my health literacy				
3	The librarians use Professional journals to enhance my health literacy				
4	The librarians use Newspapers to enhance my health literacy				
5	The librarians use poster/handbills to enhance my health literacy				
6	The librarians use Newsletters to enhance my health literacy				
7	The librarians use Dictionaries to enhance my health literacy				
8	The librarians use Internet resources to enhance my health literacy				
9	The librarians use medical standards and guidelines to enhance my health literacy				
10	The librarians use conference proceedings to enhance my health literacy				
11	The librarians use Encyclopedias to enhance my health literacy				
12	The librarians use Manuals and guides on Hepatitis to enhance my health literacy				
Others (please specify)					

	Information Services	SA	A	D	SD
1	The librarians provide hepatitis information services to me				
2	The librarians provide email alerts to patients on health talk hour				
3	The librarians provide mobile phone alerts information to hepatitis patients				
4	They provide library website health information				

	services to hepatitis patients				
5	They provide reference services to hepatitis patients				
6	They provide document delivery services				
7	They provide current awareness services				
8	They provide selective dissemination of information				
9	They provide inter and intra-library loan				
10	They provide short messages services (SMS)				
11	They provide library orientation services				
12	They provide Internet browsing				
Others (please specify)					

Key; SA=Strongly Agreed, A=Agreed, D=Disagreed and SD=Strongly Disagreed

Research question 3: What is the level of awareness of information resources and services among patients for health literacy in specialist hospital in North-Central, Nigeria?

SECTION C: Level of awareness of information resources and services in the libraries

S/N	Statements	VH	H	L	VL
1.	I am aware of the various types of library textbooks available in the library.				
2.	I am aware of the medical journals available in the library				
3.	I am aware of the Internet resources available in the library				
4.	I am aware of the medical standards and guideline available in the library				
5.	I am aware of the conference proceedings available in the library				
6.	I am aware of the newsletter available in the library				
7.	I am aware of the manuals and guides available in the library				
8.	I am aware of the Encyclopedias available in the library				
Others (please specify)					

Key: VH=Very High, H=High, VL=Very Low and L=Low

Research question 6: How do hepatitis patients use information disseminated for health literacy by librarians in specialist hospitals in North-Central Nigeria

SECTION D: How hepatitis patients use information disseminated for health literacy by librarians.

S/N	Statements	SA	A	D	SD
1.	The information provided helps me to take my drugs				
2.	The information provided enhances my awareness on how hepatitis is transmitted				
3.	The information provided by librarians helps me know how hepatitis is controlled				
4.	The information provided enhance my knowledge on hepatitis				
5.	The information provided improves my health status				
6.	The information provided helps me from avoiding transmitting the virus to others				
7.	The information provided helps me to always go for routine checkup.				
Others (please specify)					

Key: SA=Strongly Agreed, A=Agreed=Disagreed, SD=Strongly Disagreed

Section E: Factors affecting the level of health literacy among the hepatitis patients in North-Central, Nigeria

S/N	Statements	SA	A	D	SD
1.	Inadequate information resources and services in the library				
2.	Inadequate awareness of information resources and services provided in the library.				
3.	Inadequate current information resources on hepatitis in the library				
4.	Inadequate searching skills to search for information resources in the library				
5.	Inadequate number of librarians available in the library				
6.	Information resources on hepatitis is not sufficient in the library				
Others (please specify)					

Key: SA=Strongly Agreed, A=Agreed Disagreed = D, SD=Strongly Disagreed

APPENDIX D

```
GET
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  /SCALE('methods used in disseminating information') ALL
  /MODEL=ALPHA.
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Cronbach Alpha Reliability Analysis result

Notes

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	N of Rows in Working Data File	24
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

Syntax-	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure. RELIABILITY /VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 /SCALE('methods used in disseminating information') ALL /MODEL=ALPHA.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Cronbach Alpha Reliability Analysis Result FOR Medical LIBRARIAN.Sav

Section C: Methods Used In Disseminating Information

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded[a]	0	.0
	Total	24	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.890	24

Section D: level of library use by hepatitis patients

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded[a]	0	.0
	Total	24	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.878	24

Average = $\frac{0.89 + 0.878}{2}$ =0.884

This indicates that the instrument is strong and reliable

```
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RELIABILITY
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  /SCALE('information resources and services') ALL
  /MODEL=ALPHA.
```

Cronbach Alpha Reliability Analysis result

Notes

Output Created		10-MAR-2021 22:05:29
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 a13 a14 a15 a16 a17 a18 a19 /SCALE('information resources and services') ALL /MODEL=ALPHA.
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	Elapsed Time	00:00:00.02

Cronbach Alpha Reliability Analysis Result FOR HEPATITIS PATIENT.Sav

Section B: information resources and services

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded[a]	.0	.0
	Total	24	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.769	24

Section C: level of awareness of information resources and services

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded[a]	.0	.0
	Total	24	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.826	24

Section D: What is the level of awareness of information resources and services?

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded[a]	.0	.0
	Total	24	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.844	24

Section E: factors affecting level of awareness of health literacy

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded[a]	.0	.0
	Total	24	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items

.896	24

Average= $\frac{0.769 + 0.826 + 0.844 + 0.896}{4} = 0.834$

This indicates that the instrument is strong and reliable