

**AWARENESS, ACCESS AND UTILIZATION OF INFORMATION AMONG PRIMARY
HEALTH CARE PRACTITIONERS IN RURAL AREAS OF NORTH WESTERN
STATES OF NIGERIA**

BY

**HADIZA TALATU MOHAMMED
Ph.D/EDUC/51983/2005-2006**

**A DISSERTATION SUBMITTED TO THE
SCHOOL OF POSTGRADUATE STUDIES,
AHMADU BELLO UNIVERSITY, ZARIA
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF DEGREE OF DOCTOR OF PHILOSOPHY IN INFORMATION SCIENCE**

**DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE,
AHMADU BELLO UNIVERSITY, ZARIA**

JANUARY, 2014

DECLARATION

I declare that this dissertation entitled “Awareness, Access and Utilization of Information among Primary Health Care Practitioners in Rural Areas of North Western State of Nigeria” has been written by me and it is a record of my research work submitted to the Department of Library and Information Science. Information derived from available literature has been duly acknowledged and a list of references provided. No part of the dissertation was previously presented for the award of another degree or diploma at this or any other institution.

Hadiza Talatu Mohammed

CERTIFICATION

This thesis entitled “Awareness, Access and Utilization of Information among Primary Health Care Practitioners in Rural Areas of North Western States of Nigeria” by Hadiza Talatu Mohammed meets the regulations governing the award of the degree of Doctor of Philosophy in Information Science of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

Prof. Zakari Mohammed
Chairman Supervisory Committee

Date

Prof. Tijjani Abubakar
Member Supervisory Committee

Date

Prof. Umar Ibrahim
Member Supervisory Committee

Date

Dr. Abdullahi Musa Ibrahim
Head of Department

Date

Prof. Adebayo A. JOSHUA
Dean, Postgraduate School

Date

DEDICATION

This dissertation is dedicated to the blessed memories of my beloved parents Pa and Mama Andrew James, my sons Ibrahim Muhammad and Mustapha Muhammad and to my husband Dr. Haruna Muhammad Jumare.

ACKNOWLEDGEMENTS

All thanks and praises be to Allah for the great things he has done for me. My immense gratitude and appreciation go to my supervisors Prof. Zakari Mohammed, Prof. Tijjani Abubakar and Prof. Ibrahim Umar, whose patience, guidance, assistance, commitment, constructive criticisms, intellectual and useful suggestions saw me through the successful completion of this work. They are, and will remain my intellectual mentors. I will not forget the kind words and fatherly encouragement of Prof. Zakari Mohammed who will also ask about the progress of the work and advice me on how to overcome the challenges encountered during the course of this work. May Allah reward you abundantly.

This work will not be a success story without the tireless efforts and unflinching support financially, spiritually and morally of my dear husband Dr. Haruna Muhammad Jumare. Your constant push saw me through to the successful completion of this work. God bless you, Sir. I will forever remain grateful to my late parents, Pa Andrew James and Mama Beatrice James for their love, prayers support and kindness. They put in their best for me hoping to see this done. May your souls rest in perfect peace, Amin. I want to appreciate the understanding, prayers and love of my beloved children Pharm. Maryam Saeed Ashimi, Haj. Bilkisu Muhammad, Alh. Saeed Ashimi, Arc. Musa Muhammad, Muhammad Muhammad, Hadiza Haruna Jumare and Umar Faruk Abubakar. My granddaughter little Juwairiya, may Allah grant you long life to experience and attain even greater heights in life, Amin. To my brothers and sisters, Mr. & Mrs. Sunday Irokwe, Elder and Mrs. Daniel James, Mr. and Mrs. Andy James, Ms. Ruth James, Mr. & Mrs. Eva O. Steven, Abubakar Alhassan, Alh. Muhammad Kabir Aliyu, Murtala Ibrahim Musa, thank you. I also want to thank and appreciate our dearest mother Haj. Hauwa'u Hussaini for her motherly support and prayers. I say may Allah grant you good health.

I appreciate my teacher Dr. M. I. Maccido, the Provost, Federal College of Education, Zaria for his assistance and financial support. I must mention Mr. Emmanuel Yarie for his

concern on the success of this work. Any time he sees me it's always, "How far?" Thank you very much. I am also grateful to Dr. Ezra S. Gbaje of the Department of Library and Information Science, Ahmadu Bello University, Zaria, for your encouragement. My profound gratitude goes to my Secretary, Mrs. Comfort O. Chigbu and Computer Data Operator Mr. Lugard Uwadiae for taking the pain of typing this work. Thanks also to Mr. Christian Paul Okon and Mr. Amedu Marcus Ameh for giving this work a good final touch. I also appreciate all my staff in College Library, Federal College of Education Zaria, especially my deputies Mr. S.D. Haruna, Mr. K.A. Salami and other staff including Mr. Sunday Udeh, Haj. Hadiza Ahmed, Mal. Ibrahim Muhammad, Mrs. Sariyu Ibrahim, Mal. Garba Ishaq, Mal. Umar Yaya, Abubakar Alhassan, Mal. Tijjani Ahmed, Mrs. Christiana D. Takai, Mrs. Bilkisu Uwaisu, Mrs. Magdaline Iliya, Mal. Suleiman Bello and Mr. Samuel Musa. Thank you and may God reward you greatly. I say a big thank you for your prayers and understanding. I am also thankful to my colleagues in the Ph.D. class, especially Mal. Babangida Dangani, Mal. Lawal, Dr. Abu Yusuf, Mal. Baba Aduku Dr. Maryam Sali and Mal. Lawal.

I wish to sincerely thank my friends Arc. Uwani Ibrahim Suleiman, Haj. Binta Salihu Makarfi, Haj. Umma Muhammad Sambo, Haj. Aisha Umar, Haj. Binta Haruna, Haj. Rabi Saeed Takuma, Haj. Amina Sani, Barrister Hadiza Ali, Barrister Maryam Halidu, Haj. Halima Sidi Bamalli, Haj. Jummai Abubakar and Mrs. F. Iliyasu for their prayers and support.

My appreciation goes to all the Primary Health Care workers I met in the course of this work, those I saw physically, those that responded to the questionnaire and those I had interactions with in form of interviews and by way of inquiry. Thank you and God bless you all. There are others too numerous to mention here that have assisted me in making this study a success may the Almighty God bless and reward you abundantly.

ABSTRACT

This study investigated the awareness, access and utilization of Primary Health Care (PHC) information in the PHCs in Rural Areas of North-Western States of Nigeria. Eight (8) research questions were formulated. The research questions sought to find out the: type of PHC information generated by health care practitioners in the PHCs in rural areas of North-Western States of Nigeria; the extent to which the health practitioners in the PHCs in rural areas of North Western States are aware of the PHC information they generated; how the primary Health practitioners in the PHCs in rural areas of North Western Nigeria access the Primary Health Care information generated by the primary health care providers; how the primary health practitioners in the PHCs in rural areas of North Western Nigeria utilise the primary health care information generated; and the extent to which the primary health practitioners in the PHCs in rural areas of North-western states of Nigeria are satisfied with primary health care information available in the PHCs in the states? The population of the study consists of all the primary health care practitioners in the PHCs in rural areas of North Western State of Nigeria. Out of the total population of 5,958 health workers, 1,192 (20%) were selected using stratified Random sampling procedure. An open and closed-ended questionnaire was designed and used for data collection. Data that related to the research questions were analysed using frequency tables, pie chart and histogram. It was discovered that primary health care providers were very much aware of available information on maternal health care, immunization; water borne diseases; endemic diseases; appropriate treatment of diseases and injuries; good health habits; rest; poverty eradication and dental care. Library, Internet, superiors, colleagues, conferences/ workshops/ seminars and meetings were the means through which the primary health care practitioners access information in the PHCs in rural areas of North Western States of Nigeria. The study concluded that Access to reliable PHC information is crucial for progress towards health for all. Since majority of the population lives in rural areas, lack of awareness and access to information can be a barrier to effective dispensation of PHC. It was recommended that PHC management board should be encouraged to establish effective and sustainable PHC information programme. This will enhance location, access and evaluation of PHC information resources in various formats.

TABLE OF CONTENTS

TITLE PAGE.....	i
DECLARATION	ii
CERTIFICATION	iii
DEDICATION.....	iv
ACKNOWLEDGEMENTS.....	v
ABSTRACT.....	vii
TABLE OF CONTENTS.....	viii
LISTS OF TABLES.....	xii
LIST OF FIGURES	xv
LIST OF ABBREVIATIONS.....	xvi
CHAPTER ONE: INTRODUCTION	
1.1 Background to the Study.....	1
1.2 Statement of Problem.....	11
1.3 Research Questions	12
1.4 Objectives of the Study.....	13
1.5 Hypotheses.....	14
1.6 Significance of the Study.....	14
1.7 Scope of the Study	15
1.8 Limitation of the Study	16
REFERENCES	17
CHAPTER TWO: REVIEW OF RELATED LITERATURE	
2.1 Introduction.....	20
2.2 Information	20
2.3 Information Behavior (Theoretical Frame Work).....	23

2.4	Health Care Services in Nigeria.....	27
2.4.1	Public Health in Nigeria.....	30
2.5	Primary Health Care (PHC).....	35
2.5.1	Primary Health Care Practitioners in Nigeria	37
2.5.2	Components of PHC	39
2.5.3	Organization and Scope of PHC Services in Nigeria	43
2.5.4	Current National PHC Initiative	45
2.6	Information Use	46
2.7	Information Access	49
2.8	Information Resources for Primary Health Care Practitioners	53
2.9	Summary of the Review, Gaps and Uniqueness	54
	REFERENCES	57

CHAPTER THREE: RESEARCH METHODOLOGY

3.1	Research Method adopted for the Study.....	60
3.2	Population of the Study.....	61
3.3	Sample and sampling Techniques.....	61
3.4	Instruments for Data Collection.....	63
3.4.1	Questionnaire	63
3.4.2	Interview	64
3.5	Validity of the Instruments	64
3.6	Reliability of the Instruments.....	64
3.7	Procedure for data collection	65
3.8	Procedure for data analysis	65
	REFERENCES	66

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0	Introduction.....	67
4.1	Response Rate.....	67
4.2	Data Analysis.....	68
4.2.1	Types of PHC Information Generated by the Rural Healthcare Practitioners in North Western States of Nigeria.....	68
4.2.2	Format of PHC Information Generated.....	81
4.2.3	Sources of PHC Information in the Primary Health Centers in Rural Areas of North Western States of Nigeria.....	84
4.2.4	Purpose of Use of PHC-Related Information in the Rural Areas of North Western States PHCs of Nigeria.....	87
4.2.5	Extent of Awareness of Information Generated by the Healthcare Practitioners in Rural Areas of North Western States of Nigeria.....	91
4.2.6	Access to Primary Health Care Information in Rural Areas of North Western States of Nigeria.....	93
4.2.7	Utilization of Primary Health Care Information in the Rural Areas of North Western States of Nigeria.....	101
4.2.8	Extent of Satisfaction with the Primary Health Care in the Rural Areas of North Western States of Nigeria PHCs.....	109
4.3	Inferential Statistical Analysis.....	111
	REFERENCES.....	121

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0	Introduction.....	122
5.1	Summary of the Study.....	122
5.2	Summary of Major Findings.....	123

5.4	Conclusion	126
5.5	Recommendations.....	128
5.6	Suggestion for Further Research.....	129
	BIBLIOGRAPHY	130
	APPENDIX I	140
	APPENDIX II	143

LISTS OF TABLES

Table 3.1:	Population of Primary Health Care practitioners and Centers in Rural Areas of North–Western States of Nigeria	61
Table 3.2:	Rural Primary Health Care Centers Selected.....	62
Table 3.3:	Rural Primary Health Care Practitioners Selected.....	63
Table 4.1:	Distribution of the Response Rate	67
Table 4.2:	Types of PHC Information Generated by Rural Health Care Practitioners in North-Western States of Nigeria.....	69
Table 4.3:	Types of Environmental Challenges Reported to Rural PHC	72
Table 4.4:	Type of Health Challenges Encountered by Rural Pregnant Women.....	75
Table 4.5:	Endemic Diseases in the Rural PHCs in North Western States of Nigeria	79
Table 4.6:	Format in which PHC information were Generated by Rural Health Care Practitioners in North-Western States of Nigeria	82
Table 4.7:	Sources of PHC information in Rural Areas of North Western States of Nigeria.....	85
Table 4.8:	Purpose of Use of PHC-related Information in the Rural Areas of North Western States PHCs of Nigeria.....	89
Table 4.9:	Extent of Awareness of the PHC Information Generated in Rural Areas of North Western States Primary Health Centers.....	92
Table 4.10:	Means of Access to PHC Information in Rural Areas of North Western States of Nigeria.....	94
Table 4.11:	Facilitators of Information Access in the PHCs in Rural Areas of North Western States of Nigeria	97

Table 4.12:	Extent of Accessibility to Primary Health Care Related Information by the Rural Primary Health Care Practitioners in Rural Areas of North Western States of Nigeria.....	100
Table 4.13	PHC Information Utilized for Primary Health Care in Rural Areas of North-Western States of Nigeria.....	102
Table 4.14:	Extent of Utilization of PHC Information in Rural Areas of North Western States PHCs.....	106
Table 4.15	Preference of PHC Related Information Generated in the Rural Areas of North Western of Nigeria PHCs	108
Table 4.16:	Extent of Satisfaction with PHC Information in Rural Areas of North Western States of Nigeria	110
Table 4.17(a):	Analysis of Variance on Levels of Awareness on Availability of Primary Health Care Information in Rural Areas of North-Western States PHCs.....	112
Table 4.17(b):	A Post-Hoc Scheffe Test of Multiple Comparisons in Levels of Awareness on Availability of Primary Health Care Information in Rural Areas of North-Western States.	113
Table 4.18(a):	Analysis of Variance on the Levels of Access to the PHC Information Available in the PHCs in Rural Areas of North Western States of Nigeria	114
Table 4.18(b):	A Post-Hoc Scheffe Test of Multiple Comparisons in the Levels of Access to the PHC Information Available in the PHCs in Rural Areas of North Western States of Nigeria	115
Table 4.19(a):	Analysis of Variance on Level of Use of Primary Health Care Information in Rural Areas of North Western States of Nigeria	116

Table 4.19(b): A Post-Hoc Scheffe Test of Multiple Comparisons on the Levels of Use of Primary Health Care Information in Rural Areas of North Western States of Nigeria	117
Table 4.20(a): Analysis of Variance on the PHC Practitioners' Levels of Satisfaction with the Primary Health Care Information Available in the PHCs in Rural Areas of North Western States.....	118
Table 4.20(b): Multiple Comparison Post-Hoc Scheffe Test of Levels of Satisfaction with the Primary Health Care Information in Rural Areas of North Western States of Nigeria.....	119

LIST OF FIGURES

Fig. 4.1:	Types of PHC Information Generated by Rural Health Care Practitioners in North-Western States of Nigeria.....	70
Fig. 4.2:	Types of Environmental Challenges Reported to Rural PHC	73
Fig. 4.3:	Type of Health Challenges Encountered by Rural Pregnant Women.....	76
Fig. 4.4:	Endemic Diseases in the Rural PHCs in North Western States of Nigeria	80
Fig. 4.5:	Types of Format in which PHC information were Generated by Rural Health Care Practitioners in North-Western States of Nigeria	83
Fig. 4.6:	Sources of PHC Information in Rural Areas of North Western States of Nigeria.....	86
Fig. 4.7:	Purpose of use of PHC-Related Information in the Rural Areas of North Western States PHCs of Nigeria.....	90
Fig. 4.8:	Means of Access to PHC Information in Rural Areas of North Western States of Nigeria.....	95
Fig. 4.9:	Facilitators of Information Access in Rural Areas of North Western States of Nigeria	98
Fig. 4.10:	PHC Information Used for Primary Health Care in Rural Areas of North- Western States of Nigeria	104
Fig. 5.1:	Model of Awareness Access to PHC Information.....	142

LIST OF ABBREVIATIONS

CHO	–	Community Health Officer
ICT	–	Information and Communication Technology
JW	–	Jigawa State
KB	–	Kebbi State
KD	–	Kaduna State
KN	–	Kano State
KT	–	Katsina State
Lab Tech	–	Laboratory Technologists
LGA	–	Local Government Area
Nur	–	Nurses
OPD	–	Out Patient Department
Pha	–	Pharmacists
PHC	–	Primary Health Care
SK	–	Sokoto State
WHO	–	World Health Organisation
ZF	–	Zamfara State

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In addition to sound professional education and training, the capacity of primary health care practitioners to successfully manage primary health care cases and challenges is largely dependent on their level of awareness of relevant information especially on primary health care and their ability to access and utilize effectively and efficiently such information. The fundamental factor in information utilization is awareness of the existence of information (Tyagi, 2011). Awareness is a major determinant of use. Awareness of information resources enhances information utilization. Studies indicate that lack of information awareness is one of the primary reasons for non-use of information resources (Tyagi, 2011; John, 2006; Kujengyere, 2007; Manda & Mukangera, 2007; Sajjad and Ramzy, 2004). This implies that, though a user may identify his/her area of information need, without proper awareness of how and where to get the resources that will provide the information needed, such needs may not be met. Togia and Tsigilis (2011) reiterated that lack or low awareness of the existence of information resources constitutes major impedance to its utilization.

Closely related to the role of awareness in information utilization is the notion of information access. Access to timely and accurate information play a vital role in the planning, development and maintenance of health care services. World Health Organization (2008) posits that “sound and reliable information is the foundation of decision making across all health system building blocks and is essential for health system policy development and implementation, governance and regulation, health research, human resources development, health education and training and service delivery”. This is to say that for effective service delivery by primary health care

practitioners there is the need for information that is accessible and if properly utilized will lead to improved patient out come.

Concept of Information

Conceptually, information is the message (utterance or expression) being conveyed. Therefore in general sense, information is “knowledge communicated or received concerning a particular fact or circumstance”, or rather information is an answer to a question (Vigo, 2011). Information as defined by Floridi (2010) is data that is accurate and timely, specific and organized for a purpose, presented within a context that gives it meaning and relevance and can lead to an increase in understanding and decreases uncertainty. Information is an ethereal commodity. One definition of information is the data and knowledge that intelligent systems (human and artificial) used to support their decisions.

Mohammed (2012) defined information as “anything we physically or otherwise come across consciously or unconsciously and accidentally or intentionally that adds positively or otherwise to our existing knowledge, ideas and experiences. This point to the fact that we can make a difference in any circumstance to the extent we are able and capable of accessing and retrieving information about something and for something, as well as utilize information as something and in something. Essentially therefore, it could be said that information is a vital and strategic resource that shapes and impacts on our daily life as it is all around us especially due to its pervasiveness in our thinking about the world around and beyond us; its virtual and unpredefined attributes / characteristics; its discrete, distinctive and multi-dimensional nature; and its intertwined processes of learning, knowledge, skill and experience acquisition and utilization. Hence, the need to not only seek, acquire and secure information regardless of the type, nature, quantum and location, but manage, package and disseminate it far and wide irrespective of the media to

meet the yearnings of the target audience regardless of the time and location”. Health informatics help doctors with their decisions and actions, and improves patient outcomes by allowing them to make better use of information—making more efficiently especially in the way patient data and medical knowledge is captured, processed, communicated and applied. These challenges have become important since the internet made access to medical information easier.

Access to Health Information

In a developing country like Nigeria, a large proportion of the population has limited access to health information and health care facilities. Equitable access to health care remains a challenge in developing and transitional countries, especially among the rural poor masses. There are chronic diseases which are terminal illnesses and the practitioners require comprehensive health information for their management. Thus, health practitioners and patients are not aware of available health information as well as the utilization (Obiora, 2013).

Access to information and information access are seen as functionally equivalent as they are used mostly by many scholars interchangeably (Oltmann, 2009). Jaeger and Burnett as quoted by Oltmann (2009) postulate that access is “the presence of a robust system through which information is made available to citizens and others”. They posit that such a system has physical, intellectual and social components. This means that information access is a combination of intellectual, physical and social elements that affect the availability of information to individuals. Burnett, Jaeger and Thompson (2008) suggest that access has three components: physical, intellectual and social. Physical access indicates “the physical structures that contain information, the electronic structures that contain information and the paths that are travelled to get to information”. Intellectual access refers to understanding information as a document, including “how the information

is categorized, organized, displayed and represented". Finally, the concept of social access suggests that element of one's social world including social norms and world views which influence the information one accesses, and how and why particular information is sought. One can say that physical and intellectual access depends on ones social behavior to access to information. Oltmann (2009) gives a similar argument that "a well developed and well-maintained information structure alone is not enough. The information that is accessible should also be affordable, available, timely and relevant readily assimilated and in languages and contexts users can relate to and understand".

The health care system is in a state of constant and rapid change as a result of the increase in scientific knowledge and rapid technological advances. To provide the best possible health care, health practitioners must continue to learn throughout their working life. This need has been widely recognized across health professionals. The requirement for health practitioners to remain up-to-date with the changing knowledge base of the profession is now being formally recognized by health professionals with the introduction of mandatory Continuing Professional Development (CPD) requirements for practitioners (Madewell, 2004). Weidling (2001) states that "to update professional knowledge health practitioners must have access to the information resources that contain the knowledge of their profession".

Herrington & Herrington (2006) investigated the use of internet to meet the professional learning needs of rural and remote health practitioners. They found out that limited access to internet include low numbers of computers with internet access, low or lack of access to external website and lack of time during work hours to search for information. Internet is an important information source for health practitioners offering immediate access to most current health information. Shanahan, Herrington and Herrington (2009) stated that health practitioners use internet based communication of e-

mail and listservs to consult with colleagues nationally and internationally. To support this view, Burnett et al. (2008), Herrington & Herrington (2006), Masters (2008) and Shanahan et al. (2009) posit that teleconferencing and videoconferencing have also been identified as important communication tools for supporting professional development in Australia, with reported usage higher by rural health practitioners than their metropolitan colleagues.

Effective use of information and communication technology by health care practitioners and public health professionals can bring about an age of patient and public centered health information and services. Berkman et al. (2004) state that this will bring about:

- (a) Improved health care quality and safety.
- (b) Increase in the efficiency of health care and public health services delivery.
- (c) Improve in the public health information infrastructure.
- (d) Support care in the community and at home.
- (e) Facilitate clinical and consumer decision-making.
- (f) Build health skills and knowledge.

Primary Health Care

Primary health care forms an integral part of the Nigeria's health system. The main focus of primary health care is the health of individuals, families and communities. PHC is equally concerned with addressing the overall social and economic development of communities thereby targeting the social determinant of health. Primary health care embodies a spirit of self-reliance and self determination (Vukic & Keddy, 2002). Primary Health Care is a conceptual model which refers to both processes and beliefs about the ways in which health care is structured. PHC encompasses primary care, disease prevention, health promotion, population health and community development within a

holistic framework, with the aim of providing essential community–focused health care. (Shoultz & Hatcher, 1997 and World Health Organization, 1978). WHO (1978) states that “the cornerstones of PHC are access equity essentiality, appropriate technology, multi-sectoral collaboration and community participation and empowerment”. Hogg et al. (2008) concluded that Primary Health Care “is in a state of evolution” They further stress that primary care constitutes the first element of a health care process that may also include the provision of timely and appropriate secondary and tertiary levels of care.

According to World Health Organization (1978), primary health care is essential health care based on practical, scientifically sound, and socially acceptable method and technology; universally accessible to all in the community through their full participation; at an affordable cost; and geared towards self-reliance and self-determination (UNICEF & WHO, 1978). Primary health care shifts the emphasis of health care to the people and their needs, reinforcing and strengthening their own capacity to shape their lives. As a philosophy, primary health care is based on the overlap of mutuality, social justice and equality. As a strategy, primary health care focuses on individual and community strengths (assets) and opportunities for change (needs); maximizes the involvement of the community; includes all relevant sectors but avoids duplication of services; and uses only health technologies that are accessible, acceptable, affordable and appropriate. Primary health care needs to be delivered close to the people as such it should rely on maximum use of both lay and professional health care practitioners and include the following eight essential components:

1. Education for the identification and prevention/control of prevailing health challenges.
2. Proper food supplies and nutrition; adequate supply of safe water and basic sanitation.

3. Maternal and child care, including family planning.
4. Immunization against the major infectious diseases.
5. Prevention and control of locally endemic diseases.
6. Appropriate treatment of common diseases using
7. Appropriate technology.
8. Promotion of mental, emotional and spiritual health.
9. Provision of essential drugs (UNICEF & WHO, 1978).

After independence in 1960, health policies were enshrined in various forms either in the National Health Development Plan or as Government decision on specific health problems. There was a comprehensive national health policy dealing with such issues as health manpower, the provision of comprehensive healthcare on the basic health services scheme, disease control, planning and management. Since 1986, the Federal Ministry of Health and Social Services (FMHSS), States, and Local Governments have adopted new strategy for the National PHC system. 52 LGAs were selected for the first phase of implementation. The 52 LGAs selected were then referred to as the “PHC Model LGAs”. The L.G. functioned at the LGA level and the villagers at the community level as well as the academics in the universities and other institutions of learning were involved in planning, implementation, monitoring and evaluation workshop. Between March and May 1986, each LG with the technical assistance provided by FMHSS and universities collected data on the health problems and resources available to solve them in each of the selected LGAs. Based on these a broad-based health plan for each of the LGAs was developed. Later in the year (1986) another series of workshops were held to state; the steps to be taken for programmes formulation and plans to implement and manage the services. Five hundred thousand Naira (N500,000) was given to each of the selected LGAs. It was decided in 1989 that village Health Care System should be set up. It was

also recognized that the success of the village health care system will depend on the quality and intensity of training and supervision of the workers. The villagers or their village Health Development Committee will nominate a person to be trained to man the health care services to be provided.

The International Conference on Primary Health Care meeting held in Alma-Ata (1978) expressed the need for urgent action by all government, all health and development workers and the world community to protect and promote the health of all the people of the world, making the following declaration:

1. The conference strongly reaffirms that health, which is a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity is a fundamental human right. The attainment of the highest possible level of health is a must upon the world-wide social goal where realization requires the action of many other social and economic sectors in addition to the health sector.
2. The existing gross inequality in the status of the people particularly between developed and developing countries as well as within countries is politically, socially and economically unacceptable and is therefore, of common concern to all countries.
3. Economic and social development based on a new International Economic order, is of basic importance to the fullest attainment of health to all and to the reduction of the gap between the health status of the developing and developed countries. The promotion and protection of the health of the people is essential to sustain economic and social development and contributions to a better quality of life and to world peace.

4. The people have the right and duty to participate individually and collectively in the planning and implementation of their health care.
5. Government has a responsibility for the health of their people which can be fulfilled only by the provision of adequate health and social measures. A main social target of government, international organizations and the whole world community in the coming decades should be the attainment by all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. Primary health care is the key to attaining this target as part of development in the spirit of social justice.
6. Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their developments in the spirit of self-reliance and self determination. It forms an integral part of the country's health system which is the central function and main focus of the overall social and economic development of the community. It is the final level of contacts of individuals, the family and community with national health system to bring health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.

Finally, the International Conference on Primary Health Care calls for urgent and effective national and international actions to develop and implement primary health care throughout the world and particularly in developing countries in the spirit of technical cooperation and in keeping with a New International Economic Order. The conference also urges governments; WHO and UNICEF and other international organizations as well as multilateral and bilateral agencies, non-governmental organization, funding agencies,

all health workers and the whole world community to support the National and International commitment to primary health care. “In order to plan and manage primary health care the right kind of information is essential” (WHO, 2000). It further reiterates that it is important to identify and use relevant information on health. The information is an integral part of primary health care activities and their supporting services.

Primary Health Care Information

The provision of primary health care requires planning and information is needed for planning. It is important that information should be made accessible to health care practitioners, planners and health policy formulators to enhance the provision of quality health care. Health information is a key ingredient to effective health delivery. It is in realization of the importance of communication to health service that Nakojimo (1997) remarked that "information and communication are at the very heart of World Health Organization".

WHO & UNICEF (1978) identified one of the fundamental principles of primary health care as “participation of community at all stages”. For country to be intelligently involved, they need to have easy access to the right kind of information covering their health situation and how they can help improve it. It is important to have a clear explanation of the technologies available, their advantages and disadvantages, their success and failure, their possible adverse effects and their costs. Information given should be neither over sophisticated nor condensing but should be in the language people can understand. For example, newspapers, magazines, radio, television, films, plays, posters, community notice board and any other means available can be used.

Quality health care depends heavily on the knowledge and skills of its personnel. To ensure a high level of current awareness and research, PHC services and activities require the support of constant flow of information (WHO, 2008). Availability of health

information in various forms at different locations calls for a need to coordinate them and make them accessible to those in need. In realization of this, the Federal Government of Nigeria (FGN) established the National Health Information System (NHIS) for planning, monitoring and evaluating health services.

1.2 Statement of Problem

Health decisions depend on use of information. Health decisions require information from several sources. Information is an indispensable resource in health decision situations. In the United States, health care information system is evolving into a national network of quality improvement initiative (Blumenthal & Egbert, 2010 and ONHTIT, 2008). The utilization of health information is a necessary component of quality improvement initiative because it is expected to enhance quality care, increase health care safety and provide cost effective health services for patients.

According to Pakenham-Walsh and Priestly (1997) studies have shown that people in the rural areas do not have access to basic information they need since majority of the population live in rural areas. Most of the primary health care centres that are in remote areas lack facilities like internet services. They lack adequate power supply, poor road networks and most of the social amenities of life.

Information is valuable in the prevention of diseases and promotion of good health. “Both the public health and the personal care interventions have contributed to reversing the urban – rural differences in health status; better health among urban populations is due more to the application of improved knowledge” (WHO, 2000). It therefore follows that people in rural areas could enjoy better health if they accessed information to enhance their knowledge. Hence, factors which negate information access

and use in rural areas need to be addressed in order that rural communities may reap the benefits of improved health knowledge (Musoke, 2005).

Despite the relevance of information for effective and efficient health care delivery there are still high rates of diseases in rural areas in Nigeria. Could the high rate of diseases in rural areas be attributed to poor or lack of awareness, access and utilization of primary healthcare information among primary health care practitioners? It is in line with the aforementioned problems that the researcher sought to determine the awareness, access and utilization of information among health care practitioners in rural areas of North-Western States of Nigeria.

1.3 Research Questions

The study was undertaken to answer the following questions:

1. What type of information is generated by the health care practitioners in rural areas of North-Western States of Nigeria?
2. What are the sources of primary health care information in rural areas of North Western states of Nigeria?
3. What are the primary health care information used for by the health care practitioners in rural areas of North-Western States of Nigeria?
4. To what extent are the health care practitioners in rural areas of North Western States of Nigeria aware of primary health care information generated?
5. How do the primary health care practitioners in rural areas of North Western States of Nigeria access primary health care information?
6. How do the health care practitioners in rural areas of North Western States of Nigeria utilize the primary health care information generated?

7. Which primary health care information do the health care practitioners in rural areas of North Western States of Nigeria prefer?
8. To what extent are the health care practitioners satisfied with primary health care information available in rural areas of North Western States of Nigeria?

1.4 Objectives of the Study

The study sought to achieve the following objectives:

1. To identify the type of information generated by primary health care practitioners in rural areas of North Western States of Nigeria.
2. To identify the sources of primary health care information in rural areas of North-Western States of Nigeria.
3. To determine what primary health care information are used for in rural areas of North western states of Nigeria.
4. To identify the extent to which health care practitioners in rural areas of North Western States of Nigeria get aware of the availability of information for primary health care.
5. To determine how health care practitioners in rural areas of North Western States of Nigeria access information for primary health care.
6. To identify how health care practitioners utilize information for primary health care in rural areas of North Western States of Nigeria.
7. To determine which primary health care information do health care practitioners in rural areas of North Western States of Nigeria most prefer.
8. To measure the extent of satisfaction of information available for primary health care in rural areas of North Western States of Nigeria by health practitioners.

1.5 Hypotheses

The research tested the following null hypothesis:

- HO₁ There is no significant difference among the health practitioners in their levels of awareness of the primary health care information available in the rural areas of North Western States of Nigeria.
- HO₂ There is no significant difference among the health practitioners in their levels of access to PHC information available in rural areas of North Western States of Nigeria.
- HO₃ There is no significant difference among the health practitioners in their level of use of primary health care information in rural areas of North Western States of Nigeria.
- HO₄ There is no significant difference among PHC practitioners in their levels of satisfaction with the PHC information available in rural areas of North Western States of Nigeria.

1.6 Significance of the Study

The study is of immense importance to students of the School of Medicine in universities especially those in the Department of Community Health. This will create awareness and widen their horizon in the areas of community based health delivery and medical outreach programmes to the rural populace.

The study is also of great importance to the lecturers in Colleges of Medicine and School of Health Science all over the country. It will help them appreciate the role of information as it regards the achievement of their primary goals and objectives for which they were established.

The significance of this study lies in the fact that the findings of the study would be of immense assistance to the administrators of health ministries and institutions in designing action plans and interventions. This will also go a long way in encouraging Federal Ministry of Health, state ministries of health and their parastatals to provide more infrastructures for an uninterrupted flow of information for PHC and other health programmes.

The research is useful in designing health information programmes for federal, state, and local government. The research is also useful to proprietors of private hospitals and clinics in augmenting government effort in promoting Primary Health Care from the grass root.

The research is also of help to Non-Governmental Organization (NGOs) to provide intervention programmes towards enhancing Primary Health Care in Nigeria. Lastly the study will be of help to would-be researchers, who can build from where this research stops.

1.7 Scope of the Study

The study was limited to rural areas of North-Western States of Nigeria comprising seven States namely: Jigawa, Kano, Kebbi, Kaduna, Katsina, Sokoto and Zamfara State. These States constitute what is referred to as the core north in contemporary Nigerian journalistic and political terminology. The research covered health care practitioners that are in charge of PHC in the above listed States. The States are located in the dry, relatively arid and sahel savannah region, characterized by a short duration rainy season and low rainfall, except in some parts of Kaduna State, whose southern provinces fall within the relatively better climate and ecological zone of the Guinea savannah.

1.8 Limitation of the Study

This study was limited to Primary Health Care practitioners in rural areas of North Western States of Nigeria due to the constraints of finance, the time within which the research was to be carried out, presented and defended, proximity and logistics among others.

REFERENCES

- Alma-Ata (1978). *International Conference on Primary Health Care*. Alma-Ata, USSR, Sept. 6-12 1978. http://www.who.int/hpr/NPH/docs/declaration_almaata.
- Berkman, N. D., Dewalt, D. A. & Plynone M. P. (2004). *Literacy and Health Outcomes: Summary (Internet)*. Rock Ville, MD: Agency for Health Care Research and Quality, pp. 6 - 8.
- Blumenthal, D. & Egbert, T. (2010). The Meaningful Use Regulation for Electronic Health Records. *The New England Journal of Medicine*, 363 (6), 501-504.
- Burnett, Jaeger & Thompson (2008). Health for All Beyond 2000: The Demise of the Alma-Ata Declaration and Primary Health Care in Developing Countries. *Medical journal of Australia* 2003; 178(1): 13-20.
- Floridi, L. (2010). *Information: A Very Short Introduction*. Oxford: Oxford University press.
- Herrington A. & Herrington, J. (2006). Effective Use of Internet: Keeping Professionals Working in Rural Australia. Barton Act: Rural Industries Research and Development Corporation.
- Hogg, W., Rowan, M., Russell, G., Geneau, R. & Muldoon, L. (2008). Frame Work for Primary Care Organization: The Importance of Structural Domain. *International Journal for Quality in Health Care*, 20, 308 – 313.
- John, O. R. (2006). Interface Model for Information Utilization in Research Institution. Lagos: *Journal of Library and Information Science*, Vol. 3. (2) pp. 147 – 152.
- Kuyengyere, A. A. (2007). Effect of Information Literacy on the Utilization of Electronic Information Resources in Selected Academic and Research Institution in Uganda. *Electronic Library*, Vol. 25 (3) pp 328 – 334.
- Madewell, J. E. (2004). Lifelong Learning and the Maintenance of Certification. *Journal of American College of Radiology*, 1(3), 199 – 203.
- Mande, A. & Mukangera, F. (2007). Gender Analysis of Electronic Information Resource Use: The Case of University of Dar es Salam. *Tanzania University Dar Es Salam Working Journal*, 10 (1 & 2), pp 29-45.
- Masters, K. (2008). For What Purpose and Reasons do Doctors Use the Internet: A System Review. *International Journal of Medical Information*, 77 (1), 4 – 16.
- Mohammed, Z. (2012). The Dynamics of Information: Embracing the Present to Cope with the Future. Seventh Tai Solarin National Memorial Lecture held on 27th September, 2012, Victoria Island, Lagos.
- Musoke, M.G. (2005). Access and Use of Information by Primary Health Care Providers in Rural Uganda: An Interaction-Value Model. *The University of Dar-es-Salam Library Journal*. 7 (1).
- Nakojimo H. (1997) "Getting the message across" *World Health* 50 (6) p. 1

- Obiora, N. E. F. & Anaehabi E. S. (2013). Health Information Availability and Utilization by Medical Practitioners for Chronic Disease Management in Central Hospital, *IOSR Journal of Pharmacy*, Vol. 3 (3), pp. 18 – 23.
- Office of National Coordinator for Health Information Technology – ONHIT (2008). *Defining Key Health Information Technology Terms*. Washington, DC; US Government Printing Office.
- Oltmann, M. S. (2009). *Information Access* School of Library and Information Science. Indiana University. Bloomington pp. 6 – 22.
- Sajjad, U. & Ramzy, V. (2004). Awareness and Use of Electronic information Review of Health Sciences Centre of Kuwait University, *Library Review*, Vol. 53 (3), pp. 150 – 156.
- Shanahan, M., Herrington, A. & Herrington, J. (2009). The Internet and the Medical Radiation Science Practitioner. *Radiography*, 15 (3), 233 – 24.
- Shultz, J. & Hatcher, P. (1997). Looking Beyond Primary Care to Primary Health Care: An Approach to Community Based Action. *Nursing Outlook*, 45 (1) 23 – 26.
- Togia, A. & Tsigilis, N. (2011). Awareness and Use of Electronic Information Resources by Education Graduate Students. Preliminary Results from the Aristotle University of Thessaloniki. *Qualitative and Quantitative Methods in Libraries Theory and Application* (pp 646-472). Retrieved from http://eproceedings.worldscinet.com/9789814299701/97898299701_0058.html. Accessed on 22/7/2012.
- Tyagi, S. (2011). Use and Awareness of Electronic Information Sources at IIT Roorkee India A Case Study. *JLISIT* Vol. 2(1), (Guigno/June 2011). Retrieved from DoI 10.1103/jhis.it-4586. Accessed on 25/7/2012.
- UNICEF & World Health Organization (1978). *Primary Health Care: Report of the International Conference on Primary Health Care*. Alma-Ata, USSR 6-12 September. Paris: Geneva.
- Vigo, R. (2011). Representational Information: A New General Notion and Measure of Information. *Information Science*, 181; 4847 – 4859.
- Vukic, A. & Keddy, B. (2002). Northern Nursing Practice in Primary Health Care Setting. *Journal of Advanced Nursing*, 40 (5) 542 – 48.
- Weidling (2001). Use and Awareness of Electronic Information Sources at IIT, Roorkee India. A Case Study. *JLISIT*. Vol. 2(1) pp 464 – 472.
- World Health Organization Report (1978). *Primary Health Care: Report of the International Conference on Primary Health Care*. Alma-Ata, USSR 6-12 September. Paris: Geneva.
- World Health Organization Report (2000). *Health Systems: Improving Performance*. Geneva: The World Health Organization (WHO).
- World Health Organization Report (2000). *World Health Report 2000 – Health systems: Improving performance*. Geneva: WHO www.who.int/whr/2000/en/whr2000.

World Health Organization Report (2008). *Primary Health Care (Now More Than Ever)*.
<http://www.who.int/whr/2008/en/index.htmlz>

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviews some literatures that are related to this study. The literature reviewed are discussed under the following subheadings:

2.2 Information

2.3 Information Behavior (Theoretical Frame Work)

2.4 Health Care Services in Nigeria

2.5 Primary Health Care (PHC)

2.6 Information Use

2.7 Information Access

2.8 Information Resources for Primary Health Care Practitioners

2.9 Summary of the Review, Gaps and Uniqueness

2.2 Information

Information is data that is accurate and timely, specific and organized for a purpose, presented within a context that gives it meaning and relevance, and can lead to an increase in understanding and decrease in uncertainty (Vigo, 2013). Information, in its most restricted technical sense, is a sequence of symbols that can be interpreted as a message. Information can be recorded as signs or transmitted as signals. Information is any kind of event that affects the state of a dynamic system that can interpret the information (Vigo, 2011). Conceptually, information is the message (utterance or expression) being conveyed. Therefore, in general sense, information is “knowledge communicated or received concerning a particular fact or circumstance”, or information is an answer to a question (Wicker, 2003). The more uncertain an event, the more

information is required to resolve uncertainty of that event. Information is valuable because it can affect behavior, a decision, or an outcome. For example, if a manager is told his/her company's net profit decreased in the past month, he/she may use this information as a reason to cut financial spending for the next month. A piece of information is considered valueless if, after receiving it, things remain unchanged.

There are other definitions of information like; it is that which reduces uncertainty. It is that which assists in decision-making. It may exist as data in books, computers, people, files and thousands of other sources. These sources have to be considered simply as raw data until they are used to resolve uncertainties. What we often call information is often a random collection of data which does not become information until it is used by someone to achieve a specific purpose. In the broadest sense, every stimulus offers the potential of providing information but a more manageable way to look at information is to consider it as symbolic representations to reality (words-spoken and written; graphics; pictures; numerals and combinations of all of these). A basic test, however, is its capacity to reduce uncertainty. In the past, man survived by successfully applying his senses to collect, store, and make use of information about his environment. Now, however, a technological environment contributes to man's ability to cope with the mass of information which surrounds him. Certain disciplines, each with its own definition of information, attempt to solve this problem by utilizing technology to store, process and transfer vast amounts of information.

Amope (2007) identifies types of information that people need at a particular time for their usage. There are physical information, social information, agency information, operating information and education. She explained that physical information are those that give the ideas of things that can be seen such as population figure, water points, location of places, maps and geographic information about places. Social information

comprises news on political happenings, organizational information, ethnic culture considerations, health profile and living condition.

Agency information gives information about an outfit giving their staff performance, parent agency activities and policy mandated to clinical operation, etc. Operating information includes news about security, stability of working area, availability of goods, government policy, movement in a location and external factors. However, education information is those that inculcate new ideas, experiences and technical know-how for the users.

Oppenheim (2004) reported the finding from a 6 number interviews with internally active information professionals and academics using a semi-structured interview instrument. They discussed the value of information and use. Seven themes were explored within the broad context of the role of information assets in enhancing organizational effectiveness. These are value of information, its impact on knowledge, management and intellectual capital embedding of good practice; identification of attributes of information assets; information assets and organization effectiveness. The major findings of their paper were that studies should not be restricted to valuation in financial terms. Rather than limiting the value of information asset in financial terms, it was suggested that they should take an open view and look at the impact on organizational effectiveness.

A great proportion of government information is, however derived from public records, memos, correspondence and reports all normally internally generated. He further observed that the importance of internally generated information to government policy-makers is demonstrated by Alegbeye's (1996) study of the process of information dissemination and its utilization by policy-makers in the Federal Civil Service of Nigeria, in which he discovered that in-house memos or internally generated information is

topping the list of sources used by civil servants surveyed. This is not of course to say that government officials do not utilize externally generated information in the form of data (such as official statistics or text e.g. books and journals). What is being emphasized here, he noted, is that there has generally been a neglect of the internally generated information in government circles with a consequent disregard of its role in policy-making and therefore in national development.

Alegbeyele's (1996) paper did not, however, limit its scope to internally generated information but considered as well the externally generated information as found in libraries and documentation centers in the Gambia and Ghana where records management workshops were held. His paper also examines the level of preparedness of existing information professionals in the two countries to grapple with the gigantic task facing them in the 1990 and beyond. This indicates the importance of internally generated information for conduct of programmes such as Primary Health Care.

2.3 Information Behavior (Theoretical Frame Work)

Like any other abstract concepts, information behavior has not only been difficult to define but scholars have deliberately evaded its definition. Rather, they have opted to list its component parts. Wilson (1994) indicates that information behaviour must include: an information need, i.e. the factors that gave rise to an individual perception of need; the factors that affect individual's response to the perception of need; and the processes or action involved in that response. Taylor (1991), on the other hand, views information behaviours as the product of certain elements of the Information Use Environment (IUE). He listed the elements as assumptions, formally learned or not, made by a defined set of people concerning the nature of their work; the kinds and structure of the problems deemed important and typical by this set of people, i.e. the constraints and opportunities

of typical environments within which any group or sub-group of this set of people operates and works; the conscious and, perhaps, unconscious assumptions made as to what constitute a solution or better said, a resolution of problems, and what makes information useful and valuable in their context.

On the basis of this conceptualization, Taylor (1991) believes that information behavior differs from one group of people and another. The two definitions or rather conceptualization of information behavior, on the surface appear different but a careful look at and an analysis of them would reveal some similarities. Generally, human needs do not occur in a vacuum, certain factors usually lead to them. Most of such factors are context-dependent, as indicated by Taylor. Context denotes the circumstances in which a phenomenon occurs or an event takes place. Context can take any of the following forms: the wider society, a specific part of the wider society, work environment, roles, jobs or tasks. Wilson (1994) categorizes information context into three major areas: "Person (physiological, affective and cognitive states), Social Role and Environment". According to him, the need for information arises from these three situations and they are also responsible for whatever barriers that may exist to either engage in information seeking behavior or complete or successful search for information. His information seeking behavior model is based on the above categorizations of information context.

The concept of motive may be of general use in the study of information behavior, since, if we assume that, for whatever reason a person experiences a need, or an information need, to be specific, there must be an attendant motive to actually engage in such behavior. Within the general theory of motivation. The matrix is believed to contain images of objects (corresponding to category 3 in Taylor's definition of information behavior) that past experience has proved to be relevant for the satisfaction of the aroused need and that different objects will have different values associated with them, relating to

the believed level of success they will have in satisfying the person's needs (Burnkrant, 1976).

From the general perspective of need, information needs, in the opinion of Kuhlthau (1993), "evolves from a vague awareness of something missing and as culminating in locating information that contributes to understanding and meaning". It is conceptualized as problems or problem situation requiring resolution (Agada, 1999). Information need is described as an anomalous state of knowledge (Belkin, 1982) or a gap in individual's knowledge in sense-making situations (Dervin and Milan, 1998). It is "what an individual ought to have for whatever reasons" (Aguolu, 1989). Information need, in this study can be regarded as a psychological feeling for information, triggered by a strong desire to solve a problem or resolve certain conflicts within psycho-social realm or that emerge from one's interaction with his/her environment.

Any of the motives indicated above can precipitate any of the situation or problem described or highlighted in the above definitions of information needs. The need for and action to get information may be brought about, for instance, by sheer need to quench one's thirst. A man terribly thirsty would be ready to pay anything to get information about the availability of water. In addition to the list of motives, other factors that can engender information needs, according to Weights (1993) include: Need for new information; need to elucidate information held; need to confirm information held; need to elucidate belief and values held; and need to confirm beliefs and value held.

Information seeking may occur in order to check dosage of currently introduced drugs, frequency of drug administration, or term side effects of drugs and interaction. Here also medical professionals are motivated to seek for information to bridge gaps in knowledge on new modes of treatment and diagnosis (Gatero, 2010).

These are general factors that usually give rise to information need. Virtually everybody is involved in the need to know and to confirm what is known. With respect to specific factors, Ajidahun (1990) observed, in his study, that “information needs were not only job-related, but also, they were situational”. Needs, according to Lipetze (1977) “vary with time, user, purpose, location, and alternative”. He went further to argue that before it becomes possible to design from theory an information system that will be ideal for a complex need of population of any size, it requires quantitative prediction of human needs and behavior. In this study Maslow's classification of human needs are used as the basis of identifying the motives dictating the information needs of the pastoral nomads in Northern States of Nigeria. The choice of Maslow's classification of human needs is based on the researcher's assumptions that all motives responsible for the expression of one need or the other can be located in the Maslow's five Hierarchies of needs. The medical practitioner needs information continuously during the course of clinical practice, e.g. during patient examination when participating in ward round or attending a conference. In order to give their patients better and more accurate diagnosis, Gatero (2010) listed seven (7) kinds of information that medical professionals need as follows:-

- Patient care information
- Pharmacological (drug) information
- Recent advances in medical
- Latest approaches to treatment modality
- Medical – legal information
- Latest information on current practices in medicine and
- Clinical trials and case reports

2.4 Health Care Services in Nigeria

The first attempt at planning for development of health services in Nigeria took place in 1946 as part of the exercise which produced the overall ten year plan for development and welfare (1946-56) covering all aspects of governmental activities in the country. Since Nigeria was still a colonial territory, the proponents of this plan were mainly expatriate officers. It included four major schemes designed to extend the work of existing government department but it was not an integral development plan in the current sense of the word. These schemes were not probably coordinated nor were they related to the overall economic target (Jaja & Nwakaego, 2003).

Nevertheless, the above health services development plan was a modest realistic, well thought plan for its time and purpose and it served as the basis for subsequent health plan. Since the country became independent in 1960, health policies have been enunciated in various forms either in the National Health Development Plan or as Government decision on specific health problems, thus:

- a. The health components of the 2nd National Development Plan (1970–1974) identified and aimed at correcting some of the deficiencies in the health services,
- b. In the 3rd development plan (1975-80) there was a deliberate attempt to draw up a comprehensive national health policy dealing with such issues as health manpower, the provision of comprehensive healthcare on the Basic Health Services Scheme, disease control, planning and management. The period also witnessed lack of infrastructural facilities to meet the need of the take off. Attention was directed to the construction of buildings and issues of equipment.

In the 1979 Constitution of the Federal Republic of Nigeria, health matters were placed on the concurrent list. The health policy content of the 4th National Development Plan is being reflected in the policy document (1998). The 3rd National Development Plan

in 1975 included the Basic Health Services Scheme known as The Focus of Policy in the Health Service for the National Development Plan which was to be implemented throughout Nigeria between 1975 and 1980. The aim was to bring Primary Health Care very near to the people in the rural areas and to achieve a minimum of 40% coverage of the population by 1980 from the estimated coverage of 25% only.

The implementation of the above scheme spilled over into the National Development Plan. At the end of 1983, PHC Services described by World Health Organisation (WHO) at Alma Ata in 1978 had been established by many governments in many parts of the world. Since 1986, the Federal Ministry of Health and Social Services, States, and Local Governments have adopted new strategies for the present National PHC system. 52 LGAs were selected for the first phase of implementation. The 52 LGAs selected were referred to as the “PHC Model LGAs”. The L.G. functionaries at the LGA level, villagers at the community level as well as the academics in the universities and other institutions of learning were involved in planning, implementation monitoring and evaluation workshop. Between March and May 1986, each LG with the technical assistance provided by FMOH, the social services and universities collected data on the health problems and resources available to solve the problems in each of the selected LGAs. Based on these, a broad-based health plan for each of the LGAs was developed. Later in the year, another series of workshops were held to state and provide steps to be taken for programmes formulation and plans to implement and manage the services. Five hundred thousand Naira (N500,000.00) was given to each of the selected LGA. In 1987, the then President of the Federal Republic of Nigeria and Commander-in-Chief of the Armed Forces launched the present PHC system. This launching marked a second attempt at the implementation of the PHC services based on the declaration of the Alma-Ata (1978). It was decided in 1989 that village Health Care Systems should be set up. It was

also recognized that the success of the village health care system will depend on the quality and intensity of training and supervision of the workers. The villagers or their village Health Development Committee will nominate a person to be trained to man the health care services to be provided, thus:

1. Reflects and evolves from the economic conditions and social cultural and political characteristics of the country and its communities and is based on the application of the relevant results of social biomedical and health system, research and public health experience.
2. Address the main health problem in community, providing promotive, preventive, curative and rehabilitative services accordingly.
3. Includes at least: education concerning prevailing health problems and the methods of prevailing and controlling them; promotion of food supply and proper invitation; an adequate supply of safe water and basic sanitation; marital and child health care; including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs.
4. Involves the addition to small sector all related sectors and as part of national and community development in particular agriculture, animal husbandry, food industry, education, housing, public works, communication and other sectors and demands the coordinated effort of all sectors.
5. Requires and promotes maximum community and individual self-reliance and participation in planning, organization innovation and control of primary health care making fullest use of local national and other available resources, and to this end develop through appropriate education the ability of communities to participate.

6. Should be sustained by integrated, functional and mutually supportive referral systems, leading to the progressive improvement of comprehensive health care for all and giving priority to those most in need.
7. Relies on local and referral levels, on health workers including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained technically and socially to work as a health team and to respond to the expressed health needs of the community.

2.4.1 Public Health in Nigeria

The history of public health in Nigeria can be traced back to the 19th Century when the white settlers arrived Nigeria. Although the primary aims of these white settlers were three folds; to colonize, to trade and act as missionaries however, no sooner they came than they drew attention to the poor health condition of the natives and their poor hygienic practice. Like other West African countries, medical series in Nigeria emerged from a military background entangled with commerce and missionary efforts. The first medical doctor to come to Nigeria was Dr. Jones M.C. William. He came during an expedition between 1941-54. His coming to Nigeria was significant because he made available the first written account about health problems in Nigeria especially as regards the death among the missionaries health management crews due to malaria.

The first hospital in Nigeria was built in Lagos around 1863. This hospital started primarily as a centre for the sick seamen of the Royal Navy. All the medical activities in Nigeria at that time were confined to Lagos (FMOH Digest, 2006). During the time of Lugard as the commander of the West African Frontier Force, he set up his headquarters in Lokoja. This being a river town and a poor rural area, it posed a lot of health problems for Lugard and his men. The problems which resulted in so many deaths among the crews

were rightly associated with bad housing, poor food and exertion by Lugard and his crew. Lugard therefore made provision for good housing for his men and warned them against exposure to sun. In 1898, Ronald Rose discovered that malaria was due to the bite of mosquito and not to the decayed vegetation matter as previously believed. Lugard became aware of this discovery and that prompted him to inform his men to protect themselves with mosquito net, take 300mg of quinine daily and boil their drinking water and milk. He also stressed the importance of physical exercise (FMOH Digest, 2006).

Although history had it that he nearly poisoned himself with quinine overdose, nevertheless, his measure gradually improved the health of his crew. As a follow up to all these preventive measures between 1900 and 1910 Lugard established a small military hospital in Lokoja, Jebba, Zungeru and Zaria.

It would be recalled that in all towns where the Europeans settled in Nigeria they lived in reservations, mainly for health reasons. In the towns, the streets were dirty, houses had no water supply, bath or even kitchen and access roads. Due to the gravity of the problems, the few medical men could not make impact. Gradually, medical sanitation reforms evolved and by 1877, the appointment of the first Inspection of Nuisance was gazetted. By 1897 Lagos had a medical and sanitary Directorate which was headed by Dr. Strachan as the chief medical officer. He was assisted by Mr. W.M. Mackinson (The Sanitary Engineer) and Mr. M. Lumpkin (The Inspectorate of Nuisance). These three men were also assisted by thirteen colonial surgeons, three of them were Nigerians Dr. C.J. Lumpkin, Dr. S.A. Leigh-Sodipo and Dr. O.O. Sapara who later founded Messey Street Maternity Centre, Lagos. This team of sixteen government officials worked relentlessly to reform Lagos. They drew ordinances and rules for housing and sanitation of meat, houses, markets, hospitals and erection of new houses. The ordinances stipulated that building plans and sites should be approved by the medical officer.

One major problem which the team faced was the problem of sewage disposal. Several factors responsible for this were the swampy nature of Lagos, poor habits and bad impassable roads. By 1897, a five naira penalty was stipulated for anyone caught contravening the regulation and it was directed that bucket content should be thrown into the lagoon between 9:00pm till midnight. This led to the introduction of night soil conservancy. By 1899, Sir William McGregor, a doctor by profession was appointed by the governor of Lagos. He became keenly interested in sanitation and because of his activities his period was referred to by Nigerians as the Golden Age with the support of Sir Ronald Ross. Anti-malaria measures were vigorously pursued in form of drainage and treatment of stagnant water with spades, shovels, and mineral oil which Ross himself actively did.

A government chemist was also appointed to test all the 203 wells in Lagos. All the wells except one were polluted. This led to the provision of new and well cemented wells. Quinine was regularly supplied for prevention of malaria to the officials and to Lagos mothers and children. In 1901 Lagos was divided into district and a voluntary women's group was formed which served as the first group of health visitors under the chairperson of Mrs. Sapara Williams whose husband aided the development of Ilesa Hospital. This group did not only visit patients but also donated food to them and cared for the sick.

In 1909, the Secretary of State for the Colonies sent Prof. WJ.B. Simpson to West Africa to achieve the following objectives (Okror, 2010).

1. To control the outbreak of plague in Ghana and revise quarantine laws and procedures.
2. Report on sanitary matters in all the West African Colonies. This is what was later known as the Simpson's Report in which he recommended that:

- a. A uniform system of quarantine should be adopted for the West African colonies.
- b. People traveling from one African part to another should be under quarantine experts if they have possessed valid certificate of inoculation and certificate of disinfection of clothing and;
- c. Notification of mortality among rats or passengers. On Simpson's visit to Lagos he was impressed by the efforts of McGregor and Ross especially the canal reclamation of swamps. He therefore recommended that an infectious Disease Hospital be built in Lagos to supplement the existing Nursing Home and that a General Hospital be built in Calabar.

In 1911, Dr. J.A. Pickles was appointed senior sanitary officer in Lagos after working in Ogbomoso District. During his tenure, he visited Brazil to observe methods of yellow fever treatment and later recruited three white sanitary inspectors to assist him in Lagos. His team developed an anti-malaria campaign measure consisting of oiling of stagnant water, spraying of pools and buildings, and the use of mosquito proofings. As a result of the team's efforts to destroy all the rats in the homes and surroundings, the plague epidemics in Ghana could not reach Nigeria except for withdrawal of some of the health officers for military operation. Dr. Pickles wanted to introduce the training of sanitary inspectors in 1914 but could not. The School for Public Health Inspectors was later established by Dr. Oluwole in 1952 when he was the Assistant Medical Officer of Health (Okror, 2010). In 1918, Nigeria suffered an epidemic of influenza, small pox and meningitis whilst in 1924, Lagos was hit by an epidemic of bubonic plague. During these periods of disaster, every conceivable measure was put into operation including evacuation of people from worse unit areas, disinfection where necessary, demolition of

houses, burying of corpses, destruction of rats with poison and house to house inspection to remove the sick to the Infectious Disease Hospital (Okror, 2010).

In 1925, Dr. Oluwole who today is regarded as the father of public health in Nigeria was appointed the Assistant Medical Officer of Health, Lagos. Having been inspired by the efforts of Ross he believed that doctors could not solve the problems alone. He therefore established the first School of Hygiene in Lagos in 1925 where sanitary inspectors were trained for the whole of Nigeria (Nakojimo, 1997). With the graduate from this school, sanitary efforts started in Lagos in earnest. Dr. Oluwole later became the first African Chief Medical Officer and through his efforts the Royal Society of Health West Africa Examination Board was established. The examples laid by Dr. Oluwole were later followed and used to lay a good pattern for public health in other provinces outside Lagos. In 1946, Nigeria was divided into three regions politically and administratively; Ibadan, Enugu and Kaduna were regional Headquarters. Each province had a Deputy Director of Medical Services who was responsible to the Chief Medical Director in Lagos. Each region had a medical department headquarters, which had two arms: preventive and curative. The preventive was under the Chief Health Officer while the curative service was under the Chief Medical Officer. Apart from being medically qualified, the Chief Health Officer also had to have a Diploma in Public Health. The creation of the regions gave room for the establishment of more sanitary inspectors to enforce sanitary laws (Nakojimo,1997).

Between 1956-59 when self government was granted to the three regions, each region established a ministry of health and social welfare to replace the Department of Health. The ministry was headed by a Director of Medical Services. Furthermore, Local Government Authorities were created to share in the responsibility with the ministry of health. It is worthy to note that apart from the activities of those described above, the

history of public health in Nigeria cannot be complete without mentioning the important roles played by missionary organizations such as the Catholic Church, the Methodist, the Baptist Church and the Seventh-Day Adventist Church.

2.5 Primary Health Care (PHC)

According to WHO (1978) PHC “is an essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at the cost which the country can afford to maintain at every stage of their development in the spirit of self reliance and self determination”.

It forms an integral part of the country's health system which is the central function and main focus of the overall social and economic development of the community. PHC is the first level of contact of the individual, family and community with national health system, bringing health care as close as possible to where people live and work and contributing the first element of continuing healthcare process.

Aims and Objectives

The aims and objectives of PHC as enumerated by WHO (2010) are listed below.

1. To make health services accessible and available to everyone whenever they need it.
2. Tackle the health problems causing the highest morbidity and mortality at the cost that the community can afford.
3. Ensure that whatever technology is used must be within the ability of the community members and must be effective and the community should be able to maintain it.

4. The community must be fully involved in planning implementation and evaluation of the programme in order to be self reliant. Primary Health Care is not just the practice of curative care with a few immunization, administration of some essential drugs, and some health teaching taken to the people. It depends on community involvement and participation not only in carrying out the programme but also in the planning and preparation of it.

Health care is part of human development, social, education, economic and self-reliance. Essential health care therefore means providing those things needed for a healthy life. Health care should be available, affordable, accessible, and acceptable to the community. It should be appropriate, that is, relevant to the main health problems of an area. PHC services to the communities are:

Integrated Health Services: This means PHC services are to be integrated by discharging the components of primary health care under the same roof, at the same time and on daily basis both in health facility and at the community level.

Universally Accessible Health Services: PHC services are to be generally accessible, that is they should be either within or nearer to the community. Members of the community must not go far in search of it.

Universally Available Health Services: PHC services are to be made available to individuals, the family and the community at all times when they need them.

Universally affordable Health Services: PHC Services are to be made affordable to individuals, the family and the community in terms of cost, time and geographical location.

Universally Equitable Health Services: PHC Services are to be equitably discharged to communities without favouritism or segregation.

Use of Appropriate Technology: PHC Services are to be made available through the use of appropriate technology. This means that locally available resources are to be utilized and directed towards health services in a way that is hygienically and socially sound and they should also adhere to the ethics of medicine e.g. the preparation of salt sugar solution (SSS).

Inter-Sectoral Collaboration: Other related sectors in the economy of the community are to be brought into the health system to participate in solving health problems e.g. Agriculture, Commerce and Industry, Information, Education, Defence and Water Resources, etc.

Encourage Community Participation: This means that community members are to support PHC Services through assuming responsibilities for their health development. They should be involved in planning, implementing and evaluating health programmes in their community.

2.5.1 Primary Health Care Practitioners in Nigeria

From generation to generation, man has always had a body of belief about the nature of diseases, their cure and relation to other aspects of life. In Nigeria, many communities have since creation developed various traditional systems using locally available resources for alleviation of their health problems. The British colonial masters brought in orthodox medicine and today, both systems of health care-exist in the country. Successive governments in Nigeria have put in place one programme or the other to enhance healthy living. Some of these programmes lead to the establishment of health centres and the training of man power required for the provision of health services.

In the health sector, there are specialized professionals such as Doctors, Pharmacists, Nurses, Dentists and Medical Laboratory Technologists. The National Bureau of Statistics (NBS) (2009) report shows that there are 42,563 Doctors,

169,923 Nurses and 52,983 Pharmacists that are registered to practice in Nigeria. There are also 24,522 hospitals, 21,222 Health Centres and Dispensaries and 29 Tertiary Health institutions. A medical practitioner is a person whose primary employment role is to diagnose physical and mental illness, disorders, injuries and prescribe medications and treatment that promote or resolve food health. Primary Health Care Nurses practitioners are registered nurses who are specialists in PHC, who provide accessible, comprehensive and effective care to clients of all ages. They are experienced nurses with additional nursing education which enables them to provide individuals, families, groups and communities with health services in health promotion disease and injury prevention, cure rehabilitation and support.

Doctors' role includes diagnosing surgery and treatment of patients. The function of Nurses is to promote health, prevent illness, restore health and alleviate suffering The Dentists specialize in the prevention and treatment of oral diseases particularly diseases of the teeth and supporting tissues. The Pharmacists care for the preparation and administration of the dosage forms of drugs such as tablets, capsules and sterile solutions for injection (Sirkorski and Peters, 2009). There are also a variety of other health practitioners who provide support services in the hospital. Jaja and Nwakaego (2003) defined a health worker as "a person well informed in the art and science of sustaining, maintaining, creating and energizing sound state of human health. Ewhrudjakpor and Ojile (2005) classified health practitioners into Doctors, Nurses, Pharmacists and other health care workers. This classification is adopted for the purpose of this study. A health practitioner therefore, is someone who, by nature of his training, is able to diagnose and treat diseases and also educate individuals, groups or, communities on maintenance of good health.

In the process of performing their functions, health practitioners are expected to access and share information. They are also expected to communicate with colleagues and superior officers on inter personal basis, attend conferences where new ideas are shared and publish research findings. Pakenham-walsh and Priestly (1997) raised an alarm that in developing countries few information resources are available and access to basic information for clinical decision making and training is difficult. There seems to be a lack of coordination among the providers of health information. The attitude of professionals in the health sector towards one another might create barriers to the dissemination of health information since they receive different training and perform different functions. However, an appropriate pattern of communication within a health institution would improve the sharing and use of information among health practitioners.

2.5.2 Components of PHC

WHO (2010) recommend elements or components of PHC to be used by all the member nations globally towards achievement of goals of Primary Health Care. Though not all of the components are present in every health programme but they represent a goal to work towards. Hence as many of these elements as possible should be encouraged in every community striving towards health for all. These components are as follows:

Health Education

This is an integral part of PHC. Without health education, the objective of the remaining components of Primary Health Care cannot be easily achieved. Health education helps to increase community people's knowledge about the factors responsible for health problems. An increase in the level of knowledge will help them to develop positive attitude towards health matters and this will lead to positive behavioural change. Health Education in PHC centers/ should cover all the problems common in the community.

Food Supply and Proper Nutrition

This means the promotion of food supply and adequate nutrition. In Nigeria under-nutrition is one of the major factors contributing to infant morbidity and mortality. It is also a major cause of anaemia among pregnant women and lactating mothers. Therefore, efforts should be made by PHC workers to ensure that family food is available, accessible, adequate, affordable, and balanced in nutrients, thus ensuring food security.

Maternal and Child Health/Family Planning (MCH/FP)

As a component of PHC, Maternal and child health is aimed at promoting the health of women of child bearing age and their children so that they can have the opportunity for normal growth and development. It also ensures that the reproductive life of women does not constitute too much risk to their health and well being. Although mothers and their children are mentioned here, MCH services are not designed to exclude fathers. Fathers should be involved in all matters relating to the health of their wives and children most especially family planning and compliance of mothers to medical advice.

Immunization

In order to protect children from infections as rapidly, effectively, and cheaply as possible, immunization is necessary and important. Live vaccines can be combined if necessary and all given at the same time. It is also necessary to consider and decide at what time to vaccinate babies and whether the baby still has antibodies from his/her mother. It is important not to give a vaccine to a baby while he still has antibodies against the disease from his mother because it will inactivate it before it can stimulate immunity. Generally, however, immunization is given against the eight Childhood Killer Diseases namely Poliomyelitis, Measles, Tetanus, Diphtheria, Whooping Cough, Tuberculosis, Yellow Fever and Hepatitis. Others include Cholera and Cerebro-spinal meningitis. The aim of PHC is to reduce Morbidity and Mortality among children by providing

immunization to diseases prevented through vaccine to children and adults. All health workers must be conversant with the current NPI schedule.

Provision of Adequate Supply of Water

Water is not only important for human consumption. It also serve many purposes; a source of fluid for man and animals, a means of transportation, a medium for such recreation as swimming, an agricultural/irrigation sources; an adjunct to innumerable industrial process and so on. Although water is available and free, it is not found everywhere and when found in some cases human activities would have rendered it unsuitable for health promotion hence it is important that water for community consumption and other essential utilization has to be safe and free from pathogenic influence. The community should be taught on how to purify their drinking water before consumption to avoid water borne disease. Community participation and involvement in government's effort at producing good water will go a long way to reduce outbreak of water borne diseases. The technology involved should be simple, cheap, easy to maintain and reliable.

Environmental Sanitation

This is designed to emphasize adequate sanitation so as to keep the surrounding clean and prevent environmental pollution, which is one of the major causes of disease in the community. Therefore, the PHC workers should involve the participation of community members in the planning, implementation and evaluation of environmental sanitation.

Prevention and Control of Locally Endemic Diseases

There are several endemic diseases, which contribute to both Morbidity and Mortality rate in children and adults. These include Malaria/ Tuberculosis, Meningitis, Onchocerciasis and Guinea worm. All these diseases can be prevented and controlled by

PHC workers. There are programmes set aside for the control and prevention of specific endemic disease and should be pursued with seriousness.

Provision of Essential Drugs

The drug component of any healthcare service is a major contributor to increasing cost in a country's health budget. Therefore, there is need to identify locally endemic diseases and the most cost effective drug of choices for these diseases so as to ensure that health centres and hospitals are stock with only essential drugs. The essential list is a document which contains the list of essential drugs for the most prevalent disease in locality/country approved by WHO at 1978 Alma-Ata conference.

Appropriate Treatment of Common Disease and Injuries

The aim of this component is to prevent death and disabilities resulting from common diseases and injuries so that all children and adults can have the opportunity of healthy growth and development. The commonest cause of morbidity and mortality in Nigeria is diarrhea and vomiting plus minor injuries during play on the field. This can be successfully tackled with oral dehydration therapy (ORT). In fact, the incidence of dehydration has dropped drastically since nearly every Nigerian can prepare and administer ORT. Other measures are also in place in the schools and communities for the treatment of minor injuries.

Mental Health

In order to prevent mental health, PHC workers must acquire knowledge and skills needed for health education. Mental health is concerned with healthy persons while mental illness is concerned with mental breakdown/psychiatric problem. Every community must have mental health programme as part of PHC to include: good health habit, rest, and poverty eradication including unemployment.

Dental Care

Dental problem does not appear to constitute a major problem in Nigeria for now but the present generation of children should be given opportunity for prevention of dental care as part of PHC Programmes. This is because majority have the privilege of taking a lot of snacks in form of biscuit, sweets, cakes and fruits. Hence they are at high risk of developing dental carriers which is more likely amongst the middle and high society class families.

2.5.3 Organization and Scope of PHC Services in Nigeria

In Nigeria there are three tiers of government. Each one has a very important role to play in the organization of health services. Nevertheless it is noteworthy that today unlike in the past local governments have very important role to play in the provision of health services at grassroot level and they are now directly responsible to the Federal Government (Federal Ministry of Health). Below are the scope, organization and function of the health system in each of the levels of government i.e. Federal, State and Local Government.

Federal Government Level

The Federal Ministry of Health forms the apex of the healthcare delivery system in Nigeria with headquarters at Abuja. The political head of the Ministry is the Minister of Health and Social Services and the Permanent Secretary is next in the hierarchy.

Following the Civil Service Reform of 1991 in which civil service was organized into professional categories, the divisions within the Federal Ministry of Health and State Ministries were renamed Directorates. Each Directorate is expected to be headed by a Director who is a career civil servant responsible for the day to day running of the Directorate. Thus, in the Federal Ministry of Health there are the directorates of Primary Health Care Nursing Services, Medical Services and Hospital Services and Training.

For each of the directorates, there are professional staff or career officers who form a vertical organizational structure i.e. Director Nursing Services, Deputy Director, Nursing Services, Chief Nursing Officer, Chief Matron, Matron, Senior Sisters, Sister and Staff Nurses respectively.

The Directorate of Primary Health Care is one of the various Division/Directorate in both the Federal and State Ministry of Health. At the Local Government level there is also the Department of Health, which is mainly established to organize Primary Health Care programme. It is headed by a Director who is responsible to the elected Chairman of the Council.

The Federal Government

The Federal government through the Federal Ministry of Health plays the following roles in the organization of Primary Health Care: Formulation of national policies on primary health care; Financial support for the state and local government for the implementation of PHC programmes; Provides guidelines on how to implement the policies at state and local government levels; Promotes research activities and collaborate with international health agencies such as WHO and UNICEF; Supervises the training of PHC workers; Provides and distributes vaccines for state and local government EPI/NID programmes and monitors and evaluates measures for the implementation of PHC programmes at state and local government levels

The State Government

In the State Ministry of Health, the Commissioner for Health is the political head followed by the Permanent Secretary. Like the Federal Ministry of Health, each directorate is headed by a Director who is usually assisted by a Deputy and Head of Units.

One of the important functions of the State Ministry of Health is to organize facilities for secondary health care such as general hospital and specialist hospital respectively. The state Ministry of Health carries out the following functions: Formulation of policies in line with federal government guidelines; Providing guideline for local government regarding implementation of PHC programmes; Provision of facilities for training PHC workers e.g. the establishment of School of Health Technology and School of Nursing/Midwifery. The team manages all the health centers, dispensaries and maternity centers within the local government area. These primary health care centers provide various services such as health education, pre-and post-natal care, treatment of minor ailment, environmental sanitation etc. Based on the guidelines, each local government also formulates its policies on PHC in line with federal government guideline.

All the local government health workers i.e. CHO, nurses/midwives, CHS, CHEW and village health workers work as a team to perform the following: Management of resources to achieve maximum results; Planning and implementation of PHC programme; health education to individuals, families, and communities; Training of traditional birth attendants (TBA) to reduce the risk of complications arising from poor management of labour cases; recordkeeping and data collection for monitoring and evaluation of the programme; liaising with other agencies whose functions are health related (intersectional collaboration); evaluation of the programme and referral services. The above indicate the various areas covered by PHC in Nigeria in terms of content and geographical area of coverage.

2.5.4 Current National PHC Initiative

From 1986 onward, the Federal Ministry of Health had pioneered the development of a national health care system. At the PHC level, attention has been focused on the

development of village/ward/district health care services of the community level. The PHC has been upgraded in each of such districts and health staff assigned houses have been numbered and home based records placed in many communities to establish the address system, to facilitate referral, follow-up of patients/defaulters and to facilitate channeling of specific interventions to those needing them. The current thrust has witnessed the development of a managerial process at all levels. This consists of committees set up at the wards, villages, districts, LGA, states, zones and federal level respectively (WHO, 2010).

The committee has special management functions varying from level to level. The essential drug scheme and drug revolving funds has been set up in at least 90% of the 500 LGAs and the Bamako Initiative programme exists in 49 LGAs. Training for those tasks has been conditioned through workshops that were calculated building blocks of skills at all levels on scales that were unprecedented. A monitoring and evaluation system that was in operation only in 1989 is being vigorously pursued and strengthened at all the LGAs throughout the federation to achieve success of the programme.

2.6 Information Use

Choo (2002) defines information use as a dynamic, interactive social process of inquiry that may result in the making of meaning of decisions. Awareness precedes use, therefore a fundamental factor that is crucial to information utilization is the perceived information need. The awareness of the existence of an information resource is a major determinant of use. An individual's knowledge of possible resources and preferences may help determine his information horizon. Awareness of the availability of information is therefore an important valuable that has been found to have a positive association with utilization of information. John-Okeke (2006), Manda and Mukangera (2007) and Sajjud

Ur Rahman (2004) assert that “lack of awareness is among the primary reasons for under utilization of information resources by health care professionals in Kuwait University. This implies that though a user may identify his/her area of information need, without any proper awareness of how and where to get the resources that will provide the information needed, such needs may not be met.

Manda and Mukangera (2007) further postulate that “it is imperative that users (health professionals) acquire necessary information literacy skill to enable them sieve through the ocean of information overload available both locally and internationally for ease of use”. In Nigeria, Salaam and Aderibigbe (2010) state that apart from the poor power supply and poor internet connectivity where electronic information resources are concerned, lack of awareness contribute to the poor utilization of information resources. Therefore, there is urgent need for deliberate effort to create awareness on the availability of various information resources to enhance utilization of information among primary health care practitioners in rural areas of North Western States in Nigeria.

Gatero (2010) identifies several barriers to information access and use and these include – lack of access to a hospital library, availability and location of information resources, lack of up-to date books and journal subscription, lack of computers and internet facilities, relevance of internet information to local context illiteracy and lack of general awareness of available information.

Information is essential in health care and health promotion as it improves clinical decision-making and provides both direction and rationale for guiding strategic health behaviors, treatment and diagnosis. If the medical practitioners are expected to keep abreast of the best available evidence. As important as information is to medical practitioners Bii & Otike (2003) states that lack of access to a library, availability and location of information resources, lack of up-to date books, and internet facilities and

relevance of internet to local context, the loss of information materials, lack of computers and poor internet searching skills and lack of general awareness of available information are some of the barriers to information access and use. While commenting on problems of information utilization, Komolafe (1998) posits that the ability to achieve the goal of improved health care delivery depends on the availability, accessibility and utilization of information.

Mohammed (2012) posits that “the type of information available at our disposal have significant impact on the nature and focus of our national philosophy, vision, mission, goals, objectives and aspirations especially as it relates to strategic indicators of national advancements such as education, health, agriculture, economy, politics and government, human development and social welfare, science and technology, and transport and communication. Simply put, our advances in any human endeavour as individuals, family, associates, affiliates, society and nation is largely a function of the type of information we are able and capable to access and effectively utilize to satisfy our goals and aspirations. What is therefore necessary to effectively and efficiently maximize access and utilization of needed information, is to put in place effective strategies and mechanisms to explore and acquire, organize and manage, store and secure, locate and retrieve, identify and evaluate, analyze and extrapolate, and, package and disseminate information”. In line with this and considering the importance of health to national development, primary healthcare practitioners therefore should be able to access and utilize relevant and current information which in turn will enhance the quality of healthcare delivery and patient outcome.

2.7 Information Access

Information access is defined as ‘the presence of a robust system through which information is made available to citizens and others (Burnett, Jaeger & Thompson, 2008). Access to health information by medical professionals is emphasized as something more than just a technical issue; it includes the interests of various stakeholders’ artefacts like computers, equipments and applications relating to health information systems, the practices of people and organizational routines (Bii & Otike, 2003)

Gatero (2010) opined that information has been a critical part of the medical professional’s armament of tools to provide patient care. Utilizing ICTS can offer the health care practitioners with enhanced access to: key data at all levels from international to local, electronic of evidence, peer reviewed research and practice guidelines, and network of professionals in health and related disciplines. Information is important not only for effective health care, but also to support the generation of new knowledge and to allow critical interpretation of the relevance and quality of the highly variable new information that is increasingly accessible, particularly through increased access to Information and Communication Technology (ICT) (Pakenham-Walsh, 2008). Most of the information currently available to health practitioners is irrelevant to their needs; information must be in clear language that is accessible and reliable. Information needs to be easy to use and accessible at the point of care. Shaughnessy et al (1994) explains that “the usefulness of any source of information is equal to its relevance multiplied by its validity, divided by the work required to extract the information”. For example, medical practitioners and the health system need to communicate effectively to enable them function properly. That is why so much money is spent to buy telephones, radio, television sets and computer sets. Therefore, for primary health care to be effective, it requires good communication network.

Shiferono & Zolfo (2013) opines that Information and Communication Technology (ICT) is revolutionizing our life, our ways of interacting with each other and day-to-day life and work. The application of ICT to health is described as e-health. This includes: telemedicine, electronic medical records and health information system with decision, support mobile health and e-learning tools. This has shown potentials in facilitating better health care delivery system, leading to better health and universal health coverage. The use of ICT in health care creates access to health care, enhances quality and improves primary health care intervention.

Access to reliable health information is crucial for progress toward health for all. Pakenham-Walsh and Priestly (1997) states that “lack of awareness and access to information can be a barrier to effective dispensation of primary health care and accurate and timely information can avert a local or national disease outbreak and at the same time prevent international crises”. Umar (2001) posits that time is very significant in any retrieval system. He further states that “information retrieval systems are measured by their speed”. Although Umar states that wait-time is mostly associated with classroom activities, the concept can be applied in the management of health activities as well especially in the retrieval of information from health reference materials. The library and information science research community has carried out a substantial body of work examining health professionals’ information needs, information seeking and use. Many health professionals and physicians seek health information for various reasons such as: the need to obtain answers to patient-specific questions and to keep abreast with new development. Devin & Nilan (2003) opines that the internet provides the possibility of immediate access to the most recent and reliable results of clinical research in everyday medical practice in developed countries. In developing countries on the other hand, the internet is still only available to a minority of health professionals and often not available

at the point of care. In Nigeria, Health Care Sector is divided into three namely:- Primary Health Care (PHC), Secondary and Tertiary Services.

The Primary Health Care (PHC) is closest to the people and is constitutionally the responsibility of the Local Government (LG). Primary Health Care services are available in rural and semi-urban centres in the country. In some rural communities, the PHC centre's lack qualified medical practitioners and nurses provide services. Both Primary and Secondary Health Care services are provided in rural communities and towns with limited or no access to internet facilities (Andualem et al., 2013). Updating knowledge with relevant information is very important for health care practitioners to deliver quality and sustainable health care services to their consumers. According to Odunlade (2011) this is possible when there is sustainable access to health information. Health information is important to improve knowledge base on which evidence based decision is made to serve the clients of health care facilities. Also access to health information facilitates the use of new medical technologies, proper handling of medical procedures and treatment of patients.

Chetley (2006) opined that health workers involved in primary health care in developing countries are often isolated. They work in remote settings, often alone and have little or no access to up-to date information and opportunities to exchange experience with colleagues. Making use of new technologies and better use of existing technologies is beginning to improve this situation. In Ghana, Kenya and Uganda, satellites have been building experience around the use of Personal Digital Assistants (PDAs) – a small hand held device that enables health practitioners in remote settings to gain access to information, capture, store and share important health data, and link to the experience of other colleagues to improve their practice and outcomes for their patients.

Musoke (2001) who conducted a pilot project in eastern Uganda made use of a VHF radio and mobile walkie talkie to help improve a network of traditional birth attendants to partner with the public health service centres to deliver health care to pregnant women. This resulted in increased and timelier patient referrals as well as the delivery of health care to a larger number of pregnant women. One could say therefore, that there is the need for ICT use in the health sector to reach out to the poorest populations whether they are in the rural, remote and difficult environments that are underserved with the resources that are located in centre health services to achieve health for all. Godlee (2004) conclude that “universal access to information by health professionals is a prerequisite for meeting the Millennium Development Goals and achieving health for all”. Godlee (2004) also opine that “lack of access to information remains a major barrier to knowledge based health care in developing countries”.

Every medical information is created to achieve a pre-determined goal of health care institution in handling patients ailments at the same time to provide accurate data to advise successful treatment and otherwise. Akanyi (2006) opined that medical reports are created for the following purposes:

- Access the performance of health care services rendered to patients.
- Provide data for statistical evaluation in cases to determine the strength and weaknesses of treatment processes.
- To provide information for training and educating health care providers through seminars and workshop.
- To protect legal interest of patients, hospitals and health care practitioners against litigations.
- To serve as reference source. In this respect, physicians can refer to previous cases to treat current and future ailments.
- To provide information for research.

Equitable and universal access to health care information is an important part of world strategies to reduce global disparities in health and to achieve health related Millennium Development Goals (MDGs) by 2015. Health information professionals have a critical role to play in optimizing access to ICTs (Ajuwon, 2008). ICTs are tools that facilitate communication and transmission of information by electronic means. This includes the full range of ICTs from radio and television to telephones (fixed and mobile) computers and internet. If used effectively, ICTs have enormous potentials as tools to increase information flow and the dissemination of evidence-based knowledge and to empower the medical practitioners and the citizens. Chetley (2006).

2.8 Information Resources for Primary Health Care Practitioners

Within the context of library and information studies, information resource can be described as including any information in electronic, audio, visual or physical form or any hardware or software that makes possible the storage and use of information. Opeke and Odunlade (2011) postulate that the arrays of resources that harness information in a compact form and present it to the user for the purpose of knowledge generation are conceptualized as information resources. According to Kapur (2002) new systems are needed to integrate information into systems for training and education so as to enable and support culture change and enhance new pattern of interaction and information use. The health care system needs complementary services and capabilities to enable enhanced relationships among health practitioners, patients, families and other professionals. He further states that medical teams need communication their patients and their support network in order to provide timely advice or interaction.

Irshad et al. (2008) asserts that for lay and professional people living in developing countries, internet has opened new vistas, and broadened health horizon for

everyone who has the willingness to access and the ability to use computers and internet. ICT literally provides access to up-to-the-date information on the latest developments in health care at the users own pace. Internet based health resources and databases like Medline do not have such as geographical locations or discriminations between people in terms of providing access to understanding and learning of disease and care issues.

Efficient use of information is of paramount importance in the medical world. Medical professionals seek high quality medical information which consists of a collection of facts and theories that can be integrated and synthesized to care for patients, conduct research and educate health professionals. Medical and health practitioners must have access to and supply of information resources in any format (electronic text and divisional act) for efficient and effective performance.

Information is the life blood of health services delivery. It has always been used extensively in the provision of health care services. Information is the basic resource of health practitioners and its availability and use within the health care delivery and decision making. Komolafe (1994) insist that accessibility of information either to update knowledge or for clinical investigations through electronic databases will provide access to medical literature and keep pace with new development. This means that information required by medical practitioners can be located much more efficiently through the use of information technologies instead of the manual searching of information.

2.9 Summary of the Review, Gaps and Uniqueness

This dissertation reviewed literature on awareness, access and utilization of information among primary health care practitioners in rural areas of north western states of Nigeria. According to the literature, information is data that is accurate and timely, specific and organized for a purpose, presented within a context that gives it meaning and

relevance, and can lead to an increase in understanding and decrease in uncertainty. In its most restricted technical sense, information is a sequence of symbols that can be interpreted as a message. It can be recorded as signs or transmitted as signals. It is any kind of event that affects the state of a dynamic system that can interpret the information. Information is the message (utterance or expression) being conveyed. In general sense, information is “knowledge communicated or received concerning a particular fact or circumstance”, or information is an answer to a question.

In general sense, information is knowledge communicated or received concerning a particular factor in circumstance (Virgo, 2011). People seek information for the need for new information, to elucidate information held, to confirm information held, to elucidate belief and values held and to confirm belief and values held. Health practitioners seek information to check dosage of currently introduced drugs, determine the frequency of drug administration and check the side effects of medication, interaction and bridge gaps in knowledge on new modes of treatment and diagnosis (Gatero, 2010). Primary health care is essential health care delivery to individuals, family and community, irrespective of where they live or work. It involves community participation and self reliance. Primary health care must be available, accessible, affordable and acceptable to all and in a universal language they understand.

Information utilization is a dynamic, interactive social process of inquiry that may result in the making use of meaning of decisions. Awareness is a major factor that determines the use of information. Therefore, lack of awareness is among the primary reason for under utilization of information resources in health care practitioners in rural areas in North Western States of Nigeria. It is clear that most literature reviewed agreed that there is need for proper awareness, utilization and access to health information among rural health care practitioners and this demands deliberate and concerted efforts by

all stakeholders to work hand in hand to actualize the aim of primary health care which is providing essential health care to the grass root. Awareness precedes use, therefore a fundamental factor that is crucial to information utilization is the perceived information need. The awareness of the existence of an information resource is a major determinant of use. An individual's knowledge of possible resources and preferences may help determine his information horizon. Awareness of the availability of information is therefore an important valuable that has been found to have a positive association with utilization of information.

The review indicated a gap in the area of awareness and utilization of information among primary health care practitioners. This study can therefore provide a framework for the provision of primary health care information to health care practitioners. Literature reviewed clearly indicated that no single research was conducted in this area of study in rural areas of North western states of Nigeria. Therefore this research is of great importance at this particular point in time to all stakeholders of primary health care in Nigeria.

REFERENCES

- Agada, J. (1999). "Inner-City Gatekeepers: An Exploratory Survey of their Information Use Environment", *Journal of the American Society for Information Science*, 15(1) pp. 74 – 85.
- Aguolu, C. C. (1989). Libraries, Knowledge and National Development. Inaugural Lecture Series 88/89, Session No. 45 Maiduguri: University of Maiduguri 60p.
- Ajidahun, O. C. (1990). "Information Needs of Secondary School Teachers in Oyo Town, Ibadan: University of Ibadan" (Unpublished MLS Thesis), P. 115.
- Ajuwon, G.A. (2008). Use of Internet Health Information by Physicians for Patient Care in a Teaching Hospital in Ibadan, Nigeria. *Biomed Digital Library* 3(12), pp 10-19.
- Akanyi, S.O. (2006). *Development of Medical Records in Nigeria: The Journey So Far*. Onodin Press. Pp. 27-29.
- Alegbeyele, G. O. (1996) "Reflections on Information Issues and Information Professional in Africa: Some Lessons from Records Management Workshops in the Gambia and Ghana" *Journal of Information Science* 19 Pp. 309 – 316.
- Alma-Ata (1978). *International Conference on Primary Health Care*. Alma-Ata, USSR, Sept. 6-12 1978. http://www.who.int/hpr/NPH/docs/declaration_almaata.
- Amope, A.T. (2007) "Information Sourcing and Utilization in Primary Schools in Ilora, Yewa South Local government of Ogun State" (BLIS Project) Unpublished pp. 9 – 14
- Andualem, M., Gashew, K. & Abera, K. (2013). Information Needs and Seeking Behaviour among Health Professionals Working at Public Hospital and Health Centres in Bahir Dar, Ethiopia *BMC Health Services Research* 13, 534. <http://www.biomedcentral.com/1472-6963/13/534>.
- Bii, H.K. & Otike, J. (2003). Provision and Accessibility of Health Information to the Rural Communities in Kenya: A Case Study of Bomet District. *African Journal of Archives and Information Science* 13(2), pp 155-170.
- Chetley, A. (2006). *Improving Health, Connecting People: The Role of ICTs in the Health Sector of Developing Countries* – www.healthlink.org.wk.healthlink.worldwide.
- Choo, C. (2002). *Information Management for the Intelligent Organization: The Art of Scaring the Environment*. Medford, NJ: Information Today Learned Information. Pp 35 – 41.
- Dervin, B. and Nilan, M. (1998). "Information and uses", In Williams M. E. (ed.) *Annual Review of Information Science and Technology*, Vol. 21, New York: Knowledge Industry Publications pp. 3 – 33.
- Devin, B. & Nilan, M. (2003). Information Needs and Uses. *JMLA* 91, 203-212.
- Ewhrudjakpor, C. & Ojile A. C. (2005). "Occupational Status of Health Care Providers". *International Journal of Gender and Health Studies* 3 (1&2) Pp. 72-78.
- Federal Ministry of Health Digest (2006)

- Gatero, G.M. (2010). Utilizing of Information and Communication Technologies (ICTs) for Accessing Health Information by Medical Professionals in Kenya: A Case Study of Kenyatta National Hospital. *Journal of Health Information in Developing Countries* 1(1), pp 60-87.
- Godlee, F. (2004). *Can We Achieve Health Information For All By 2015?* [http://image.thelancet.com/extras/04 art 6112web](http://image.thelancet.com/extras/04_art_6112web).
- Irshad, A. S. (2008). Internet Access and Utilization of Health Information among University Students in Islamabad, *J. Ayub Med Coll Abbottabad*, 2008; 20 (4) pp. 2 – 6.
- Jaja, S. A. & Nwakaego, C. (2003). “Beneficial Communication in Client Satisfaction and Health Workers Improved Welfare”. *International Journal of Gender and Health Studies* (1) pp. 180 – 185
- John-Okeke, R. (2006). “Interface Mode for Information Utilization in Resource Institutions, Lagos”. *Journal of Library and Information Science* 3(2), pp 147-152.
- Kapur, V. (2002). Under Diagnose of Sleep Apnea Syndrome in US Communities. *Sleep Breath*, Vol. 6 No. 2 pp 49 – 54.
- Komolafe, H. O. (1994) “Promoting Nigeria’s Health Care Delivery System through Effective Library and Information Services”. *African Journal of Library, Achieves and Information Science* 4 (2) Pp. 142 – 143.
- Lipetze, B.A. (1977) “Information Needs and Uses”, *Annual Review of Information Science and Technology* Vol. 5: p. 23 – 29.
- Mande, A. & Mukangera, F. (2007). Gender Analysis of Electronic Information Resource Use: The Case of University of Dar Es Salam. *Tanzania University Dar Es Salam Working Journal* 10(1 & 2), pp 29-45.
- Mohammed, Z. (2012). The Dynamics of Information: Embracing the Present to Cope with the Future. Seventh Tai Solarin National Memorial Lecture Held on 27th September, 2012, Victoria Island, Lagos.
- Musoke, M. (2001). *Simple ICTs Reduce Mortality in Rural Uganda: A Telemedicine Case Study*. <http://www.medicusmendi/services/bulletin/200202/kap04/16musoke.html>.
- Nakojimo, H. (1997). “Getting the message across” *World Health* 50 (6) p. 1
- National Bureau of Statistics (2009). *Directory of Health Establishments in Nigerian*. Abuja: Economic Reform and Governance Project p. 3
- Okror, A. (2010). Health Care Should be a Team Work. *The Punch* Tuesday 1st June pp. 24
- Opeke, R. O. & Odunlade, R. O. (2011). *Samaru Journal of Information Studies*. Vol. 11 (1&2) pp. 59 - 65.
- Oppenheim, C. (2004). “Studies on Information as an Asset 111: Views of Information Professionals”. *Journal of Information Science* 30 (2), pp. 181 – 190.
- Pakenham-Walsh, A. & Priestly C. (1997) “Breaking down barriers to communication”. *World Health* 50 (6) p. 8

- Pakenham-Walsh, N. (2008). *Access to Reliable Information for Health Workers in Developing Countries: An International Perspective*. DoI:10.1046/J1365-2532. 2000. 00259.x.
- Sajjud, U. & Rahmen (2004). Awareness and Use of Electronic Information Resources at the Health Service Centre of Kuwait University. *Library Review* 53(185:3), pp 150-156.
- Salaam, M.O. & Aderibigbe (2010). Awareness and the Utilization of the Essential Electronic Agricultural Library by Academic Staff: A Case Study of University of Agriculture, Abeokuta, Nigeria. *Chinese Librarianship: An International Journal* <http://www.iclus/cliej/c/30SA>
- Shaughnessy, A.F., Slawson, D.L. & Beneth, J.C. (1994). Building on Information Master: A Guide to the Medical Information Juggle. *Journal of Family Practice* 39, 489-99.
- Shiferono, F. & Zolfo, M. (2013). *The Role of Information and Communication Technologies (ICT) towards Universal Health Coverage: The First Step in a Telemedicine Project in Ethiopia*, pp 8-17.
- Sirkorski, R. & Peter, R. (2009). "Medicine". Microsoft@Encarta@2009 (DVD) Redmond, W. A. Microsoft Corporation.
- Taylor, R. S. (1991). Information Use Environments. In: Dervin and M. J. Voigt (eds). *Progress in Communication Sciences*, Vol. X (pp217 – 225) Norwood, N. J. Ablex Publishing Corporation
- Umar, I. (2001). A Study of Reference and Information Inquiries and Wait-Time in Nigerian University Libraries. *Samaru Journal of Information Studying* Vol. 1, pp 16-22.
- Vigo, R. (2011). "Representational Information: A New General Notion and Measure of Information". *Information Sciences* 181, 4847-4859.
- Vigo, R. (2013). Complexity Over Uncertainty in Generalized Representational Information Theory (GRIT): A Structure-Sensitive General Theory of Information. *Information* 4(1), 1-30; DoI: 10.3390/info4010001.
- World Health Organization (1978). *Primary Health Care: Report of the International Conference on Primary Health Care*. Alma-Ata, USSR 6-12 September 1978. Paris: Geneva.
- World Health Organization (2010). Working Paper on Data Resources, Methods and Result for Projection of Mortality and Burden of Disease for 2005, 2015, 2030. <http://www.who.int/chronicdisease/report/en>
- Wicker, S.K. (2003). *Fundamentals of Codes, Graphs and Interactive Decoding*. Springer. Pp. 1, ff. ISBN 1-4020-7264-3.
- Wilson, T. D. (1994) "Information Needs and Uses: Fifty Years of Process: In: Fifty Years of Information Progress: *A Journal of Documentation Review*, edition by B. Vickery, London Aslib pp. 15 – 51.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter discusses the research methodology that was adopted in the conduct of the research. It also discusses the population, sample and sampling techniques, the instruments used for data collection as well as procedure for data collection and analysis.

3.1 Research Method adopted for the Study

Survey research method was adopted in this study. According to Banilower, McMahon, Smith & Weiss (2001), survey research involves the collection of information from a sample of individuals through their responses to questions. Survey research owes its continuing popularity to its versatility, efficiency, and generalizability. First and foremost is the *versatility* of survey methods. Researchers have used survey methods to investigate areas of education as diverse as school desegregation, academic achievement, teaching practice, and leadership. A well-designed survey can enhance our understanding of just about any educational issue. Surveys are efficient in that many variables can be measured without substantially increasing the time or cost. Survey data can be collected from many people at relatively low cost and, depending on the survey design, relatively quickly.

According to Tukman (1988), survey method makes it possible for the researcher to measure knowledge or information, values and preferences and attitudes or beliefs. Sampel and Westhly (1989) and Abubakar (1995) posit that survey method enables the researcher to gather information from a relatively large number of cases at a particular time by asking questions. Essentially, survey method is used to study wide population that are scattered across a country, a region or a state. This method is therefore found very appropriate for this research because of the nature and size of the population of the study.

3.2 Population of the Study

The population of this study comprised of all the primary health care practitioners in the rural areas of North Western States of Nigeria. According to National Bureau of Statistics (2012) there are 184 primary health care hospitals, 395 Doctors, 5,077 Nurses, 241 Pharmacists, and 245 laboratory technicians. This gives a grand total of 5,958 health practitioners. The distribution of this population is as shown in table 3.1.

Table 3.1: Population of Primary Health Care practitioners and Centers in Rural Areas of North–Western States of Nigeria

No	State	LGA	No. of PHC Centre	Dr.	Nur.	Pha.	Lab tech	Total
1	Jigawa	27	27	54	847	24	23	926
2	Kaduna	23	23	61	1004	43	41	1149
3.	Kano	44	44	67	1325	51	60	1503
4	Katsina	34	34	62	1003	42	40	1147
5	Kebbi	21	21	49	736	21	22	828
6	Sokoto	21	21	59	98	41	36	234
7	Zamfara	14	14	43	64	19	23	149
	Total	184	184	395	5977	241	245	5958

Source: National Bureau of Statistics (2012) Directory of Health establishments in Nigeria. Abuja: Economic Reform and Governance Project P.3

Key: Dr – Doctors Pha – Pharmacists Nur – Nurses
Lab Tech – Laboratory Technologists LGA – Local Government Area

3.3 Sample and sampling Techniques

The research was basically on primary health care centers in rural areas of the North Western States of Nigeria and there are 184 primary health centers in the zone. This population is considered too large because the total population of the subject in the study amounted to 5958. Therefore to select samples from the 184 primary health care centers, a Stratified Sampling technique was used. Following this method, for every five primary health care centers in a state two was selected. This means that if a state is having

27 primary health care centers as the case in Jigawa, 10 primary health care centers will be selected. Using this method a total of 79(38.05%) primary health care centers were selected to participate in the study. This figure was found appropriate because according to Kielman (1995) as cited in Simba and Nwagu (2005) a sample of 35% - 43% is considered adequate representative sample in health systems research. Proportionate sampling was used to ensure representation of the diverse segments of the population. Table 3.2 shows the distribution of samples of the primary health care selected.

Table 3.2: Rural Primary Health Care Centers Selected

No	State	No. of PHC Centre	PHC Centre Selected	%
1	Jigawa	27	10	5.4
2	Kaduna	23	09	4.89
3	Kano	44	17	9.24
4	Katsina	34	13	7.07
5	Kebbi	21	08	4.35
6	Sokoto	21	08	4.35
7	Zamfara	14	05	2.72
	Total	184	79	38.05

Out of the total population of 5,958 primary health care practitioners, 1,192 (20%) were selected using stratified and random sampling technique. The health workers were divided into four strata of Doctors, Nurses, Pharmacist and Laboratory Technicians. Using these strata the sample were selected randomly. Best and Khan, (1989) assert that there is no fixed number or percentage of size of an adequate sample. However, Briggs and Coleman (2002) opined that sample size should be as big as the researcher can manage within the practical constraints and resources available. Therefore, 1,192(20%) is found adequate because this position was supported by Afolabi (1993) as a sample of 20% of the population is quite adequate for behavioural research such as this. Afolabi is

of the view that a sample size of 20% from a population is enough to ensure representation of the population. Table 3.3 shows the sample size of Primary Health Care practitioners selected for the study.

Table 3.3: Rural Primary Health Care Practitioners Selected

No	State	Pop of Dr.	Doctors selected	Pop of Nurses	Nurses Selected	Pop of Phar.	Phar. Selected	Pop of Lab tech	Lab tech selected
1	Jigawa	54	11	847	169	24	05	23	05
2	Kaduna	61	12	1004	201	43	09	41	08
3	Kano	67	13	1325	265	51	10	60	12
4	Katsina	62	12	1003	201	42	08	40	08
5	Kebbi	49	10	736	147	21	04	22	04
6	Sokoto	59	12	98	20	41	08	36	07
7	Zamfara	43	09	44	13	19	04	23	05
	Total	395	79	5077	1016	241	48	245	49

3.4 Instruments for Data Collection

The instruments used for collecting data in this research were questionnaire and interviews. Questionnaire is commonly used in studies that the respondents cannot be easily reached. Borg and Gail (1983) defined questionnaire as a valuable research instrument in education and Social Sciences. Nworgu (1991) stated that questionnaire is by far the most frequently used instrument in educational research. On the other hand, interview method was used to collect basic information that was not possible to obtain through questionnaire.

3.4.1 Questionnaire

One set of Questionnaire was constructed and administered to all the Primary Health Care practitioners. The Questionnaire is divided into six sections. Section A contains information on Bio-data; Section B types of health information generated;

Section C extent of awareness of health information; Section D method of accessing health information; Section E utilization of health information and Section F extent of satisfaction with health information.

3.4.2 Interview

Doctors and Nurses were interviewed through face-to-face interactions. Unstructured type of interview was administered on them. Two weeks was used for this exercise. Akuezilo (2002) stated that Interview method is significant because most people are more willing to talk than to write.

3.5 Validity of the Instruments

In order to ascertain the validity of the instruments, the researcher subjected her instruments to research experts, colleagues and supervisors for validation. The instruments were corrected, and comments of the supervisor improved the items structure and format. Contents validity was adopted to validate the instrument.

3.6 Reliability of the Instruments

The reliability of the instruments was established by conducting a pilot study within 7 days (1 week) in Billiri Local Government in Gombe State. 40 health workers were issued the research instrument. Peliam and Domnick (1995) stated that small sample is also adequate for testing measuring instruments for pilot testing to determine the practicability of the research instrument, while Olvera (2001) had the view that pilot testing is usually done on a much smaller scale than the main study but under similar conditions.

The reliability of the questionnaire was determined using the split half technique. In this method, the copies of the instrument were distributed once. One way ANOVA was used and the result was tested at 0.05. ANOVA was used because more than two variables were manipulated. The value obtained was $r = 0.754$. The instrument was however found to be reliable.

Procedure for calculating the reliability coefficients using the split-half method involved dividing the test into equivalent halves (first 20 and next 20 items), correlating the two sets of scores and applying the Guttman correlation Split-Half Coefficient formula to get reliability of the total test.

3.7 Procedure for data collection

The researcher administered the instruments personally with the help of two research assistants. This was because the research covered 7 states, the researcher took 1 state and the research assistants covered 6 states. The research assistants were university postgraduate students. With a little training coupled with their knowledge of research methodology, it was easy for them to administer the instruments and collect data that was used for the study.

3.8 Procedure for data analysis

The statistical techniques used in the analysis and interpretation of the data were the frequency counts, tables, charts and percentages. Analysis of variance (ANOVA) was also used to test the hypotheses. Mamman et al (2002) indicated ANOVA techniques allow comparing the mean of two or more groups simultaneously. According to Bordens and About (2002), when experiment includes more than two groups, the statistical test of choice is analysis of variance.

REFERENCES

- Abubakar, T. (1995). A Study of the application of appropriate research techniques in masters theses and dissertation in Library and Information Science. In Wise, M. (ed). Library Education in Nigeria Kano: Bayero University
- Akuezuilo, E.O. (2002). *Research and Statistics in Education and Social Science: Methods, and Applications*. Aba: Nuel Centi Prepublication. PP60-68.
- Banilower, E.R., McMahon, K.C., Smith, P.S. & Weiss, I.R. (2001). *National Survey of Science and Mathematics Education*. Chapel Hill, NC: Horizon Research.
- Best, J. & Khan, I. V. (1989). *Research in education*. 6th ed. New York. McGraw-Hill. PP79-81
- Borden, K.S. & Aboot, B.B (2002). *Research Design and Methods: A Process Approach*. 5th ed. Boston: McGraw Hill. Pp 393-394.
- Borg, W.R. & Gail, M.D. (1983). *Foundations of Educational Research*. New York: Longman. Pp237-235
- Briggs, A. & Coleman, M. (2002). *Research Methods in Educational Leadership and Management*. Leicester: Paul and Chapman. Pp93-121
- Kielman, A. (1995). *Assessing Health Needs Services and Systems: Protocol for Rapid Data Collection*. London: AMREF and Macmillan Company.
- Sampel, G.H. & Westley, B. H. (1989). *Research Method in Mass Communication System: A Case Study of Kindoni Municipality in Dar Es Salaam*. New Jersey: Prentice Hall. Pp150-172.
- Simba, D.O. & Nwangu, M. (2005). Region, Tanzania". *African Journal of Library, Archives and "Knowledge, attitude and perception of health workers on health management information*
- Tukman, B.C. (1988). *Conducting Educational Research*. 2nd ed. New York: Harcourt Brace Inc. pp98-110.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter presented the data collected for the study analysed and discussed under the following sub-headings:

- 4.1 Response Rate
- 4.2 Data Analysis and Discussion;
- 4.3. Descriptive Analysis
- 4.4. Inferential Analysis

4.1 Response Rate

Out of the 1,192 copies of questionnaire distributed to the respondents, a total of 1040 (87.2%) copies were returned duly completed and found usable for this study.

The high response rate of 87.2% was realised due to the fact that the research assistants used were well trained on the administration of the questionnaire. Some of them were part of the respondents. Also, the respondents were given up to two weeks within which to complete and return their copies of the questionnaire. Table 4.1 shows the response rate.

Table 4.1: Distribution of the Response Rate

State	Questionnaire Distributed	Questionnaire Retrieved	Percentage of Return
Kaduna	190	179	15.0
Kano	300	287	24.1
Kebbi	165	145	12.2
Katsina	230	221	18.5
Jigawa	190	129	10.8
Sokoto	61	44	3.7
Zamfara	42	35	2.9
Total	1192	1040	87.2

4.2 Data Analysis

This section analysed and discussed the data collected for the study with respect to the use research questions raised using description statistical techniques and presents the findings as follows:

4.2.1 Types of PHC Information Generated by the Rural Healthcare Practitioners in North Western States of Nigeria

This research question on the types of PHC information generated was raised in order to identify the type of such information generated by the healthcare practitioners in rural areas of North Western States of Nigeria. In order to achieve this objective, a list of possible PHC information was provided for the respondents to tick as many options as applicable. Table 4.2 and Figure 4.1 shows their responses.

Table 4.2: Types of PHC Information Generated by Rural Health Care Practitioners in North-Western States of Nigeria

Types of PHC Information Generated	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	f	%	F	%	f	%	f	%	f	%	f	%	f	%	f	%
Information on maternal health	166	92.7	278	96.9	133	91.7	212	95.9	111	86.0	37	84.1	33	94.3	970	93.3
Information on Immunization and Childhood killer diseases	153	85.5	265	92.3	137	94.5	201	90.9	123	95.3	42	95.5	31	88.6	952	91.5
Information on the provision of adequate water supply.	147	82.1	282	98.3	45	31.0	199	90.0	23	17.8	13	29.5	7	20.0	716	68.8
Information on water borne diseases	167	93.3	276	96.2	122	84.1	189	85.5	110	85.3	34	77.3	34	97.1	932	89.6
Information on way to reduce outbreak of water borne diseases.	152	84.9	278	96.9	132	91.0	201	90.9	123	95.3	38	86.4	32	91.4	956	91.9
Information on environmental sanitation	153	85.5	256	89.2	143	98.6	199	90.0	121	93.8	32	72.7	28	80.0	932	89.6
Information on morbidity and mortality reductions	160	89.4	199	69.3	121	83.4	178	80.5	121	93.8	33	75.0	29	82.9	841	80.9
Information on control of endemic diseases	155	86.6	277	96.5	132	91.0	211	95.5	99	76.7	27	61.4	30	85.7	931	89.5
Information on provision of essential drugs	168	93.9	269	93.7	127	87.6	200	90.5	89	68.9	23	52.3	31	88.6	907	87.2
Information on prevalent diseases in the locality	145	81.0	278	96.9	17	11.7	214	96.8	23	17.8	39	88.6	10	28.6	726	69.8
Information on appropriate treatment of diseases	137	76.5	256	89.2	123	84.8	189	85.5	117	90.7	37	84.1	27	77.1	886	85.2
Information on Good Health Habits	143	79.9	281	97.9	135	93.1	213	96.4	118	91.5	40	90.9	25	71.4	955	91.8
Information on dental care	156	87.2	278	96.9	34	23.4	54	24.4	121	93.8	11	25.0	31	88.6	685	65.9
Information on availability of healthcare Centers.	165	92.2	256	89.2	132	91.0	215	97.3	123	95.3	34	77.3	28	80.0	953	91.6
Information on Rest	0	0.0	12	4.2	0	0.0	178	80.5	12	9.3	11	25.0	0	0.0	213	20.5
Poverty eradication	25	13.9	10	3.5	0	0.0	0	0.0	10	7.8	0	0.0	0	0.0	45	4.3
Information on Unemployment	12	6.7	0	0.0	11	7.6	0	0.0	0	0.0	0	0.0	0	0.0	23	2.2

KEY

KD - Kaduna

KN - Kano

KB - Kebbi

KT - Katsina

JW - Jigawa

SK - Sokoto

ZF - Zamfara

f – Frequency

Fig. 4.1 Types of PHC Information Generated by Rural Health Care Practitioners in North-Western States of Nigeria

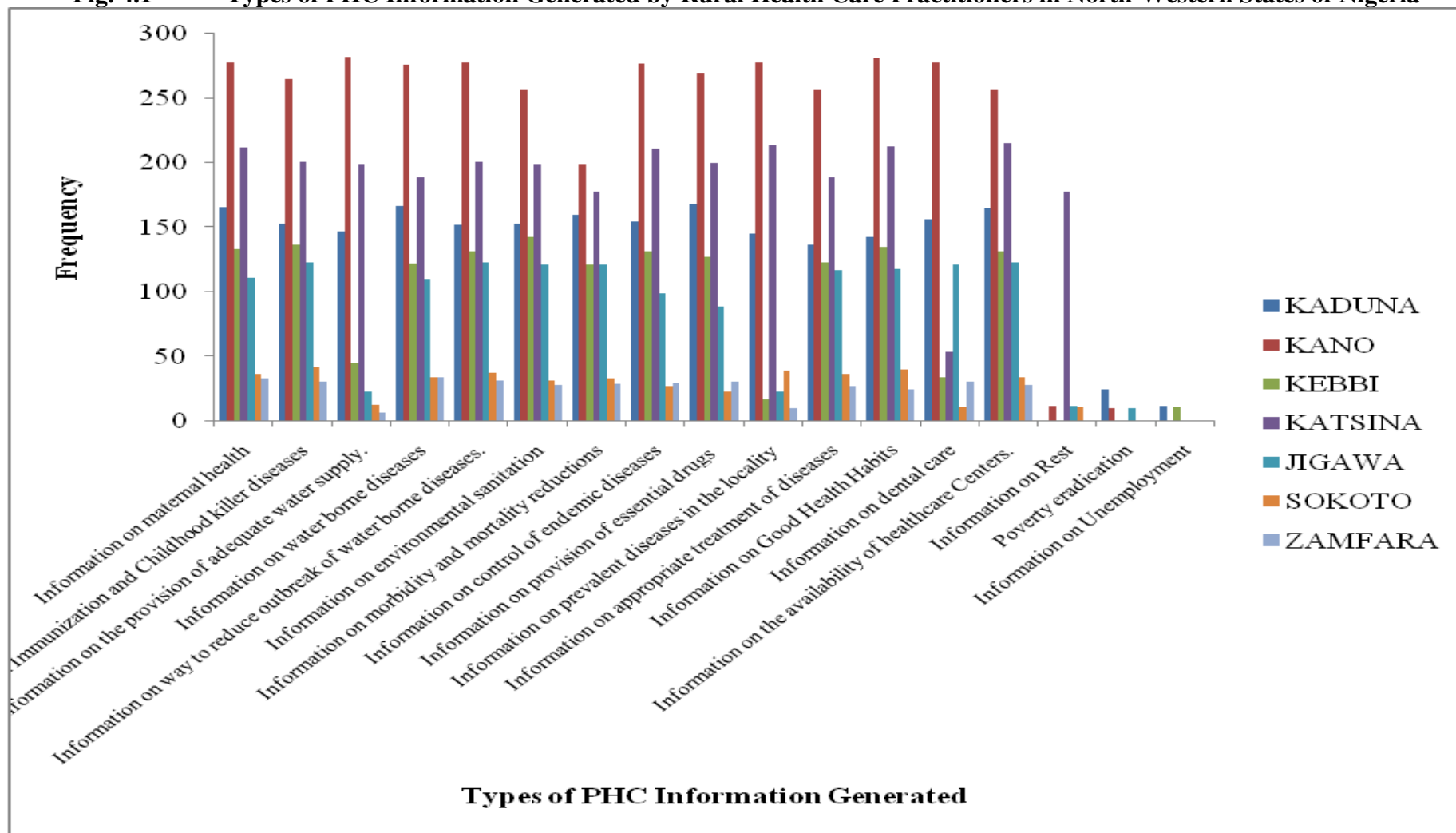


Table 4.2 and Fig. 1 show the type of PHC information generated by the Health Care Practitioners in rural areas of North Western States of Nigeria. It was discovered that information on: maternal and child health 970 (93.3%); immunization 952 (91.5%); provision of adequate water supply 716 (68.8%); water borne diseases 932 (89.6%); prevention of outbreak of water borne diseases 956 (91.9%); environmental sanitation 932 (89.6%); reduction of morbidity and mortality rate were the types of PHC information highly generated by the Primary Health Care Practitioners in all the rural areas of North Western State of Nigeria with over 60% scores respectively. It was however found that the states differ in their responses on information on control of endemic diseases, dental care and prevalent diseases. The need for information on control of endemic diseases, dental care and prevalent diseases are supposed to be adequately generated for the improvement of general well being of the society but unfortunately this is not the case in this study. This is an abnormal situation. The need for information was supported by Iso (2011) who stated that every health institution either profit or non-profit should capture and store the health information for current and retrospective need.

Information on Environmental Challenges

The research went further to determine specifically the kind of information generated on environmental challenges to primary health care, information generated on health challenges encountered by pregnant women and information generated on endemic diseases in the PHCs in rural areas of North Western states of Nigeria.

On the type of information on environmental challenges frequently reported in the Primary Healthcare Centres in rural areas of North-Western States of Nigeria, a list of environmental challenges were provided for the respondents to tick as many options as applicable as shown in Table 4.3 Figure 4.2.

Table 4.3: Types of Environmental Challenges Reported to Rural PHC

Environmental Challenges	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	f	%	f	%	F	%	f	%	f	%	f	%	f	%	f	%
Air pollution	167	93.3	277	96.5	145	100.0	221	100.0	121	93.8	44	100.0	35	100.0	1010	97.1
Water pollution	172	96.1	287	100.0	143	98.6	199	90.0	129	100.0	43	97.7	33	94.3	1006	96.7
Environmental degradation	0	0.0	0	0.0	127	87.6	211	95.5	123	95.3	44	100.0	3	8.6	508	48.8
Bush Burning	166	92.7	266	92.7	135	93.1	201	90.9	111	86.0	37	84.1	34	97.1	950	91.3
Soil Erosion	0	0.0	0	0.0	121	83.4	218	98.6	10	7.8	6	13.6	35	100.0	390	37.5
Oil spillage	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Poisoning	167	93.3	12	4.2	139	95.9	211	95.5	0	0.0	0	0.0	0	0.0	529	50.9

KEY

KD - Kaduna

KB - Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT - Katsina

SK - Sokoto

f – Frequency

Fig. 4.2: Types of Environmental Challenges Reported to Rural PHC

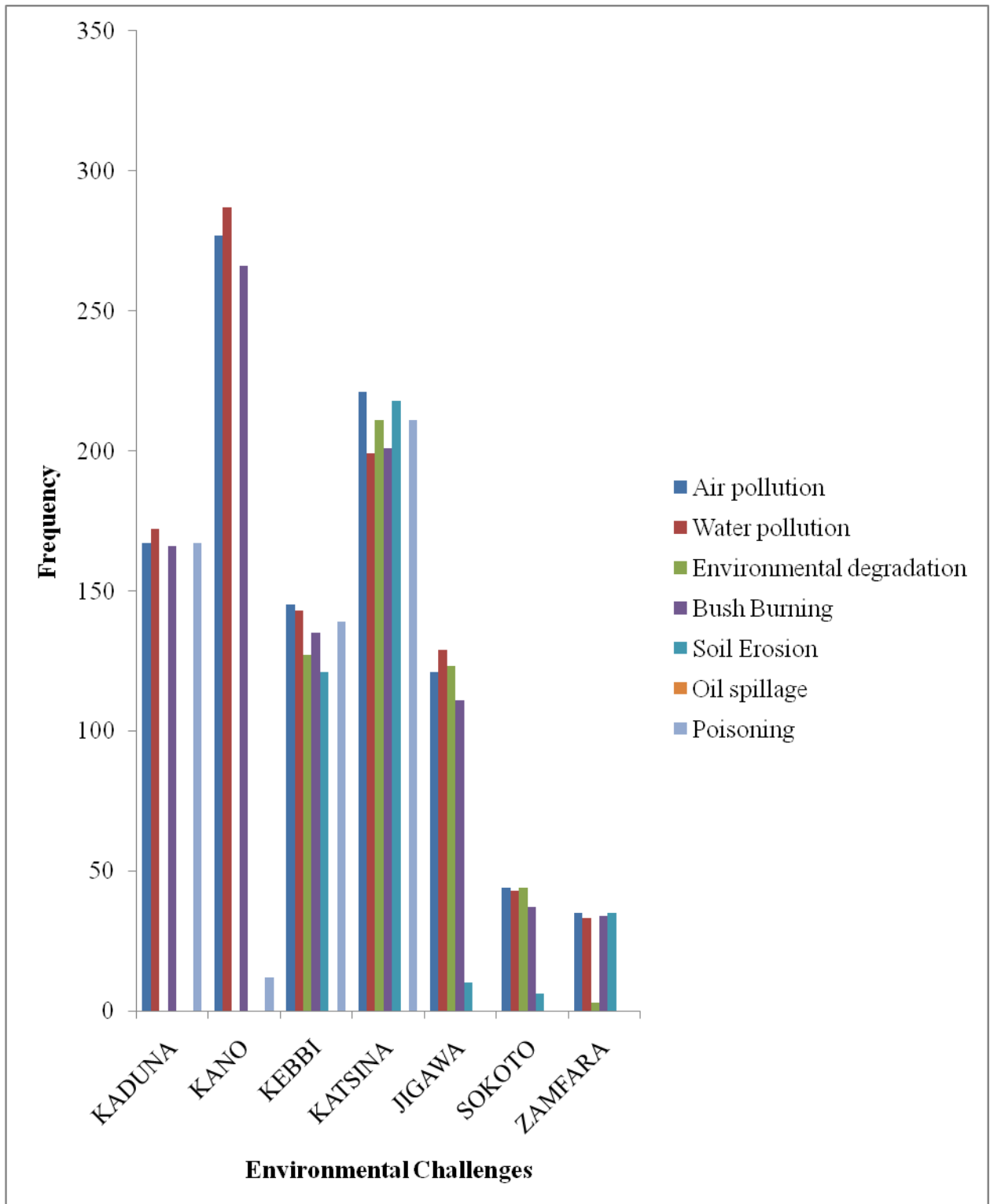


Table 4.4 and Fig. 3 revealed that air pollution (97.1%), water pollution (96.7%), poisoning (50.9%) and bush burning (91.3%) were the major environmental challenges reported in all the PHCs in rural areas of North Western States of Nigeria. However, there are low responses on soil erosion with 37.5% and environmental degradation with 48.8% scores respectively. Benjamin (2008) posited that air and water pollution and environmental degradation are the major environmental challenges confronting development in the area of study. It was also discovered that none of the States reported any information on oil spillage as all the states are not oil non producing States.

PHC Information on Rural Health Challenges in North Western States of Nigeria

A question was raised to identify the type of PHC information on health challenges that pregnant women encountered in the PHCs in rural areas of North Western States of Nigeria. Table 4.4 and Fig. 4.3 shows the type of PHC information on health challenges the pregnant women encountered in the PHCs in rural areas of North Western States of Nigeria. However, only the most prominent views of the respondents were presented in the table.

Table 4.4: Type of Health Challenges Encountered by Rural Pregnant Women

Health Challenges	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	f	%	f	%	F	%	f	%	f	%	f	%	f	%	f	%
Prolong labour	176	98.3	222	77.4	143	98.6	220	99.5	121	93.8	27	61.4	35	100.0	944	90.8
Malnutrition	157	87.7	286	99.7	145	100.0	211	95.5	125	96.9	37	84.1	35	100.0	996	95.8
Echlamsia	167	93.3	235	81.9	134	92.4	202	91.4	129	100.0	44	100.0	24	68.6	935	89.9
Miscarriage	179	100.0	277	96.5	137	94.5	217	98.2	127	98.4	44	100.0	27	77.1	1008	96.9
Abortion	178	99.4	45	15.7	32	22.1	15	6.8	18	13.9	35	79.5	12	34.3	335	32.2
Child killer diseases	179	100.0	231	80.5	123	84.8	199	90.0	111	86.0	39	88.6	34	97.1	916	88.1
Premature death of mothers	177	98.9	221	77.0	135	93.1	213	96.4	124	96.1	44	100.0	33	94.3	947	91.1
Still birth	167	93.3	280	97.6	142	97.9	200	90.5	114	88.4	38	86.4	18	51.4	959	92.2

KEY

KD - Kaduna

KB - Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT - Katsina

SK - Sokoto

f - Frequency

Fig. 4.3: Type of Health Challenges Encountered by Rural Pregnant Women

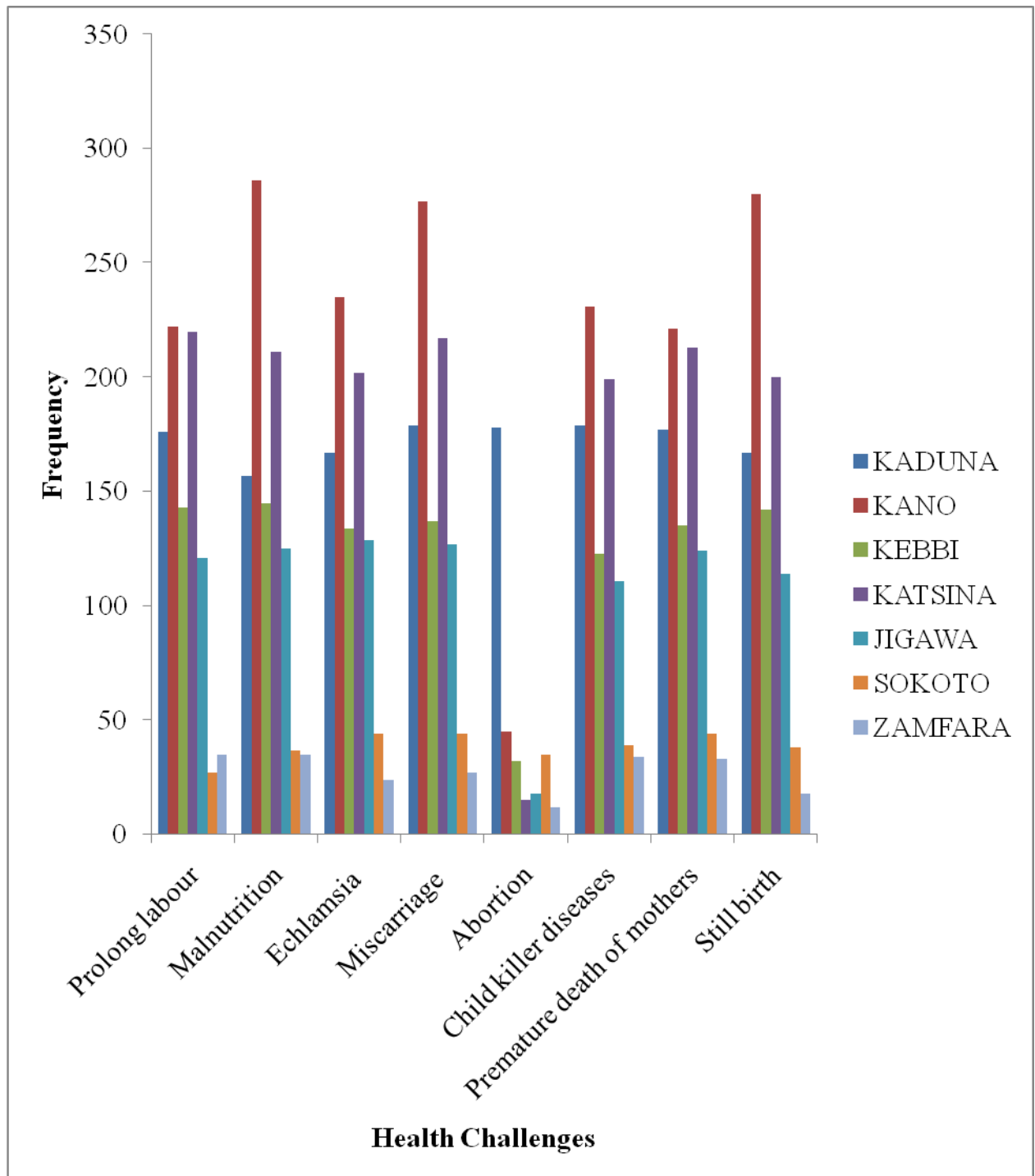


Table 4.4 and Fig 4.3 show the responses of the respondents on the types of PHC information on health challenges encountered by pregnant women in the rural areas of North Western States of Nigeria. It was discovered that prolonged labor (944:90.8%), malnutrition (996:95.8%), eclampsia (935:89.9%), miscarriage (1008:96.9%), child killer diseases (916:88.1%), premature death of mothers (947:91.1%), and still births (959:92.2%) were the most common health challenges encountered by pregnant women in the rural areas of North Western States of Nigeria with over 90% scores respectively. In Kaduna state women bear a disproportionate burden when it comes to sexual and reproductive health and right. The major challenges facing women sexual and reproductive health in Kaduna State are maternal health, limited access to family planning and frequent mischarges (Chinwe and Ahmed, 2011). Kaduna State has the highest percentage of miscarriages as found in the study. Each year Nigerian women obtain approximately 610,000 abortions (a rate of 25 abortions per 1,000 women aged 15-44 years). The rate is much lower in the poor rural regions of Northern Nigeria, than in the more economical developed southern region (Okoreke et al., 2004). This could also explain why the rate of abortion was found to be generally low in the study. Abortion was not very much prevalent among the health challenges encountered by pregnant women in the rural areas of North Western States of Nigeria with a response score of 32.2%. This could probably be attributed to the effect of multi-cultural and religious diversities in the States. Surprisingly though, Kaduna and Sokoto states record high abortion rates. This could be due to unwanted pregnancies among adolescent girls in Kaduna state and cases of dropouts, early child marriages and poor enrolment of girl-child into school in Sokoto State (Jatau, 2011).

A follow-up question was asked to find out the most frequent endemic diseases reported in the primary health care centres in the rural areas of North western States of Nigeria. Thus, a list of diseases was provided for the respondents to tick as many option as applicable as shown in Table 4.5 and Fig. 4.4.

Table 4.5: Endemic Diseases in the Rural PHCs in North Western States of Nigeria

Diseases	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	f	%	f	%	F	%	f	%	f	%	f	%	f	%	f	%
Whooping cough	167	93.3	267	93.0	142	97.9	199	90.0	123	95.3	34	77.3	31	88.6	963	92.6
Diphtheria	0	0.0	12	4.2	0	0.0	10	4.5	45	34.9	0	0.0	0	0.0	67	6.4
Poliomyelitis	13	7.3	0	0.0	0	0.0	0	0.0	12	9.3	0	0.0	4	11.4	29	2.8
Measles	173	96.6	278	96.9	145	100.0	212	95.9	127	98.4	44	100.0	35	100.0	1014	97.5
Tetanus	145	81.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	11.4	149	14.3
Tuberculosis	167	93.3	236	82.2	133	91.7	218	98.6	129	100.0	44	100.0	35	100.0	962	92.5
Yellow fever	178	99.4	201	70.0	145	100.0	221	100.0	76	58.9	28	63.6	31	88.6	880	84.6
Hepatitis	176	98.3	277	96.5	10	6.9	0	0.0	0	0.0	0	0.0	0	0.0	463	44.5
Cholera	179	100.0	234	81.5	112	77.2	217	98.2	129	100.0	43	97.7	35	100.0	949	91.3
Cerebra spinal meningitis	121	67.6	287	100.0	123	84.8	208	94.1	118	91.5	42	95.5	32	91.4	931	89.5
Guinea worm	0	0.0	0	0.0	19	13.1	0	0.0	23	17.8	0	0.0	31	88.6	73	7.0
Onchocerciasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Malaria	177	98.9	267	93.0	133	91.7	221	100.0	128	99.2	44	100.0	35	100.0	1005	96.6

KEY

KD - Kaduna

KB - Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT - Katsina

SK - Sokoto

f - Frequency

Fig. 4.4: Endemic Diseases in the Rural PHCs in North Western States of Nigeria

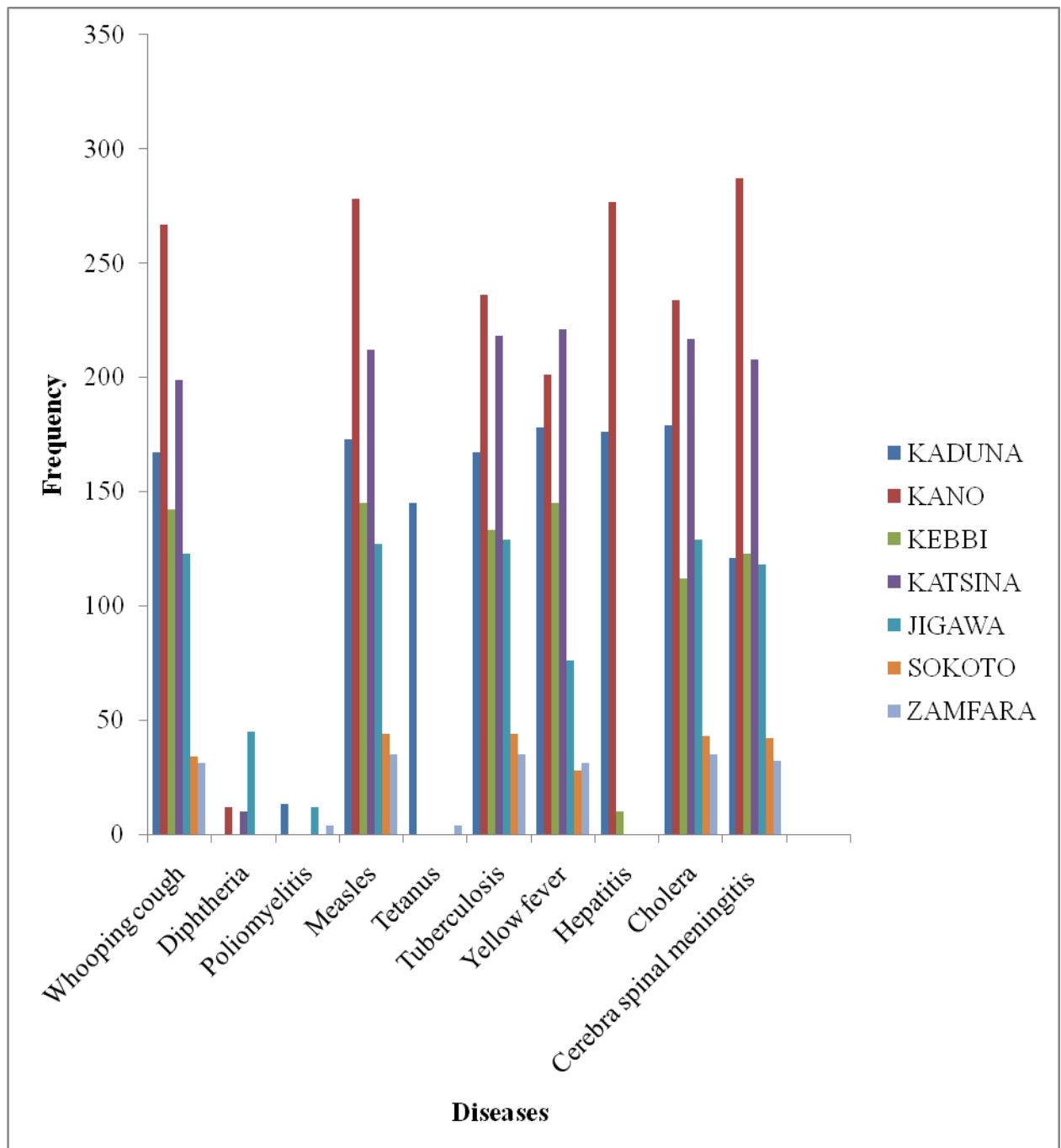


Table 4.5 showed the responses of the respondents on the endemic diseases in the PHCs in the rural areas of North Western States of Nigeria. It was discovered that whooping cough, measles, tuberculosis, yellow fever, cholera, cerebro spinal meningitis, and malaria were the most common endemic diseases affecting local communities in the PHCs in rural areas of North Western States of Nigeria with an average of over 80% scores respectively. Whereas, diphtheria, poliomyelitis, tetanus, guinea worm were among the least endemic diseases affecting the communities in PHCs in rural areas of North western states of Nigeria with an average of less than 10% response scores respectively.

However, hepatitis recorded over 60% scores at the Kaduna and Kano States PHCs. Also, the respondents indicated that onchocerciasis is not among the endemic diseases in the PHCs studied. This might perhaps be due to the peculiarities and differences of the respective PHCs studied.

4.2.2 Format of PHC Information Generated

Information generated can exist in a variety of formats. This research moved further to determine the format in which information in primary health care center is generated in the rural areas of North Western States of Nigeria. Table 4.6 and Fig. 4.5 shows the types of format in which PHC information were generated in the Primary Health Care centres by the respondents.

Table 4.6: Format in which PHC information were Generated by Rural Health Care Practitioners in North-Western States of Nigeria

Type of Formats	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Reports	166	92.7	267	93.0	133	91.7	213	96.4	125	96.9	37	84.1	35	100.0	976	93.8
Records	156	87.2	279	97.2	45	31.0	13	5.9	37	28.7	12	27.3	0	0.0	542	52.1
Statistics	170	94.9	245	85.4	129	88.9	217	98.2	127	98.4	32	72.7	32	91.4	952	91.5
Memoranda	123	68.7	198	68.9	134	92.4	207	93.7	118	91.5	37	84.1	33	94.3	850	81.7
Notices	156	87.2	234	81.5	23	15.9	199	90.0	23	17.8	40	90.9	8	22.9	683	65.7

KEY

KD - Kaduna

KB – Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT – Katsina

SK - Sokoto

f – Frequency

Fig. 4.5: Types of Format in which PHC information were Generated by Rural Health Care Practitioners in North-Western States of Nigeria

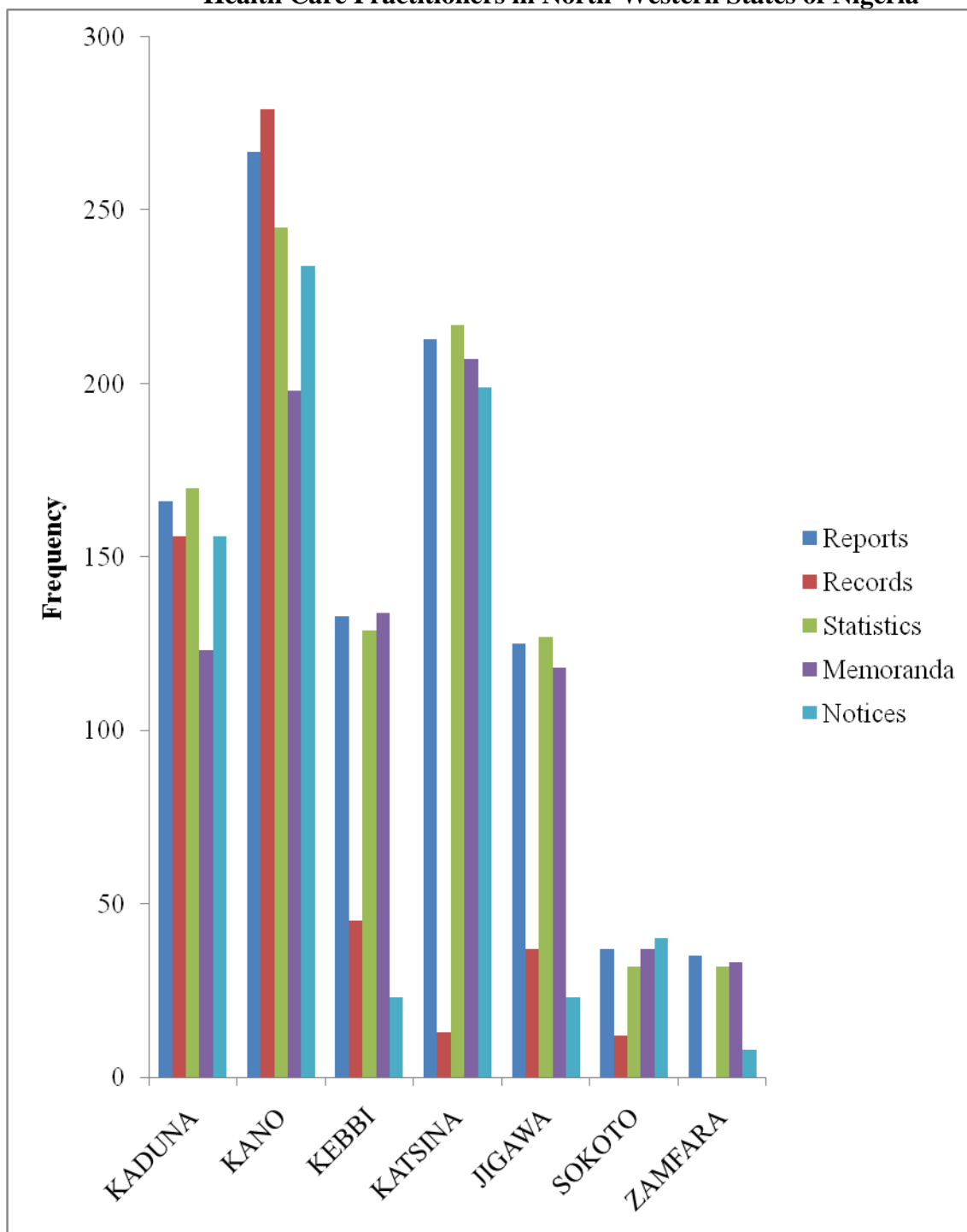


Table 4.6 and Figure 4.5 show the responses of the respondents on the type of formats in which PHC information were generated in the PHCs in rural areas of North Western States of Nigeria. It was discovered that the PHC information were mostly generated in form of reports, statistics, memoranda, records and notices. Those in records format have the least score of 542 (52.1%) while those in reports, statistics, memoranda and notices formats have over 60% scores. This finding supported Osundia (2005) who observed that primary health care information are created in the form of records, report and memoranda. Expectedly, primary health care centres are to generate records, in different formats for effective dispensation of health care delivery.

4.2.3 Sources of PHC Information in the Primary Health Centers in Rural Areas of North Western States of Nigeria

This research question was raised to identify the various sources of PHC information available in the Primary Health Centers in rural areas of North Western States of Nigeria. In doing this, a list of sources was provided for the respondents to tick as many options as relevant. Table 4.7 and Fig. 4.6 show the responses of the respondents:

Table 4.7: Sources of PHC information in Rural Areas of North Western States of Nigeria

Sources of Information	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	F	%	f	%	f	%	f	%	f	%	f	%	F	%	f	%
Patients	177	98.9	222	77.4	137	94.5	221	100.0	123	95.3	44	100.0	32	91.4	956	91.9
Colleagues	179	100.0	257	89.5	145	100.0	221	100.0	129	100.0	43	97.7	34	97.1	1008	96.9
Conferences / workshops / seminars	167	93.3	268	93.4	123	84.8	134	60.6	114	88.4	37	84.1	27	77.1	870	83.7
Library	177	98.9	278	96.9	113	77.9	123	55.7	117	90.7	31	70.5	35	100.0	874	84.0
Textbooks	156	87.2	234	81.5	142	97.9	211	95.5	120	93.0	27	61.4	35	100.0	925	88.9
Journals	137	76.5	277	96.5	17	11.7	213	96.4	23	17.8	27	61.4	12	34.3	706	67.9
Newspapers	167	93.3	125	43.6	123	84.8	219	99.1	118	91.5	34	77.3	27	77.1	813	78.2
Internet	177	98.9	282	98.3	24	16.6	54	24.4	34	26.4	44	100.0	9	25.7	624	60.0
Radio / TV	172	96.1	278	96.9	134	92.4	199	90.0	99	76.7	43	97.7	28	80.0	953	91.6
CD / Tapes / Cassettes	123	68.7	113	39.4	135	93.1	201	90.9	76	58.9	32	72.7	34	97.1	714	68.7
Research reports	168	93.9	283	98.6	15	10.3	34	15.4	21	16.3	37	84.1	5	14.3	563	54.1
Professional Associations	171	95.5	277	96.5	143	98.6	215	97.3	129	100.0	41	93.2	35	100.0	1011	97.2
Databases	123	68.7	114	63.7	00	00	00	00	89	68.9	26	59.1	00	00	352	33.9

KEY

KD - Kaduna

KB - Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT - Katsina

SK - Sokoto

f - Frequency

Fig. 4.6: Sources of PHC Information in Rural Areas of North Western States of Nigeria

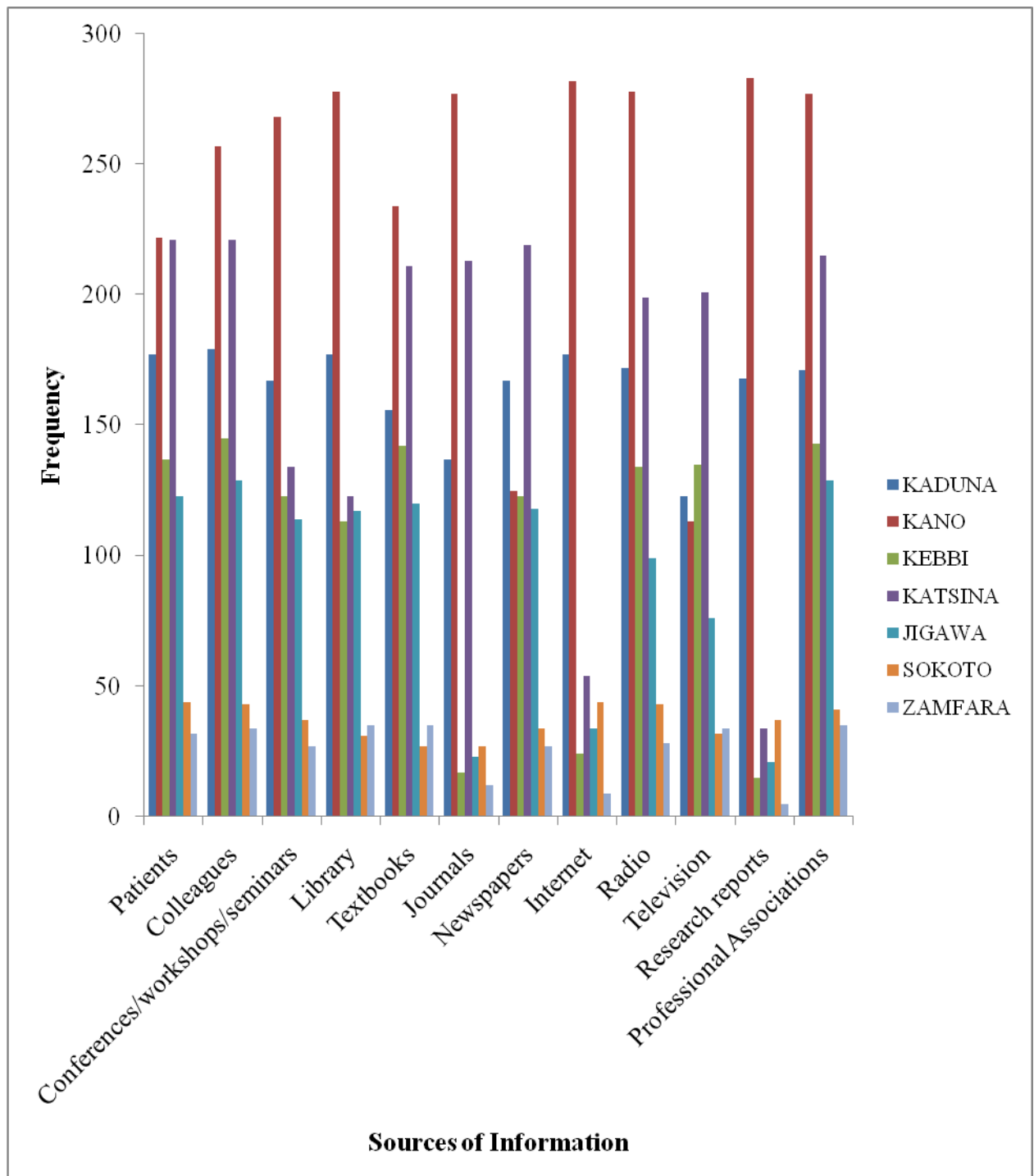


Table 4.7 and Fig. 4.6 depict the responses of the respondents on the sources of PHC related information. The table and fig reveal that all listed sources of information were consulted by the primary health care providers in the rural areas of North Western States of Nigeria with professional Association recording the highest 1011 (97.22) response. This was closely followed by sourcing information from colleague with 1008 (96.9%) response. The table and figure further showed that PHC providers hardly use research reports and interest because these recorded the lowest of 624 (60.0%) and 563 (54.12) response respectively.

It was found that Audio Visual storage devices were not considered as a veritable source of information by the primary health care providers. This finding was unexpected because very useful and relevant information are being obtained from radio, internet and TV. It is important that the primary health care practitioners are educated on the relevance and usefulness of consulting these information sources in order to meet the health needs of their clients. Newman (2009) suggested the use of CDs, tapes, cassettes and other sound recordings for generation and use of information for medical care. The lack of use of Audio Visuals in the PHCs in rural areas of North Western States is surprising as Information and Communication Technology is the driving force in information generation and dissemination in the 21st Century.

4.2.4 Purpose of Use of PHC-Related Information in the Rural Areas of North Western States PHCs of Nigeria

The researcher further sought to find out the purposes of use of the PHC information by the Primary Health Care practitioners in rural areas of North Western States of Nigeria. In order to obtain the answers, the respondents were asked to indicate

their purposes of using information in their respective PHCs as shown in Table 4.8 and Fig. 4.7.

Table 4.8: Purpose of Use of PHC-related Information in the Rural Areas of North Western States PHCs of Nigeria

Purposes of using Information	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Planning	156	87.2	267	93.0	124	85.5	211	95.5	122	94.6	44	100.0	28	80.0	952	91.5
Treatment of diseases and injuries	144	80.4	277	96.5	144	99.3	221	100.0	117	90.7	37	84.1	31	88.6	971	93.4
Provision of essential drugs	167	93.3	198	68.9	143	98.6	189	85.5	124	96.1	36	81.8	33	94.3	890	85.6
Immunization	171	95.5	189	65.9	145	100.0	199	90.0	123	95.3	36	81.8	35	100.0	898	86.3
Environmental sanitation	177	98.9	214	74.6	43	29.7	212	95.9	17		41	93.2	7	20.0	711	68.4
Provision of adequate water supply	156	87.2	234	81.5	34	23.4	212	95.9	23	17.8	10	22.7	0	0.0	669	64.3
Morbidity and mortality rate reduction	123	68.7	244	85.0	23	15.9	156	70.6	79	61.2	34	77.3	6	17.1	665	63.9
Dental care	111	62.0	166	57.8	17	11.7	176	79.6	99	76.7	38	86.4	4	11.4	611	58.8
Control of endemic diseases	123	68.7	178	62.0	133	91.7	189	85.5	101	78.3	41	93.2	28	80.0	793	76.3
Decision	177	98.9	266	92.7	129	88.9	201	90.9	115	89.1	44	100.0	31	88.6	963	92.6

KEY

KD - Kaduna

KB - Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT - Katsina

SK - Sokoto

f - Frequency

Fig. 4.7: Purpose of use of PHC-Related Information in the Rural Areas of North Western States PHCs of Nigeria

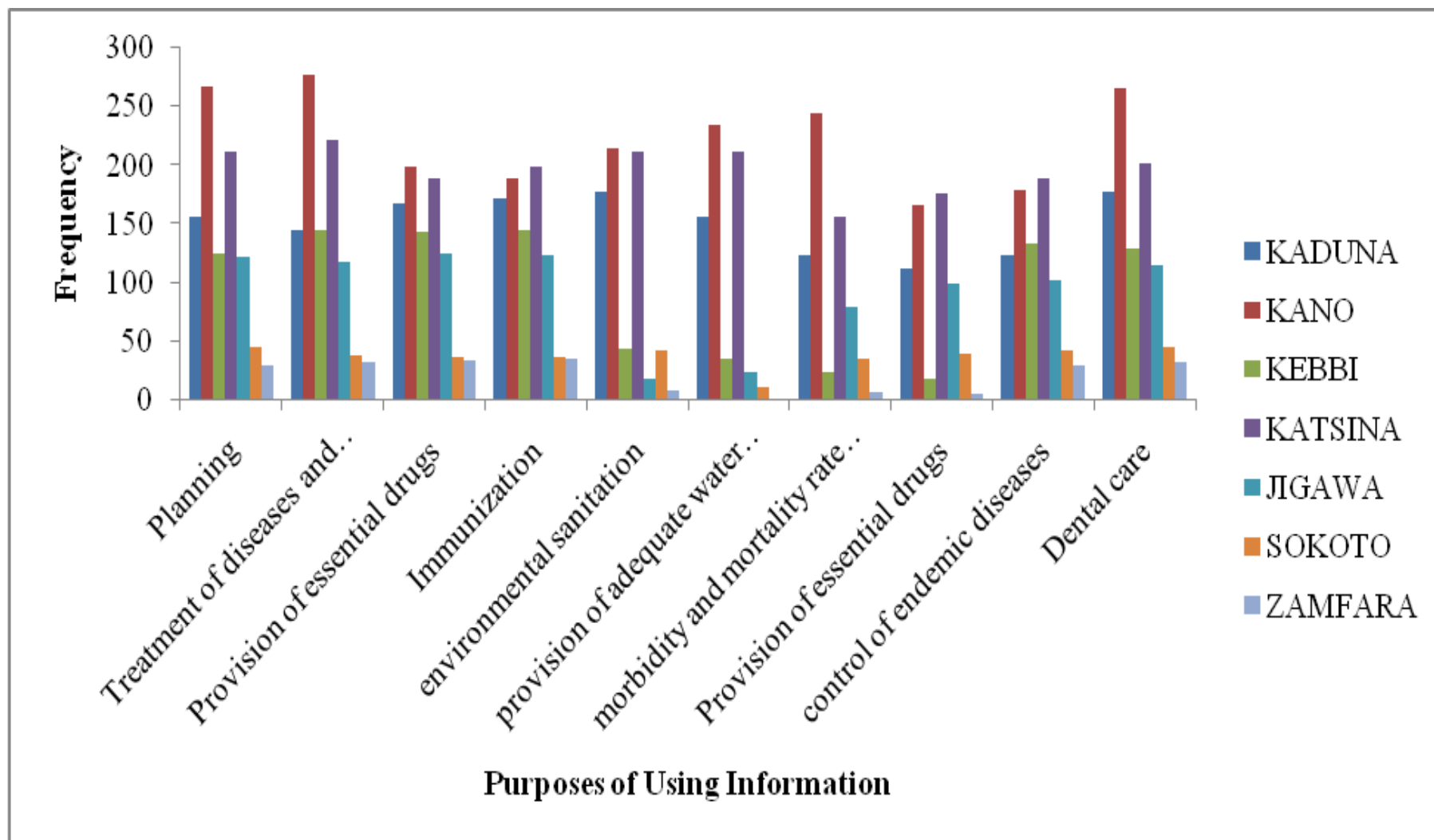


Table 4.8 and Figure 4.7 indicated that the primary health care practitioners use PHC related information for variety of purposes. It was discovered that primary health care practitioners studied used PHC information for all the ten purposes identified for them with an average of over 60% score respectively. These were planning (952:91.5%), treatment of diseases and injuries (971:93.4%); provision of essential drugs (890:85.6%); immunization (898:86.3%); morbidity and mortality rate reduction (665:63.9%); environmental sanitation (711:68.4%) and provision of adequate water supply (669:64.3%), control of endemic diseases and dental care (793:76.3%). This finding does not come as a surprise because primary health centers were established for the above mentioned purposes. They constitute the primary responsibility of PHCs in the localities. This finding correlated with that of Huffman (1981) who reported use of primary health care information for planning, immunization and control of endemic diseases.

4.2.5 Extent of Awareness of Information Generated by the Healthcare Practitioners in Rural Areas of North Western States of Nigeria

This question was aimed at determining the extent to which the healthcare practitioners are aware of the PHC information generated in the Primary Health Centers (PHCs) in rural areas of North Western States of Nigeria. In order to achieve this, a five point Likert measurement scale was used to collect the data. However the five point Likert scale was collapsed into three options for easy discussion. The responses are shown in Table 4.9.

Table 4.9 Extent of Awareness of the PHC Information Generated in Rural Areas of North Western States Primary Health Centers

S/N	Type of information	Responses					
		Very Much Aware		Rarely Aware		Not Aware	
		f	%	f	%	f	%
1	Information on Maternal child health	850	81.7	90	8.7	100	9.6
2	Information on Immunization	800	76.9	140	13.5	100	9.6
3	Information on provision of adequate water supply	70	6.7	780	75.0	190	18.3
4	Information on water borne diseases	1005	96.6	35	3.4	0	0.0
5	Information on environmental sanitation	0	0.0	67	6.4	973	93.6
6	Information on morbidity and mortality rate reduction	18	1.7	40	3.8	182	17.5
7	Information on control of endemic diseases	777	74.7	195	18.8	68	6.5
8	Information on Provision of essential drugs	0	0.0	290	27.9	750	72.1
9	Information on Prevalent diseases	40	3.8	973	93.6	27	2.6
10	Information on appropriate treatment of diseases and injuries	1000	96.2	36	3.5	4	0.4
11	Information on good health habits	990	95.2	40	3.8	10	0.9
12	Information on rest	900	86.5	40	3.8	100	9.6
13	Information on Poverty eradication	950	91.3	60	5.8	30	2.9
14	Information on Unemployment	0	0.0	58	5.6	982	94.4
15	Information on Mental breakdown	0	0.0	68	6.5	972	93.5
16	Information on Dental care	980	94.2	40	3.8	20	1.9

Table 4.9 shows the responses of the respondents on the extent of their awareness of the PHC information generated in the Primary Health Centers in rural areas of North Western States of Nigeria. As shown in the table, out of the 17 types of PHC information generated in the center primary health care providers were very much aware of 9 (52.94%) types of PHC information.

However, it is surprising that as many as 750 (72.1%) and 973 (93.6%) primary health care practitioners were not aware of PHC information on the provision of essential drugs and information on environmental sanitation. The reason why this aspect of PHC recorded these high responses could be due to the fact that PHC centers are not in charge with environmental sanitation and drug dispensation are only carried out in these centers at minimal level. The absence of an effective system for PHC information handling in the Primary Health Centers in rural areas of North Western States of Nigeria could also have contributed to this. It can therefore be concluded that the primary health care providers in rural areas of North Western States of Nigeria were very much aware of majority of the PHC information generated in the Primary Health Centers in the areas studied.

4.2.6 Access to Primary Health Care Information in Rural Areas of North Western States of Nigeria

This question was raised to determine the means through which the primary health practitioners access the PHC information for primary health care in rural areas of North Western States of Nigeria. In order to do this, a list of options was provided for the respondents to indicate the appropriate option as shown in Table 4.10 and Fig. 4.8.

Table 4.10: Means of Access to PHC Information in Rural Areas of North Western States of Nigeria

Means of Access	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	F	%	F	%	f	%	f	%	f	%	f	%	f	%	f	%
Library	14	7.8	211	73.5	12	8.3	199	90.0	17	13.2	10	22.7	5	14.3	468	45.0
Internet	176	98.3	199	69.3	133	91.7	211	95.5	121	93.8	37	84.1	31	88.6	908	87.3
Databases	156	87.2	123	42.9	0	0.0	0	0.0	89	68.9	26	59.1	0	0.0	394	37.9
Superior	167	93.3	245	85.4	145	100.0	221	100.0	121	93.8	44	100.0	35	100.0	978	94.0
Colleagues	179	100.0	279	97.2	145	100.0	221	100.0	123	95.3	44	100.0	34	97.1	1025	98.6
Conference/Seminars/ Workshops	123	68.7	211	73.5	89	61.4	177	80.1	99	76.7	25	56.8	25	71.4	749	72.0
Meetings	178	99.4	277	96.5	133	91.7	216	97.7	123	95.3	42	95.5	29	82.9	998	95.9
Focus Group Discussion	114	63.7	189	65.9	12	8.3	201	90.9	12	9.3	36	81.8	7	20.0	571	54.9
Archives/Museum	0	0.0	166	57.8	0	0.0	156	70.6	0	0.0	0	0.0	2	5.7	324	31.2
Record Centres	175	97.8	247	86.1	13	8.9	45	20.4	125	96.9	39	88.6	5	14.3	649	62.4

KEY

KD - Kaduna

KB - Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT - Katsina

SK - Sokoto

f - Frequency

Fig. 4.8: Means of Access to PHC Information in Rural Areas of North Western States of Nigeria

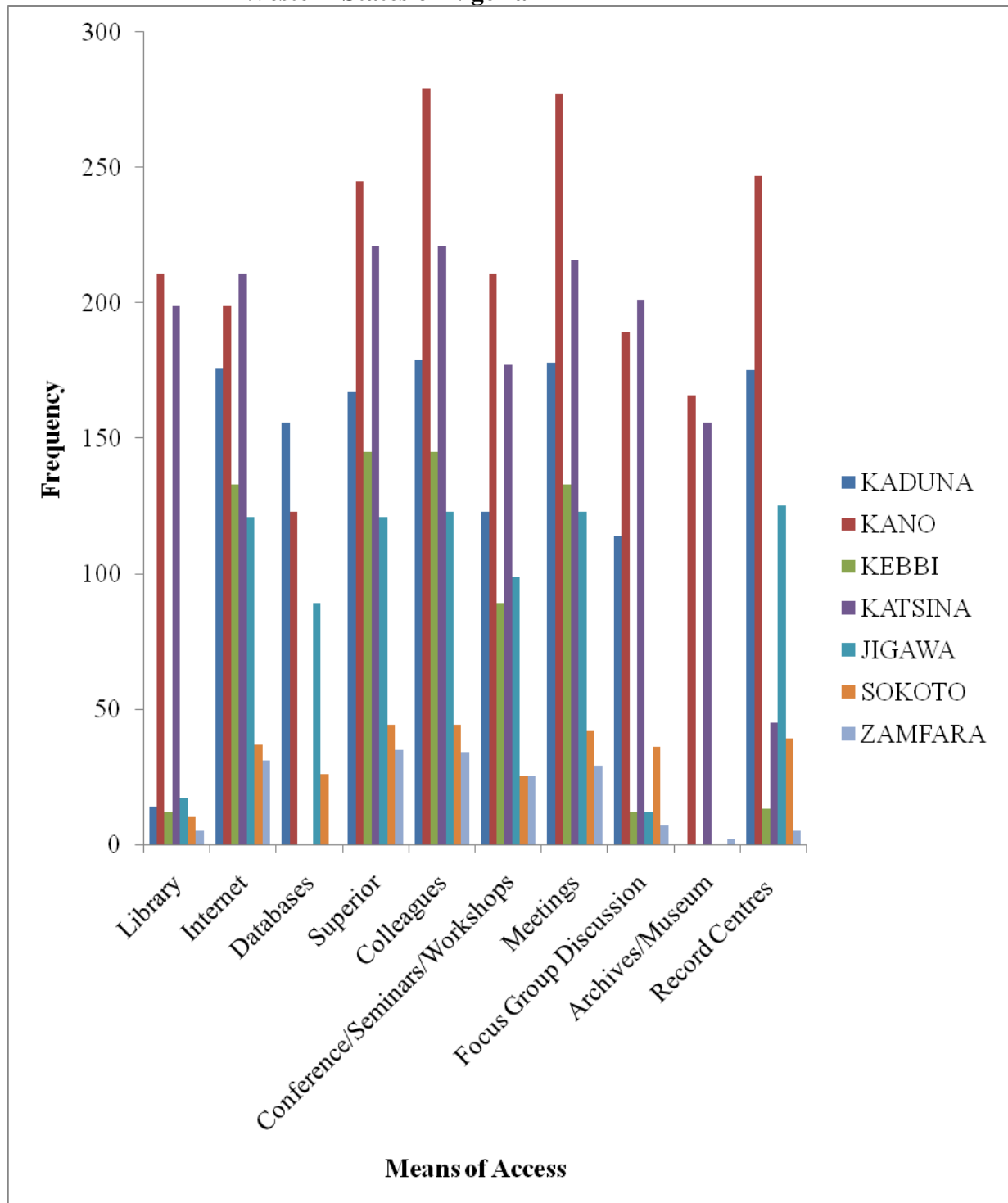


Table 4.10 and Fig. 4.8 indicate that Internet (908:87.3%), superiors (978:94.0%), colleagues (1025:98.6%), conferences / workshops / seminars (749:72.0%) and meetings (998:95.9%) were the commonest means through which the primary health care practitioners access information in Rural areas of North Western States of Nigeria with an average of over 70% scores respectively. It was also found that the states differ in the use of databases (394:37.9%), Focus Group Discussion (571:54.9%), Archives/Museums (324:31.2%) and record centres (649:62.4%) among the means of access to information by primary health care providers. The poor use of database, archives/museum and record centres might be attributed to the choice, convenience, preference and availability of the means of access to PHC information among the health care providers in the states studied. Thus, there is the need for the primary health care centers to be well equipped with libraries, databases and museum/archives in order to enhance and facilitate access to information by the primary health care providers. This will go a long way in improving the lives of pregnant women in the locality. Kukah (2005) identified library, internet, colleagues, meeting and conference as outlets for information access. These information outfits provide the primary health care providers with the latest development in medical practice.

A follow up question was raised to identify those facilitates access to information resources on Primary Health Care in the PHCs in Rural areas of North Western States of Nigeria. To do this, a list of options was drawn for the respondents to tick as many as relevant. Their responses are shown in Table 4.11 and Fig. 4.9:

Table 4.11: Facilitators of Information Access in the PHCs in Rural Areas of North Western States of Nigeria

Facilitators	State Public Health Care														Total	
	KD		KN		KB		KT		JW		SK		ZF			
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Librarian	45	25.1	189	65.9	33	22.8	56	25.3	12	9.3	0	0.0	7	20.0	342	32.9
Record manager	165	92.2	215	74.9	123	84.8	198	89.6	122	94.6	34	77.3	28	80.0	885	85.1
Archivist	0	0.0	0	0.0	0	0.0	12	5.4	0	0.0	0	0.0	3	8.6	15	1.4
Superiors	168	93.9	223	77.7	134	92.4	211	95.5	126	97.7	44	100.0	33	94.3	939	90.3
Colleagues	176	98.3	267	93.0	145	100.0	211	95.5	126	97.7	44	100.0	35	100.0	1004	96.5
Search engines	179	100.0	255	88.9	121	83.4	178	80.5	99	76.7	35	79.5	28	80.0	895	86.1
Catalogue/Bibliographies/Indexes	156	87.2	55	19.2	0	0.0	0	0.0	5	3.9	32	72.7	0	0.0	248	23.8
Self	179	100.0	287	100.0	133	91.7	199	90.0	127	98.4	39	88.6	35	100.0	999	96.1
Online Public Access Catalogue	134	74.9	0	0.0	0	0.0	43	19.5	0	0.0	0	0.0	0	0.0	177	17.0

KEY

KD - Kaduna

KB - Kebbi

JW - Jigawa

ZF - Zamfara

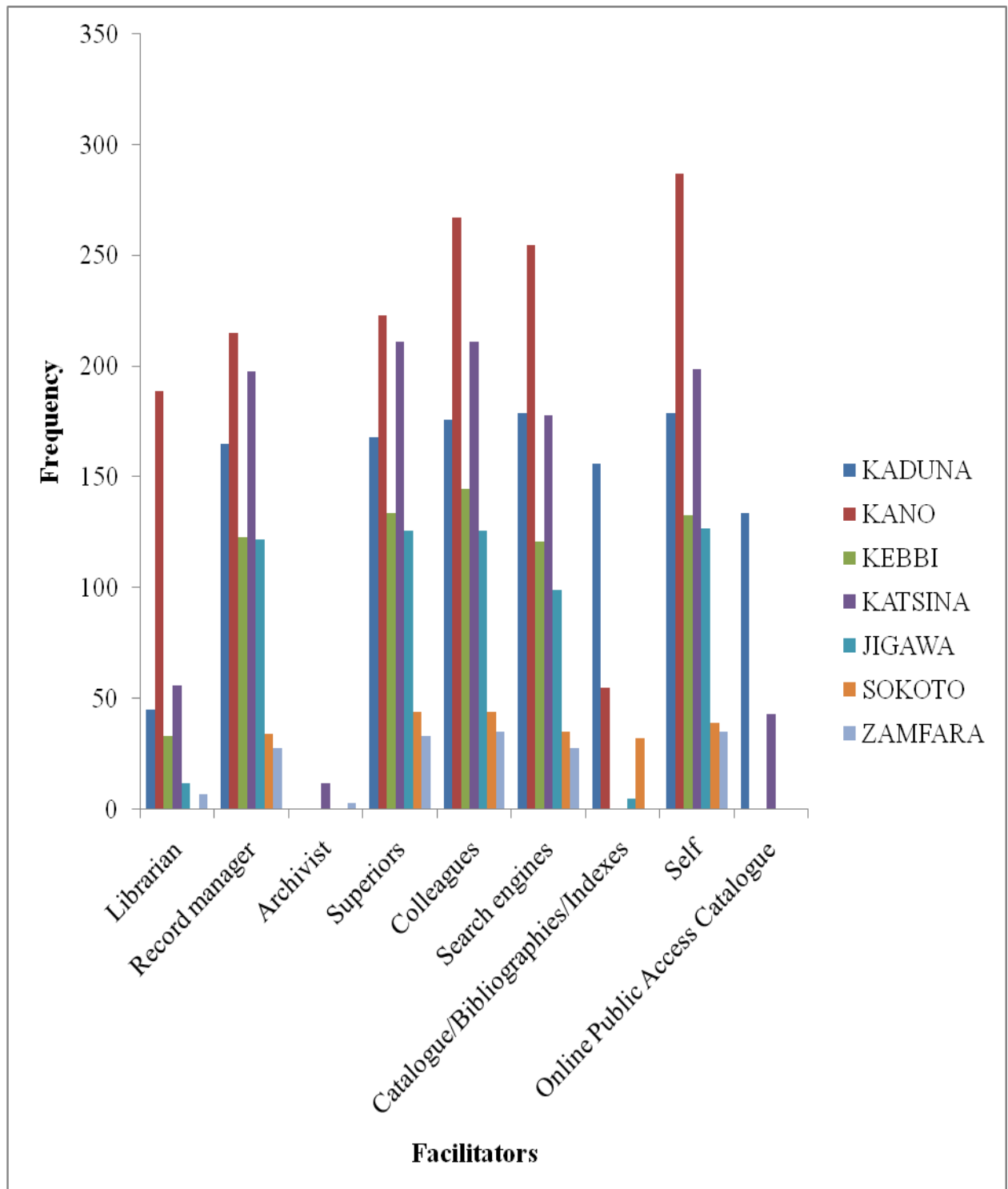
KN - Kano

KT - Katsina

SK - Sokoto

f - Frequency

Fig. 4.9: Facilitators of Information Access in Rural Areas of North Western States of Nigeria



According to Table 4.11 and Fig. 4.9 showed record managers (885:85.1%), superior officers (939:90.3%), colleagues (1004:96.5%), search engines (895:86.1%), and self (999:96.1%) played major role in facilitating access to information on PHC in the rural areas of North Western States of Nigeria. However, it was found that Archivist, Librarians, Catalogue / Bibliographies/Indexes and Online Public Access Catalogue were not major facilitators of access to PHC information with an average of less than 40% scores respectively. This situation could perhaps be due to the absence of libraries and archives in the Primary Health Care centers studied on one hand and the low level of information literacy among the primary health care practitioners in rural areas of North Western States of Nigeria. It is therefore suggested by the researcher that libraries should be an integral part of a primary health care centers in order to facilitate access and use of PHC information by the primary health care providers.

Another follow up question was asked to determine the extent of accessibility to Primary Health Care related information by the Primary Health Care Practitioners in the areas of study. A five point Likert scale was used to collect the data. The scale was collapsed into three point levels to facilitate analysis and discussions. Table 4.12 show the extent of accessibility to the PHC information.

Table 4.12: Extent of Accessibility to Primary Health Care Related Information by the Rural Primary Health Care Practitioners in Rural Areas of North Western States of Nigeria

S/N	Type of PHC information	Responses					
		Very Accessible		Rarely Accessible		Not Accessible	
		f	%	f	%	f	%
1	Information on Maternal child health	800	76.9	140	13.5	100	9.6
2	Information on Immunization	750	72.1	310	29.8	0	0.0
3	Information on provision of adequate water supply	70	6.7	720	69.2	250	24.0
4	Information on water borne diseases	900	86.5	0	0.0	140	13.5
5	Information on environmental sanitation	780	75	210	20.2	50	4.8
6	Information on morbidity and mortality rate reduction	0	0.0	290	27.9	750	72.1
7	Information on control of endemic diseases	10	0.9	820	78.8	210	20.2
8	Information on Provision of essential drugs	850	81.7	90	8.7	100	9.6
9	Information on Prevalent diseases	830	79.8	10	0.9	200	19.2
10	Information on appropriate treatment of diseases and injuries	890	85.6	50	4.8	100	9.6
11	Information on good health habits	50	4.8	90	8.7	900	86.5
12	Information on rest	40	3.8	100	9.6	900	86.5
13	Information on Poverty eradication	0	0.0	100	9.6	940	90.4
14	Information on Unemployment	0	0.0	0	0.0	1040	100.0
15	Information on Mental breakdown	50	4.8	890	85.6	100	9.6
16	Information on Dental care	945	90.9	45	4.3	50	4.8
17	Information on Availability of health care	0	0.0	140	13.5	900	86.5

Table 4.12 reveal that out of the 17 types of PHC information generated, only 8 (47.10%) were very much accessible to the primary health care practitioners in rural areas of North Western States of Nigeria with over 60% response scores respectively.

On the other hand, the respondents indicated that information on: morbidity and mortality rate reduction, (750:68.2%); good health habits, (900:81.8%); rest, (960:87.3%); poverty eradication, (1000:90.9%) and unemployment, (1100:100%) were not accessible in the primary health centers in rural areas of North Western States of Nigeria. This finding implies that not all the PHC- related information generated were accessible to the primary health care practitioners in the rural areas of North Western State PHCs. This might be connected to the lapses in the means of access identified in the area of absence of libraries, databases and museum/archives. The disparity could also be linked to the primary health care practitioners' levels of information literacy.

Based on the above discussions, it can be deduced that information on maternal child health, information on immunization, information on water borne diseases, information on provision of essential drugs, information on prevalent diseases, information on appropriate treatment of diseases and injuries and information on dental care, were the easily accessible. This calls for a more concerted effort to improve the information literacy level of the primary health care practitioners in the study area in order to strengthen their capacities and abilities to access and use information.

4.2.7 Utilization of Primary Health Care Information in the Rural Areas of North Western States of Nigeria

This research question was asked to identify the types of PHC information utilized by the Primary Health Care Practitioners in rural areas of North Western States of Nigeria PHCs. To do this, a list of information was provided for the respondents to tick as many options as possible as shown under Table 4.13 and Fig. 4.10:

Table 4.13 PHC Information Utilized for Primary Health Care in Rural Areas of North-Western States of Nigeria

Types of Information	State Public Health Care														Total	
	KD		KN		KB		KB		JW		SK		ZF			
	F	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Information on maternal health	125	69.8	201	70.0	121	83.4	178	80.5	121	93.8	34	77.3	29	82.9	809	77.8
Information on Immunization and Childhood killer diseases	145	81.0	198	68.9	143	98.6	167	75.6	123	95.3	28	63.6	35	100.0	839	80.7
Information on the provision of adequate water supply.	156	87.2	212	73.9	122	84.1	211	95.5	127	98.4	44	100.0	32	91.4	904	86.9
Information on water borne diseases	111	62.0	188	65.5	67	46.2	199	90.0	129	100.0	43	97.7	28	80.0	765	73.6
Information on way to reduce outbreak of water borne diseases.	146	81.6	213	74.2	121	83.4	189	85.5	129	100.0	39	88.6	31	88.6	868	83.5
Information on environmental sanitation	167	93.3	245	85.4	141	97.2	212	95.9	129	100.0	27	61.4	35	100.0	956	91.9
Information on morbidity and mortality reductions	176	98.3	266	92.7	111	76.5	220	99.5	98	75.9	34	77.3	26	74.3	931	89.5
Information on control of endemic diseases	169	94.4	178	62.0	56	38.6	156	70.6	67	51.9	27	61.4	9	25.7	662	63.7
Information on provision of essential drugs	177	98.9	213	74.2	98	67.6	145	65.6	88	68.2	27	61.4	31	88.6	779	74.9

Information on prevalent diseases in the locality	166	92.7	242	84.3	99	68.3	199	90.0	111	86.0	44	100.0	23	65.7	884	85.0
Information on appropriate treatment of diseases	171	95.5	212	73.9	87	60.0	212	95.9	121	93.8	42	95.5	34	97.1	879	84.5
Information on Good Health Habits	167	93.3	245	85.4	101	69.7	211	95.5	123	95.3	18	40.9	35	100.0	900	86.5
Information on dental care	133	74.3	267	93.0	121	83.4	220	99.5	125	96.9	34	77.3	26	74.3	926	89.0
Information on the availability of healthcare Centers.	144	80.4	121	42.2	132	91.0	199	90.0	78	60.5	42	95.5	28	80.0	744	71.5
Information on Rest	99	55.3	143	49.8	134	92.4	155	70.1	66	51.2	12	27.3	31	88.6	640	61.5
Poverty eradication	89	49.7	98	34.1	23	15.9	43	19.5	14	10.9	23	52.3	0	0.0	290	27.9
Information on Unemployment	78	43.6	33	11.5	34	23.4	123	55.7	17	13.2	25	56.8	0	0.0	310	29.8

KEY

KD - Kaduna

KB – Kebbi

JW - Jigawa

ZF - Zamfara

KN - Kano

KT – Katsina

SK - Sokoto

f – Frequency

Fig. 4.10: PHC Information Used for Primary Health Care in Rural Areas of North-Western States of Nigeria

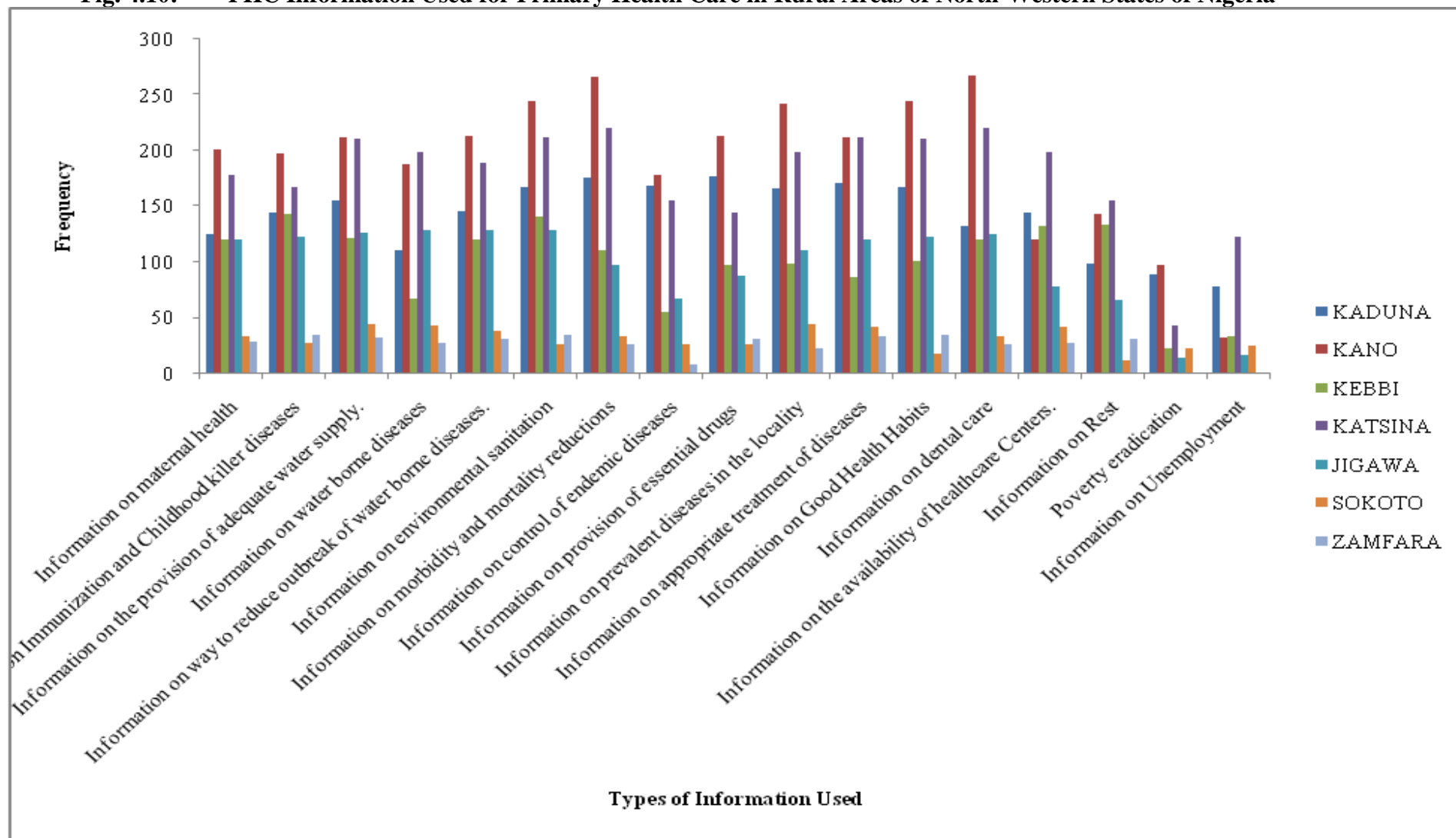


Table 4.13 and Fig. 4.10 showed the responses of the respondents on the type of information used by the Health Care Practitioners in rural areas of North Western States of Nigeria. It was discovered that information on maternal child health, information on immunization, provision of adequate water supply, information on water borne diseases, information on environmental sanitation, morbidity and mortality rate information, information on provision of essential drugs, information on prevalent diseases, information on good health habits, information on rest 640, information on mental breakdown, information on dental care, information on control of endemic diseases, and information and availability of healthcare centres were the most commonest used PHC related information by primary health care practitioners with an average of over 60% scores respectively in the rural areas of North Western States of Nigeria.

On the other hand, information on poverty eradication and information on employment were the least used by the primary health care practitioners with less than 30% scores.

Also, a follow up question was asked to determine the extent of use of information on Primary Health Care in rural areas of North Western States of Nigeria. To do this, a five point Likert measurement scale was collapsed into three levels to facilitate analysis and discussion as indicated in Table 4.14:

Table 4.14: Extent of Utilization of PHC Information in Rural Areas of North Western States PHCs

S/N	Type of PHC information	Responses					
		Always		Rarely		Not at all	
		f	%	f	%	f	%
1	Information on Maternal child health	875	84.1	165	15.9	0	0.0
2	Information on Immunization	870	83.7	74	7.1	96	9.2
3	Information on provision of adequate water supply	40	3.8	860	82.7	140	13.5
4	Information on water borne diseases	777	74.7	195	18.8	68	6.5
5	Information on environmental sanitation	362	34.8	662	63.7	16	1.5
6	Information on morbidity and mortality rate reduction	04	0.4	966	92.9	70	6.7
7	Information on control of endemic diseases	140	13.5	865	83.2	35	3.4
8	Information on Provision of essential drugs	930	89.4	100	9.6	10	0.9
9	Information on Prevalent diseases	940	90.4	66	6.3	34	3.3
10	Information on appropriate treatment of diseases and injuries	905	87.0	135	12.9	0	0.0
11	Information on good health habits	100	9.6	973	93.6	27	2.6
12	Information on rest	0	0.0	67	6.4	973	93.6
13	Information on Poverty eradication	38	3.7	100	9.6	902	86.7
14	Information on Unemployment	0	0.0	128	12.3	912	87.7
15	Information on Mental breakdown	18	1.7	72	6.9	940	90.4
16	Information on Dental care	917	88.2	123	11.8	0	0.0
17	Information on Availability of health care	0	0.0	118	11.3	922	88.7

Table 4.14 indicated that the PHC information on: maternal health, (875:79.5%); immunization, (930:84.5%); water borne diseases, (777:70.6%); provision of essential drugs, (990:90%); prevalent diseases, (1000:90.9%); appropriate treatment of diseases and injuries, (965:87.7%) and dental care, (977:88.8%) were the types of PHC information used always by the primary health care providers in the rural areas of North Western States of Nigeria PHCs. This finding is expected because the types of information used constituted the major health problems which the PHCs were established to address.

However, it is surprising to find that information on provision of adequate water supply, environmental sanitation and information on morbidity and mortality rate reduction were rarely used by the primary health care practitioners in the areas studied. This situation portends a serious danger on the social well being of the locality as majority of the pregnant women require more education on the kind of water to drink and use vis-à-vis the imperativeness of environmental sanitation to safeguard themselves from diseases. It is therefore important that primary health care centers also pay much attention towards improving good sanitation and hygiene in their areas of operation.

The researcher also requested the respondents to indicate the most preferred information generated in the PHCs using likert measurement scale. However, for convenience, the options were merged into three options in order to ease analysis as shown under table 4.15. These were Most Preferred; Preferred and Not Preferred.

Table 4.15 Preference of PHC Related Information Generated in the Rural Areas of North Western of Nigeria PHCs

S/N	Type of PHC information	<i>Responses</i>					
		Most Preferred		Preferred		Not Preferred	
		f	%	f	%	f	%
1	Information on Maternal child health	966	92.8	34	3.3	40	3.8
2	Information on Immunization	990	95.2	97	9.3	13	1.3
3	Information on provision of adequate water supply	48	4.6	133	12.8	860	82.7
4	Information on water borne diseases	10	0.9	140	13.5	890	85.6
5	Information on environmental sanitation	47	4.5	973	93.6	20	1.9
6	Information on morbidity and mortality rate reduction	50	4.8	40	3.8	950	91.3
7	Information on control of endemic diseases	860	82.7	47	4.5	133	12.8
8	Information on Provision of essential drugs	980	94.2	20	1.9	40	3.8
9	Information on Prevalent diseases	900	86.5	40	3.8	100	9.6
10	Information on appropriate treatment of diseases and injuries	950	91.3	15	1.4	75	7.2
11	Information on good health habits	960	92.3	40	3.8	40	3.8
12	Information on rest	40	3.8	20	1.9	980	94.2
13	Information on Poverty eradication	40	3.8	40	3.8	960	92.3
14	Information on Unemployment	1005	96.6	23	2.2	12	1.2
15	Information on Mental breakdown	25	2.4	12	1.2	1003	96.4
16	Information on Dental care	950	91.3	50	4.8	40	3.8
17	Information on Availability of health care	23	2.2	1000	96.2	17	1.6

Table 4.15 showed the responses of the respondents on the type of PHC information they preferred in the primary health centers in rural areas of North Western States of Nigeria. It was discovered that Information on: Maternal child health, (966:87.8%); Immunization, (990:90%); control of endemic diseases, (860:78.2%); Provision of essential drugs, (980:89.1%); Prevalent diseases, (900:81.8%); appropriate treatment of diseases and injuries, (950:86.4%); good health habits, (960:87.3%) and Dental care, (950:86.4%) were the types of PHC information mostly preferred by the primary health care providers in rural areas of North Western States of Nigeria PHCs.

This finding agreed with that of Akaniji (2006) who reported that information on immunization, family planning and endemic diseases is more preferred in dispensing primary health care services. However, information on: provision of adequate water supply; water borne diseases; morbidity and mortality rate reduction; rest and Poverty eradication were found not to be preferred by the primary health care practitioners in the rural areas of North Western States PHCs. The reason for this might be due to the primary PHC information requirements of the primary health care providers vis-à-vis the type cases and ailment that were being reported to the primary health centers in the region. It is expected however that the primary health care providers may prefer information on cases that confront them regularly.

4.2.8 Extent of Satisfaction with the Primary Health Care in the Rural Areas of North Western States of Nigeria PHCs

This research question was aimed at determining the extent to which the primary health care practitioners are satisfied with the PHC information available for the Primary Health Care delivery in the rural areas of North Western States of Nigeria PHCs. In order to achieve this, a five points Likert measurement scale was provided for them to tick the appropriate options. This was further collapsed into three points to facilitate analysis and discussion as shown in table 4.16 below:

Table 4.16: Extent of Satisfaction with PHC Information in Rural Areas of North Western States of Nigeria

S/N	Types of PHC information	Responses					
		Highly Satisfied		Rarely Satisfied		Not Satisfied	
		f	%	f	%	F	%
1	Information on Maternal child health	840	80.8	100	9.6	100	9.6
2	Information on Immunization	20	1.9	960	92.3	60	5.8
3	Information on provision of adequate water supply	40	3.8	860	82.7	140	13.5
4	Information on water borne diseases	950	91.3	60	5.8	30	2.9
5	Information on environmental sanitation	920	88.5	100	9.6	20	1.9
6	Information on morbidity and mortality rate reduction	0	0.0	140	13.5	900	86.5
7	Information on control of endemic diseases	80	7.7	850	81.7	110	10.6
8	Information on Provision of essential drugs	140	13.5	900	86.5	0	0.0
9	Information on Prevalent diseases	70	6.7	80	7.7	950	91.3
10	Information on appropriate treatment of diseases and injuries	1000	96.2	20	1.9	20	1.9
11	Information on good health habits	50	4.8	960	92.3	30	2.9
12	Information on rest	27	2.6	40	3.8	973	93.6
13	Information on Poverty eradication	50	4.8	40	3.8	950	91.3
14	Information on Unemployment	0	0.0	60	5.8	980	94.2
15	Information on Mental breakdown	0	0.0	40	3.8	1000	96.2
16	Information on Dental care	1005	96.6	23	2.2	22	2.1
17	Information on Availability of health care	10	0.9	27	2.6	1003	96.4

Table 4.16 shows the responses of the respondents on the extent of their satisfaction with the PHC information generated for primary Health care delivery in the rural areas of North Western States. It was discovered that an appreciable number of the respondents were highly satisfied with the information on maternal child health, (840:80.8%); information on water borne diseases, (950:91.3%); information on environmental sanitation, (920:88.5%); information on appropriate treatment of diseases and injuries, (1000:96.2%) and dental care, (1005:96.6%) respectively.

On the other hand, it was found that the primary health care providers in rural areas of North Western States PHCs were rarely satisfied with the information on provision of adequate water supply, (860:82.7%); immunization, (960:92.3%); provision of essential drugs, (900:86.5%); information on control of endemic diseases, (850:81.7%) and good health habits, (960:92.3%). However, it was revealed that the primary health care practitioners were not satisfied with the information on morbidity and mortality rate reduction, (900:86.5%); prevalent diseases, (950:91.3%); information on rest, (973:93.6%); information on poverty eradication, (950:91.3%); information on unemployment, (980:94.2%) and information on mental breakdown and information on availability of health care with (1000:96.2%) and (1003:96.4%) scores respectively.

4.3 Inferential Statistical Analysis

This section presents the outcome of the inferential statistics employed to test the null hypotheses generated for the study. They were tested using two-tailed test. The researcher used 0.05 as the level of significance for testing the hypotheses. Four (4) null hypotheses were formulated and tested using one way ANOVA. The findings are presented as follows:

Table 4.17(a): Analysis of Variance on Levels of Awareness on Availability of Primary Health Care Information in Rural Areas of North-Western States PHCs.

Source of Variance	Sum of Squares	DF	Means of Squares	F	P	F critical
Between Groups	15859.238	6	3171.848	23.323	.000	22.223
Within Groups	10607.714	1109	135.996			
Total	26466.952	1115				

The Table 4.17(a) shows the analysis of variance in levels of awareness on availability of Primary Health Care Information in the rural areas of North-Western States PHCs at $P < 0.05$ level of significance. The F calculated 22.223 is greater than the F critical 2.37. This implies that the null hypothesis (H_0) is rejected. It can therefore be concluded that there significant difference exist among the PHC health practitioners in the rural areas of North western States in their levels of awareness on the availability of Primary Health Care Information.

In order to determine the region of difference a multiple comparison of the means was carried out. Table 4.17(b) shows the result of the Post hoc multiple comparisons in the levels of awareness of the PHC practitioners on availability of Primary Health Care Information in the PHCs in rural areas of North-Western States.

Table 4.17(b): A Post-Hoc Scheffe Test of Multiple Comparisons in Levels of Awareness on Availability of Primary Health Care Information in Rural Areas of North-Western States.

Dependent Variable	(i) States	(j) States	Mean Difference (I-J)	Standard Error	Significance
Awareness on availability of Primary Health Care Information	Kaduna	Kano	40.50000(*)	4.40773	.000
		Kebbi	33.07143(*)	4.40773	.000
		Katsina	9.85714	4.40773	.423
		Sokoto	17.07143(*)	4.40773	.016
		Jigawa	14.07143	4.40773	.082
		Zamfara	-7.21429	4.40773	.749
	Kano	Kaduna	40.50000(*)	4.40773	.000
		Kebbi	7.42857	4.40773	.724
		Katsina	30.64286(*)	4.40773	.000
		Sokoto	23.42857(*)	4.40773	.000
		Jigawa	26.42857(*)	4.40773	.000
		Zamfara	17.07143(*)	4.40773	.000
	Kebbi	Kano	33.07143(*)	4.40773	.000
		Kaduna	-7.42857	4.40773	.724
		Katsina	23.21429(*)	4.40773	.000
		Sokoto	16.00000(*)	4.40773	.030
		Sokoto	19.00000(*)	4.40773	.005
		Zamfara	7.42857	4.40773	.030
	Katsina	Kebbi	9.85714	4.40773	.423
		Kano	-0.64286(*)	4.40773	.000
		Kaduna	-3.21429(*)	4.40773	.000
		Sokoto	-7.21429	4.40773	.749
		Jigawa	-4.21429	4.40773	.968
		Zamfara	7.21429	4.40773	.423
	Sokoto	Kebbi	17.07143(*)	4.40773	.016
		Kano	-3.42857(*)	4.40773	.000
		Kaduna	16.00000(*)	4.40773	.030
		Katsina	7.21429	4.40773	.749
		Jigawa	3.00000	4.40773	.993
		Zamfara	4.21429	4.40773	.000
	Jagawa	Kebbi	14.07143	4.40773	.082
		Kano	-6.42857(*)	4.40773	.000
		Kaduna	-9.00000(*)	4.40773	.005
		Katsina	4.21429	4.40773	.968
		Sokoto	-3.00000(*)	4.40773	.993
		Zamfara	16.00000(*)	4.40773	.000
	Zamfara	Kaduna	40.50000(*)	4.40773	.000
		Kebbi	7.42857	4.40773	.724
		Katsina	30.64286(*)	4.40773	.000
		Sokoto	23.42857(*)	4.40773	.000
		Jigawa	26.42857(*)	4.40773	.000
		Kano	-3.00000(*)	4.40773	.000

* indicates that the mean difference is significant at 0.05 level

KEY

KD - Kaduna

KT - Katsina

ZF - Zamfara

KN - Kano

SK - Jigawa

KB - Kebbi

SK - Sokoto

Table 4.17(b) indicates that the PHC practitioners' levels of awareness on availability of Primary Health Care Information in the PHCs in rural areas of North-Western States at Kaduna are significantly different from those available in other states. However, the levels of awareness on availability of Primary Health Care Information in the PHCs in rural areas of North-Western States of Katsina and Kebbi are not significantly different. This implies that Katsina and Kebbi have almost the same levels of their PHC practitioners' awareness on availability of Primary Health Care Information in the PHCs in States. This is an indication that the PHCs practitioners in Katsina and Kebbi do not differ in terms of their levels of awareness on availability of Primary Health Care Information in the PHCs in their States

Table 4.18(a): Analysis of Variance on the Levels of Access to the PHC Information Available in the PHCs in Rural Areas of North Western States of Nigeria

Source of Variance	Sum of Squares	DF	Means of Squares	F	P	F critical
Between Groups	5166.200	6	1033.240	12.491	.000	2.44
Within Groups	354.279	1109	8.435			
Total	5520.479	1115				

Table 4.18(a) shows the analysis of variance on the levels of access to the PHCs information the PHC practitioners in the PHCs in rural areas of North Western States of Nigeria at $P < 0.05$ level of significance. The F calculated 12.491 is greater than the F critical 2.44. This implies that the null hypothesis (H_0) is rejected. It can therefore be concluded that there is a significant difference among the primary health care practitioners in the Northwestern States PHCs in their levels of access to information on Primary Health Care.

Table 4.18(b) shows the result of the Post hoc multiple comparisons on the mean scores of the levels of access to PHC information by the PHC practitioners in the PHCs in rural areas of North Western States of Nigeria.

Table 4.18(b): A Post-Hoc Scheffe Test of Multiple Comparisons in the Levels of Access to the PHC Information Available in the PHCs in Rural Areas of North Western States of Nigeria

Dependent Variable	(i) States	(j) States	Mean Difference (I-J)	Standard Error	Significance
levels of access to information	Kaduna	Kano	-2.94444(*)	1.53072	.000
		Kebbi	-0.91667(*)	1.56853	.000
		Katsina	-2.50000(*)	1.67682	.000
		Sokoto	-9.43939(*)	1.47401	.000
		Jigawa	-9.29234	1.56853	.000
		Zamfara	3.06061 (*)	1.47401	.000
		Kano	Kaduna	32.94444(*)	1.53072
Kebbi	12.02778(*)		1.41126	.000	
Katsina	20.44444(*)		1.53072	.000	
Sokoto	23.50505(*)		1.30541	.000	
Jigawa	23.65278(*)		1.41126	.000	
Zamfara	3.0606		1.34953	.000	
Kebbi	Kano		20.91667(*)	1.56853	.000
	Kaduna	-2.02778(*)	1.41126	.000	
	Katsina	8.41667(*)	1.56853	.000	
	Sokoto	11.47727(*)	1.34953	.000	
	Jigawa	11.62500(*)	1.45217	.000	
	Zamfara	14.07143	1.34953	.000	
	Katsina	Kebbi	12.50000(*)	1.67682	.000
Kano		-0.44444(*)	1.53072	.000	
Kaduna		-8.41667(*)	1.56853	.000	
Sokoto		3.06061	1.47401	.514	
Jigawa		3.20833	1.56853	.531	
Zamfara		-3.06061	1.34953	.000	
Sokoto		Kebbi	9.43939(*)	1.47401	.000
	Kano	-3.50505(*)	1.30541	.000	
	Kaduna	-1.47727(*)	1.34953	.000	
	Katsina	-3.06061	1.47401	.514	
	Jigawa	.14773	1.34953	1.000	
	Zamfara	-3.65278(*)	1.34953	.000	
	Jigawa	Kebbi	9.29167(*)	1.56853	.000
Kano		-3.65278(*)	1.41126	.000	
Kaduna		-1.62500(*)	1.45217	.000	
Katsina		-3.20833	1.56853	.531	
Sokoto		-.14773	1.34953	1.000	
Zamfara		9.29167(*)	1.47401	.000	
Zamfara		Kaduna	15.85714	1.67682	.183
	Kebbi	3.28571	1.53072	.996	
	Katsina	11.28571	1.56853	.548	
	Sokoto	9.57143	1.47401	.711	
	Jigawa	9.28571	1.56853	.736	
	Kano	3.28571	1.4740	.000	

* indicates that the mean difference is significant at 0.05 level

Table 14.18(b) showed the post hoc Scheffe test on the levels of access to PHC information by the PHC practitioners in rural areas of North Western State PHCs. The table showed that the levels of access to the PHC information in KD PHCs is significantly different from those of KT, JW and ZF respectively. The table also showed that a significant difference exists in the levels of access to PHC information in KT and JW states. This implies that the levels of access to PHC information in the rural areas of North Western States PHCs are not in the same proportion. It can therefore be said that there is indeed a significant difference among the PHCs practitioners in the states in their levels of access to PHC information in the rural areas of North Western State PHCs.

Table 4.19(a): Analysis of Variance on Level of Use of Primary Health Care Information in Rural Areas of North Western States of Nigeria

Source of Variance	Sum of Squares	DF	Means of Squares	F	P	F critical
Between Groups	1138.3	6	227.7	10.39	0.23	2.48
Within Groups	3942.8	1109	109.5			
Total	5081.1	1115				

Table 4.19(a) showed the analysis of variance on the level of use of Primary Health Care Information by the PHC practitioners in the PHCs in rural areas of North Western States at $P > 0.05$ level of significance, The F calculated 10.39 is greater than the F critical 2.48. This implies that the null hypothesis is rejected. It can therefore be concluded that there is significant difference among the Primary Health Care practitioners' levels of use of Primary Health Care Information in the PHCs in rural areas of North Western States of Nigeria.

The result of the post hoc test of multiple comparisons carried out on the mean scores of the states studied is presented in table 4.19(b):

Table 4.19(b):A Post-Hoc Scheffe Test of Multiple Comparisons on the Levels of Use of Primary Health Care Information in Rural Areas of North Western States of Nigeria

Dependent Variable	(i) States	(j) States	Mean Difference (I-J)	Standard Error	Significance
Level of use of Primary Health Care Information	Kaduna	Kano	-15.85714	5.59397	.183
		Kebbi	-12.57143	5.59397	.426
		Katsina	-4.57143	5.59397	.984
		Sokoto	-6.28571	5.59397	.936
		Jigawa	-6.57143	5.59397	.923
		Zamfara	3.28571	5.59397	.996
		Kano	Kaduna	Kano	15.85714
Kebbi	3.28571			5.59397	.996
Katsina	11.28571			5.59397	.548
Sokoto	9.57143			5.59397	.711
Sokoto	9.28571			5.59397	.736
Zamfara	9.57143			5.59397	.426
Kebbi	Kano			Kaduna	12.57143
		Kaduna	-3.28571	5.59397	.996
		Katsina	98.00000	5.59397	.839
		Sokoto	6.28571	5.59397	.936
		Jigawa	6.00000	5.59397	.947
		Zamfara	-.28571	5.59397	.426
		Katsina	Kebbi	Kano	4.57143
Kano	-11.28571			5.59397	.548
Kaduna	-8.00000			5.59397	.839
Sokoto	-1.71429			5.59397	1.000
Jigawa	-2.00000			5.59397	1.000
Zamfara	-2.00000			5.59397	
Sokoto	Kebbi			Kano	6.28571
		Kano	-9.57143	5.59397	.711
		Kaduna	-6.28571	5.59397	.936
		Katsina	1.71429	5.59397	1.000
		Jigawa	-.28571	5.59397	1.000
		Zamfara	-2.00000	5.59397	.936
		Jagawa	Kebbi	Kano	6.57143
Kano	-9.28571			5.59397	.736
Kaduna	-6.00000			5.59397	.947
Katsina	2.00000			5.59397	1.000
Jigawa	.28571			5.59397	.736
Zamfara	-.28571			5.59397	1.000
Zamfara	Kaduna			Kaduna	20.91667(*)
		Kebbi	-12.02778(*)	5.59397	.000
		Katsina	8.41667(*)	5.59397	.000
		Sokoto	11.47727(*)	5.59397	.000
		Jigawa	11.62500(*)	5.59397	.000
		Kano	3.28571	5.59397	.947

* indicates that the mean difference is significant at 0.05 level

KD=Kaduna

KB= Kebbi

KT= Katsina

SK= Sokoto

JW=Jigawa

KN= Kano

ZF= Zamfara

Table 4.19(b) showed the result of the post hoc test on the levels of use of the Primary Health Care Information in the PHCs in the rural areas of North Western States of Nigeria by the PHC practitioners. A look at the table revealed that there is significant difference in the mean scores of the levels of use of the Primary Health Care Information in the PHCs by the PHC practitioners. This implies that the states studied have different means in their levels of use of the Primary Health Care Information in the respective PHCs by the PHC practitioners.

Table 4.20(a) contained a one way Analysis of Variance (ANOVA) on the PHC practitioners' levels of satisfaction with the Primary Health Care Information available in the PHCs in rural areas of North-Western States of Nigeria.

Table 4.20(a): Analysis of Variance on the PHC Practitioners' Levels of Satisfaction with the Primary Health Care Information Available in the PHCs in Rural Areas of North Western States

Sources of Variance	DF	SS	MS	F	P	<i>F-crit</i>
Between Groups	6	2385.655	596.391	39.826	0.000	2.37
Within Groups	1109	7562.317	14.975			
Total	1115	9947.882				

SS = Summation of the square

MS = Mean of the square

P ≤ 0.00

In order to test the hypothesis, the data was subjected to one way ANOVA test. The F cal value of 39.826 at $\alpha 0.05$ was obtained. The null hypothesis is rejected since the calculated value of 39.826 is greater than the critical value of $F=2.37$. This showed that there are significant differences among the primary health care practitioners' levels of satisfaction with the Primary Health Care Information available in the PHCs in the rural areas of North Western States of Nigeria.

In order to determine the region (area) of difference in their levels of satisfaction with the Primary Health Care Information available in the PHCs in the rural areas of North-Western States of Nigeria as shown in Table 4.13(a), the data was further subjected to post hoc Scheffe Test.

Table 4.20(b): Multiple Comparison Post-Hoc Scheffe Test of Levels of Satisfaction with the Primary Health Care Information in Rural Areas of North Western States of Nigeria

Dependent Variable	(i) States	(j) States	Mean Difference (I-J)	Standard Error	Significance
Levels of satisfaction with the Primary Health Care Information	Kaduna	Kano	-0.50000(*)	4.40773	.000
		Kebbi	-3.07143(*)	4.40773	.000
		Katsina	9.85714	4.40773	.423
		Sokoto	-7.07143(*)	4.40773	.016
		Jigawa	14.07143	4.40773	.082
		Zamfara	-7.21429	4.40773	.749
	Kano	Kaduna	40.50000(*)	4.40773	.000
		Kebbi	7.42857	4.40773	.724
		Katsina	30.64286(*)	4.40773	.000
		Sokoto	23.42857(*)	4.40773	.000
		Jagawa	26.42857(*)	4.40773	.000
		Zamfara	-7.07143(*)	4.40773	.000
	Kebbi	Kano	33.07143(*)	4.40773	.000
		Kaduna	-7.42857	4.40773	.724
		Katsina	23.21429(*)	4.40773	.000
		Sokoto	16.00000(*)	4.40773	.030
		Jagawa	19.00000(*)	4.40773	.005
		Zamfara	7.42857	4.40773	.030
	Katsina	Kebbi	9.85714	4.40773	.423
		Kano	-0.64286(*)	4.40773	.000
		Kaduna	-3.21429(*)	4.40773	.000
		Sokoto	-7.21429	4.40773	.749
		Jigawa	-4.21429	4.40773	.968
		Zamfara	7.21429	4.40773	.423
	Sokoto	Kebbi	17.07143(*)	4.40773	.016
		Kano	-3.42857(*)	4.40773	.000
		Kaduna	16.00000(*)	4.40773	.030
		Katsina	7.21429	4.40773	.749
		Jigawa	3.00000	4.40773	.993
		Zamfara	4.21429	4.40773	.000
	Jigawa	Kebbi	14.07143	4.40773	.082
		Kano	-6.42857(*)	4.40773	.000
		Kaduna	26.42857(*)	4.40773	.005
		Katsina	4.21429	4.40773	.968
		Sokoto	-3.00000(*)	4.40773	.993
		Zamfara	16.00000(*)	4.40773	.000
	Zamfara	Kaduna	40.50000(*)	4.40773	.000
		Kebbi	7.42857	4.40773	.724
		Katsina	30.64286(*)	4.40773	.000
		Sokoto	23.42857(*)	4.40773	.000
		Jigawa	26.42857(*)	4.40773	.000
		Kano	-3.00000(*)	4.40773	.000

* indicates that the mean difference is significant at 0.05 level

KD=Kaduna KB= Kebbi

KT= Katsina

SK= Sokoto JW=Jigawa

KN= Kano

ZF= Zamfara

Table 4.20(b) indicated that the PHC practitioners' levels of satisfaction with the available Primary Health Care Information in the PHCs in rural areas of North-Western States in KD state are significantly different from those available in other states. However, their levels of satisfaction with the available Primary Health Care Information in the PHCs in KT and KB are not significantly different. This implies that the PHC practitioners in KT and KB states have almost the same levels of satisfaction with the available Primary Health Care Information in their states. This is an indication that the PHC practitioners in KD and KB state do not differ in terms of their levels of satisfaction with the available Primary Health Care Information in the two States.

REFERENCES

- Akanji, S.O. (2006). *Development of Medical Records in Nigeria: The Journey So Far*. Onodorin Press. PP. 120-123
- Benjamin, B. (2008). *Medical Information*. Britacy Heinemann. PP 48-49
- Chinwe, F. & Ahmed, S. (2011). *Gender Needs Assessment for Kaduna Metropolis, Nigeria*, No. 22, pg.16.
- Jatau, A.A. (2011). Incidence, Attendant Health and Social Problem Associated with Pregnancies among Adolescent Girls in Zangon Kataf LGA, Kaduna State. *Journal of Educational and Social Research*, Vol. 2(8), p139.
- Kukah, Y. (2005). *Medical Information Management*. Sokoto: Usman Danfodiyo University Teaching Hospital. PP. 5-7
- Newman, C. (2009). *Medical Information: The Journal of British Records Association*. Vol. IV (21-24)
- Osundia, S. (2005). *Principle and Practice of Health Information*. Nigeria Royal Class Printing. PP. 120-123

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the study and findings from what the researcher drew conclusions and gave some recommendations. The chapter also advanced some suggestions for further research.

5.1 Summary of the Study

This study set out to investigate the awareness, access and utilization of PHC information in the PHCs in rural areas of North-Western States of Nigeria. In order to achieve this eight (8) research questions were formulated as follows: What type of information is generated by the health care practitioners in rural areas of North-Western States of Nigeria? What are the sources of primary health care information in rural areas of North Western states of Nigeria? What are the primary health care information used for by the health care practitioners in rural areas of North-Western States of Nigeria? To what extent are the health care practitioners in rural areas of North Western States of Nigeria aware of primary health care information generated? How do the primary health care practitioners in rural areas of North Western States of Nigeria access primary health care information? How do the health care practitioners in rural areas of North Western States of Nigeria utilize the primary health care information generated? Which primary health care information do the health care practitioners in rural areas of North Western States of Nigeria prefer? To what extent are the health care practitioners satisfied with primary health care information available in rural areas of rural areas of North Western States of Nigeria. In the same light four (4) hypotheses were formulated as follows: there is no significant difference among the health practitioners in their levels of awareness of

the primary health care information available in the rural areas of North Western States of Nigeria, there is no significant difference among the health practitioners in their levels of access to PHC information available in rural areas of North Western States of Nigeria, there is no significant difference among the health practitioners in their level of use of primary health care information in rural areas of North Western States of Nigeria and there is no significant difference among PHC practitioners in their levels of satisfaction with the PHC information available in rural areas of North Western States of Nigeria.

The survey research method was employed for the study. The population of the study was made up of all the primary Health Care practitioners in the PHCs totaling 184 in rural areas of North Western State of Nigeria. While the subject of the study was made up of 5,958 health practitioners and 1,192 practitioners were selected which is 20% of the primary health care using stratified random sampling technique. The data that are related to the research questions were analysed using frequency tables, pie chart and histogram while the hypotheses were formulated and tested using One Way Analysis of Variance (ANOVA). Out of the 184 PHCs, 79 primary health care centers were selected. Proportionate sampling technique was used to ensure proper representation of the diverse segment of the population, while stratified and random sampling techniques was used to select the 1,192 PHC practitioners from the total number of 5,958 PHC practitioners in rural areas of North West states of Nigeria.

5.2 Summary of Major Findings.

Based on the analyses of the data collected, the following are the major findings:

1. With regards to the types of PHC information generated, the study revealed that:
 - i. Information on maternal and child health, immunization, provision of adequate water supply water borne, diseases prevention of water borne

- diseases, environmental sanitation, reduction of morbidity and mortality rate were the types of information generated by the Primary Health Care Practitioners in the PHCs in rural areas of North Western State of Nigeria.
- ii. The PHC information is mostly generated in form of reports, statistics, memos, notices and records.
 - iii. Air pollution, water pollution, environmental degradation and bush burning were the major environmental challenges reported in the PHCs in rural areas of North Western States of Nigeria.
 - iv. Issues on soil erosion, oil spillage and poisoning were rarely reported in the PHCs in the area studied.
2. The listed sources of information which include patients, colleagues, conferences / workshops / seminars, library, textbooks, journals, Newspapers, internet, radio, television, research reports and professional association were consulted by the primary health care practitioners in the PHCs in rural areas of North Western States of Nigeria. However, it was found that audio visual materials were not considered as a veritable source of information by the primary health care practitioners.
 3. The primary health care practitioners in the States' PHCs studied use PHC related information for the purposes of planning; treatment of diseases and injuries; provision of essential drugs; immunization; morbidity and mortality rate reduction; control of endemic diseases and dental care.
 4. Primary health care practitioners were very much aware of available information on maternal health care, immunization, water borne diseases, endemic diseases, appropriate treatment of diseases and injuries, good health habits, rest, poverty eradication, and dental care.

5. Internet, superiors, colleagues, conferences/workshops/seminars and meetings were the commonest means through which the primary health care practitioners access information in rural areas of North Western States of Nigeria. It was also found that databases, Focus Group Discussion, Archives/Museums and record centres were not among the means of access to PHC information in the states by primary health care providers studied
 - i. Record managers, librarians, superior officers, colleagues, search engines, and self played major role in facilitating access to information in the states studied.
 - ii. Out of the seventeen types of PHC information generated, information on: maternal child health, immunization, water borne diseases, provision of essential drugs, prevalent diseases, appropriate treatment of diseases and injuries and dental care are the most accessible type of PHC information in the states' PHCs studied.
6. Out of the seventeen types of PHC information listed, information on: control of endemic diseases; poverty eradication; unemployment and availability of healthcare centres were not utilized by the Primary Health Care Providers in rural areas of North Western States of Nigeria.
 - i. The information on: maternal health; immunization, water borne diseases, provision of essential drugs, prevalent diseases, appropriate treatment of diseases and injuries and dental care were the types of PHC information utilized always by the primary health care providers in the PHCs in rural areas of North Western States of Nigeria.
7. The information on maternal child health, immunization, control of endemic diseases, provision of essential drugs, prevalent diseases, appropriate treatment of

diseases and injuries, good health habits, and dental care were the type of information mostly preferred by the primary health care practitioners in the PHCs in rural areas of North Western States of Nigeria.

8. A majority of the respondents were highly satisfied with the information on: maternal child health, water borne diseases, environmental sanitation, appropriate treatment of diseases and injuries and information on dental care available in the PHCs in the States studied respectively.

Results of Inferential Analysis

1. There is significant difference among primary health care practitioners in the rural areas of North Western States PHCs in their levels of awareness of the Primary Health Care Information available in the states.
2. There is significant difference among the primary health care practitioners in the rural areas of North Western State PHCs in their levels of access to the PHC information available in the PHCs in the States.
3. There is significant difference among the primary health care practitioners in the rural areas of North Western their levels of use of Primary Health Care Information in the PHCs in the States.
4. There is significant difference among the primary health care practitioners in the rural areas of North Western States PHCs in their levels of satisfaction with the Primary Health Care Information available in the States.

5.4 Conclusion

Information is a dynamic entity inherent in the society that is both powerful and important in our complex modern society. An ever-widening range of Health decisions, public and private, group and individual depend on wide use of information. Many Health

decisions require information from several sources. Information is therefore an indispensable resource to the individual, family and society. It can be concluded that PHC information is mostly generated in form of reports, statistics, memos, notices and records in the PHCs in rural areas of North Western states of Nigeria. All listed sources of information which include Patients; colleagues; conferences/workshops/seminars; library; textbooks; journals; Newspapers, internet; radio; television; research reports and professional Association were consulted by the primary health care practitioners in the PHCs in rural areas of North Western States of Nigeria. However, it was found that Audio Visual Materials were not considered as a veritable source of information by the primary health care practitioners. Internet, superiors, colleagues, conferences, workshops, seminars and meetings were the commonest means through which the primary health care practitioners access information in rural areas of North Western States of Nigeria. It was also found that databases, Focus Group Discussion, Archives/Museums and record centres were not among the means of access to PHC information in the states by primary health care providers studied. Record managers, librarians, superior officers, colleagues, search engines, and self played major role in facilitating access to information in the states studied. Information on Maternal child health, Immunization, control of endemic diseases, Provision of essential drugs, Prevalent diseases, appropriate treatment of diseases and injuries, good health habits, and Dental care were the type of information mostly preferred by the primary health care practitioners in the PHCs in rural areas of North Western States of Nigeria. A majority of the respondents were highly satisfied with the information on: maternal child health, water borne diseases, environmental sanitation, appropriate treatment of diseases and injuries and information on dental care available in the PHCs in the States studied respectively.

Improved communication and access to information worldwide helps us to be better prepared and responds to disease out breaks. However, much knowledge is likely to remain in Research Institutes and Teaching Hospital if they are not properly communicated to health workers. Access to reliable health information is crucial for progress towards health for all. Since majority of the population lives in rural areas, lack of awareness and access to information can be a barrier to effective dispensation on PHC. Relevant, accurate and timely information can avert a local or national disease outbreak and at the same time prevent international crises. This is achievable when there is awareness, free flow and use of information among health practitioners.

5.5 Recommendations

In the light of the findings of the study, it is recommended that:

1. Technological and cultural barrier against access to information on primary Health Care should be removed.
2. The government of Nigeria (Ministry of Health) should make information for PHC available and accessible through awareness in national dailies and scholarly out lets in form of reviews and announcement.
3. PHC management board of Nigeria should be encouraged to establish effective and sustainable PHC information management programme. This will enhance location, access and evaluation of PHC information resources in various formats.
4. Rural Health care Practitioners in the rural areas of North Western states of Nigeria and other stakeholders should be trained and re-trained through refresher courses, symposia, meetings and workshops on the latest trends in access to PHC information and use of PHC information.

5. State-of-the-art ICT facilities should be employed in rural areas north western states of Nigeria in both on-line and the conventional information carriers in their organisation to reduce the physical stress and time used when searching for information. ICT facilities such as computers, scanners, digital cameras, telecommunication infrastructure and Internet should be provided as a matter of urgency in all the PHC centers in the states to make the Health care practitioners appreciate the relevance and use of ICT in Primary Health Care delivery. The Health care practitioners should be up to date and more responsive to the challenges of their profession in this digital age.
6. Librarians and other information providers in Nigeria generally and particularly in rural areas of north western states should create retrieval devices and other representational forms of information to create awareness and facilitate access to and retrieval of Health information for Primary Health Care Development.
7. A model that will facilitate access to Primary Health Care should be developed. This research has succeeded in developing a one that will facilitate access and use of information for Primary Health Care. See Appendix 1 for details.

5.6 Suggestion for Further Research

In typical researches, some silent areas are bound to be left out for further investigation. In the light of the findings and conclusions of the study, it is recommended that research on the following areas should or can be carried out:

1. Access and Use of Online Information Resources for patient management in Secondary Health Care Centers in Nigeria.
2. Use of Information and Communication Technology in accessing information on Primary Health Care in Northern Nigeria.
3. Utilization of online information for primary health care delivery.

BIBLIOGRAPHY

- Abdulmalik Y.O. (2006). *Research Methodology in Businesses and the Social Sciences*. Abuja: Maliq and Company. Pp. 65-70.
- Aboyade, B. O. (1982). *The making of an Informed Society*. Ibadan University Press. pp. 35-37.
- Abubakar, T. (1995). A Study of the application of appropriate research techniques in masters theses and dissertation in Library and Information Science. In Wise, M. (ed). *Library Education in Nigeria* Kano: Bayero University
- Adimorah, E. N. O (1993). "Information Needs of Scientists and Technologists in Nigeria". *Leading Libraries and Information Centers*, Vol. 1 (2): 19 - 26.
- Aguolu C.C. & Aguolu, A. I. (2002). *Library and Information Management in Nigeria*. Maiduguri: Ed-Limform Services.
- Aighanim, S.A. (2011). Information News and Behaviour among Primary Care Physician in Saudi Arabia: Implication for Policy and Practice. *Scientific Research and Essay* 6(8): 1849-1855.
- Ajibade, D. (2005): "Information Resource Utilization with Particular reference to Kaduna Polytechnic Library Complex" being a paper presentation at the Department of Library and Information, Ahmadu Bello University, Zaria 1 – 13.
- Ajuwon, G. A. & Rhine, L. (2008). The Level of Internet Access and ICT Training for Health Information Professionals in Sub-Sahara Africa. *Health Information and Libraries* DoI:10.1111/J.1471 – 1842, 2007.00758.x.
- Akanji, S.O. (2006). *Development of Medical Records in Nigeria: The Journey So Far*. Onodorin Press. PP. 120-123
- Akhtar, S. & Melesse, M. (1994). "Africa, Information and Development: IDRC's Experience." *Journal of Information Science* 20 (5) pp. 314 – 322
- Akuezuilo, E.O. (2002). *Research and Statistics in Education and Social Science: Methods, and Applications*. Aba: Nuel Centi Prepublication. PP60-68.
- Alma-Ata (1978). *International Conference on Primary Health Care*. Alma-Ata, USSR, Sept. 6-12 1978. http://www.who.int/hpr/NPH/docs/declaration_almaata.
- Alma-Ata (1978). *International Conference on Primary Health Care*. Alma-Ata, USSR, Sept. 6-12 1978. http://www.who.int/hpr/NPH/docs/declaration_almaata.
- American College of Physicians (2008). *E-Health and Its Impact on Medical Practice*. Philadelphia: American College of Physicians, Position Paper, 190N. Independence Mall West, Philadelphia, PA 19106.
- Banilower, E.R., McMahon, K.C., Smith, P.S. & Weiss, I.R. (2001). *National Survey of Science and Mathematics Education*. Chapel Hill, NC: Horizon Research.

- Belkin, N. J. (1982) "Ask for Information Retrieval", *Journal of Documentation*. Vol. 38 pp. 61 – 71.
- Benjamin, B. (2008). *Medical Information*. Britacy Heinemann. PP 48-49
- Bennett, N. L., Casebeer, L. L., Kritofu, R. E. & Strasser, S. M. (2004). Physicians Internet Information Seeking Behaviours. *Journal of Continuing Education in the Health Professionals*, 24, 31 – 38.
- Berkman N.D.D., Dewalt, D.A. & Pignone, M.P. (2004). Literacy and Health Outcomes: Summary (Internet) Rock Ville, MD; *Agency for Health Care Research and Quality*. Pp. 6 – 8.
- Berkman, N. D., Dewalt, D. A. & Plynone M. P. (2004). *Literacy and Health Outcomes: Summary (Internet)*. Rock Ville, MD: Agency for Health Care Research and Quality, pp. 6 - 8.
- Berkman, N. D., Dewalt, D. A. & Plynone M. P. (2004). *Literacy and Health Outcomes: Summary (Internet)*. Rock Ville, MD: Agency for Health Care Research and Quality, pp. 6 - 8.
- Best, J. & Khan, I. V. (1989). *Research in education*. 6th ed. New York. McGraw-Hill. PP79-81
- Blumenthal, D. & Egbert, T. (2010). The Meaningful Use Regulation for Electronic Health Records. *The New England Journal of Medicine*, 363 (6), 501-504.
- Blumenthal, D. & Egbert, T. (2010). The Meaningful Use Regulation for Electronic Health Records. *The New England Journal of Medicine*, 363 (6), 501-504.
- Borden, K.S. & Aboot, B.B (2002). *Research Design and Methods: A Process Approach*. 5th ed. Boston: McGraw Hill. Pp 393-394.
- Borg, W.R. & Gail, M.D. (1983). *Foundations of Educational Research*. New York: Longman. Pp237-235
- Briggs, A. & Coleman, M. (2002). *Research Methods in Educational Leadership and Management*. Leicester: Paul and Chapman. Pp93-121
- Bulletin of the World Health Organization Past Issues (2008). Vol. 86 No. 9, pp. 657 – 736.
- Burnett, Jaeger & Thompson (2008). Health for All Beyond 2000: The Demise of the Alma-Ata Declaration and Primary Health Care in Developing Countries. *Medical journal of Australia* 2003; 178(1): 13-20.
- Burnett, Jaeger & Thompson (2008). Health for All Beyond 2000: The Demise of the Alma-Ata Declaration and Primary Health Care in Developing Countries. *Medical journal of Australia* 2003; 178(1): 13-20.
- Burnkrant, R. E. (1976). "A Motivational Model of information-processing intensity". *Journal of Consumer Research* vol. 3 pp. 21 – 30.

- Chinwe, F. & Ahmed, S. (2011). *Gender Needs Assessment for Kaduna Metropolis*, Nigeria, No. 22, pg.16.
- Delano, E. (1990). *Guide to Family Planning*. Ibadan: Spectrum Books Limited. P4.
- Ehiemere, I. O. (2001). *A Guide to Nursing Process*, 1st Edition. Enugu: Kinsmann Publishers.
- Elisha, M. (2000). "Management of Medical Records". (Unpublished MLs Thesis). Zaria Department of Library and Information Science, Ahmadu Bello University. P.15
- Federal Ministry of Health Digest (2006)
- Floridi, L. (2010). *Information: A Very Short Introduction*. Oxford: Oxford University press.
- Floridi, L. (2010). *Information: A Very Short Introduction*. Oxford: Oxford University press.
- Gillam, S. (2008). Analysis: Is the Declaration of Alma-Ata Still Relevant to Primary Health Care – Bmj 2006; 336 doi: <http://dx.doi.org/10.1136/buy.39469.432118.AD>.
- Gomez-Mejia, L. R. & Belkin, D. B. (2002). *Management*. New York: McGraw-Hill pp. 319 – 327.
- Harrod, L. (1971). *The Libraries Glossary of Terms Used in Librarianship and the Book Crafts and Reference Books*. Andre-Deutsch: London, p. 26.
- Herrington A. & Herrington, J. (2006). *Effective Use of Internet: Keeping Professionals Working in Rural Australia*. Barton Act: Rural Industries Research and Development Corporation.
- Herrington A. & Herrington, J. (2006). *Effective Use of Internet: Keeping Professionals Working in Rural Australia*. Barton Act: Rural Industries Research and Development Corporation.
- Hess, G. (1997). "Peace through Health in Bosnia & Herzegovina". *World Health* 50 (6) pp. 66 – 17
- Hogg, W., Rowan, M., Russell, G., Geneau, R. & Muldoon, L. (2008). Frame Work for Primary Care Organization: The Importance of Structural Domain. *International Journal for Quality in Health Care*, 20, 308 – 313.
- Hogg, W., Rowan, M., Russell, G., Geneau, R. & Muldoon, L. (2008). Frame Work for Primary Care Organization: The Importance of Structural Domain. *International Journal for Quality in Health Care*, 20, 308 – 313.
- Huffman, E.K. (1981). *Medical Information Management*. Illinois: Medical Records Company. PP. 143-146
- Hyde, M. & Hyde, J. (1991). *The Industrial Library Networking and Cooperation in Donal M. (ed.) Information for Industry Twenty-one years*.

- Ibrahim, A.E. (2004). Use and User Perception of Electronic Resources in the United Arab Emirates University (UAEU). Retrieved from DoI:/10.15-5/libr2004. 18-29.
- Iso (2011). *General Information on Health Information Management*. accessed on 5/12/2012, from <http://en.wikipedia.org/wiki/informationmanagement>.
- Jatau, A.A. (2011). Incidence, Attendant Health and Social Problem Associated with Pregnancies among Adolescent Girls in Zangon Kataf LGA, Kaduna State. *Journal of Educational and Social Research*, Vol. 2(8), p139.
- John, O. R. (2006). Interface Model for Information Utilization in Research Institution. Lagos: *Journal of Library and Information Science*, Vol. 3. (2) pp. 147 – 152.
- John, O. R. (2006). Interface Model for Information Utilization in Research Institution. Lagos: *Journal of Library and Information Science*, Vol. 3. (2) pp. 147 – 152.
- Jones, G. R. & George J. (2003). *Contemporary Management*. 3rd ed. Boston: McGraw Hill Pp. 510 – 545
- Katz, B. & Clifford (1982). *Reference Services: A New Reader*, London: Scare Crow p. 31.
- Khanna, J. (1997). “Helping Scientists to Improve their Communication Skills. *World Health* 50 (6) p. 9.
- Kielman, A. (1995). *Assessing Health Needs Services and Systems: Protocol for Rapid Data Collection*. London: AMREF and Macmillan Company.
- Krishnaswany, K.N. (2006). *Management Research Methodology, Integration of Principles, Methods and Techniques*. New Delhi: MacGraw-Hill Pp281-311
- Kukah, Y. (2005). *Medical Information Management*. Sokoto: Usman Danfodiyo University Teaching Hospital. PP. 5-7
- Kuyengyere, A. A. (2007). Effect of Information Literacy on the Utilization of Electronic Information Resources in Selected Academic and Research Institution in Uganda. *Electronic Library*, Vol. 25 (3) pp 328 – 334.
- Kuyengyere, A. A. (2007). Effect of Information Literacy on the Utilization of Electronic Information Resources in Selected Academic and Research Institution in Uganda. *Electronic Library*, Vol. 25 (3) pp 328 – 334.
- Lancaster, W.F. (1973). *Information Retrieval System: Characteristics, Testing and Evaluation*. 2nd ed. London: John Wiley.
- Lawani, S.M. (1991). “Large Scale Library Automation: An African Success story”. Paper presented at the annual conference of Nigerian Library Association Ilorin 18th – 20th March p. 2
- Liao, S.S. (2004) “A Framework for Context information management”. *Journal of Information Science* Vol. 30 (6) p. 530.

- Lyle, G. R. (1989) *The Administration of the College Library*. New York; New York; The H. W. Wilson Company pg. 6 – 187
- Madewell, J. E. (2004). Lifelong Learning and the Maintenance of Certification. *Journal of American College of Radiology*, 1(3), 199 – 203.
- Madewell, J. E. (2004). Lifelong Learning and the Maintenance of Certification. *Journal of American College of Radiology*, 1(3), 199 – 203.
- Mande, A. & Mukangera, F. (2007). Gender Analysis of Electronic Information Resource Use: The Case of University of Dar es Salam. *Tanzania University Dar Es Salam Working Journal*, 10 (1 & 2), pp 29-45.
- Mande, A. & Mukangera, F. (2007). Gender Analysis of Electronic Information Resource Use: The Case of University of Dar es Salam. *Tanzania University Dar Es Salam Working Journal*, 10 (1 & 2), pp 29-45.
- Martin, K. (1993). "Corporate Perspective of the Role of Occupational Health Nurse". *Research in Nursing Health*. 16 (1) 305-311.
- Maslow, A. H. (1943). "A Theory of Human Motivation". *Psychological Review*. 50:370 – 396.
- Masters, K. (2008). For What Purpose and Reasons do Doctors Use the Internet: A System Review. *International Journal of Medical Information*, 77 (1), 4 – 16.
- Masters, K. (2008). For What Purpose and Reasons do Doctors Use the Internet: A System Review. *International Journal of Medical Information*, 77 (1), 4 – 16.
- May, T. L. (2004). Consumer Health Issues. *Library Trends* 52 (2) 264 – 268
- Meuchetchen, R. (2004). *Communication Matters*. Minneapolis: West Publishing pp. 1 – 10.
- Miller, N. (2004). "The National Library of Medicine brings quality information Health Consumers". *Library Trends* 51 (2) Pp 374 – 376
- Minium, E.W. (2002). *Statistical Reasoning in Psychology and Education*. 3rd ed. New York: John Willey & Son, Inc.
- Mohammed, Z. (2012). The Dynamics of Information: Embracing the Present to Cope with the Future. Seventh Tai Solarin National Memorial Lecture held on 27th September, 2012, Victoria Island, Lagos.
- Mohammed, Z. (2012). The Dynamics of Information: Embracing the Present to Cope with the Future. Seventh Tai Solarin National Memorial Lecture held on 27th September, 2012, Victoria Island, Lagos.
- Morgan, W.R. (2004). Doing Qualitative Observation and Writing the Report: Some General Concerns and Specific Issues for Kano Researchers: Prepared and presented at Mambayya House, Kano, January 2004.

- Musoke, M.G. (2005). Access and Use of Information by Primary Health Care Providers in Rural Uganda: An Interaction-Value Model. *The University of Dar-es-Salam Library Journal*. 7 (1).
- Nakojimo H. (1997) "Getting the message across" *World Health* 50 (6) p. 1
- Nakojimo H. (1997) "Getting the message across" *World Health* 50 (6) p. 1
- National Bureau of Statistics (2012). *Directory of Health establishments in Nigerian*. Abuja: Economic Reform and Governance Project p. 3
- Newman, C. (2009). Medical Information: *The Journal of British Records Association*. Vol. IV (21-24)
- Numkwen, S.N. (2004). "Leadership styles and -job performance in Federal Polytechnic Libraries in Nigeria" Unpublished MLS Thesis submitted to the Department of Library and Information Science, A.B.U. Zaria, Nigeria. Pp47-49.
- Nursing & Midwifery Registration Council of Nigeria (2005). Newsletters Abuja: NMRCN pp. 3
- Nwali, I. O. (1986). "Utilization of Library and Information Resources in Nigeria:" An Overview of the Paper Presented at the Annual Seminar of the Academic and Research Libraries Sector of NLA at University of Jos, 30th November 1986 p.
- Nwana, O.C. (1992). *Introduction to Educational Research for Students and Teachers*. Ibadan: Heinemann Educational books Limited.
- Nworgu, E.G. (1991). *Educational Research: Basic Issues and Methodology*. Ibadan: Wisdom Press. Pp75-83.
- Obiora, N. E. F. & Anaehabi E. S. (2013). Health Information Availability and Utilization by Medical Practitioners for Chronic Disease Management in Central Hospital, *IOSR Journal of Pharmacy*, Vol. 3 (3), pp. 18 – 23.
- Obiora, N. E. F. & Anaehabi E. S. (2013). Health Information Availability and Utilization by Medical Practitioners for Chronic Disease Management in Central Hospital, *IOSR Journal of Pharmacy*, Vol. 3 (3), pp. 18 – 23.
- Office of National Coordinator for Health Information Technology – ONHTIT (2008). *Defining Key Health Information Technology Terms*. Washington, DC; US Government Printing Office.
- Office of National Coordinator for Health Information Technology – ONHTIT (2008). *Defining Key Health Information Technology Terms*. Washington, DC; US Government Printing Office.
- Okoro, C.C. & Okoro, I.O. (2006) "The Influence of Age and Experience on Information Seeking and Utilization Behaviour of Doctor in South-Eastern Nigeria". *Gateway Library Journal* vol. 9 (1) pp. 1 – 11.

- Oltmann, M. S. (2009). *Information Access* School of Library and Information Science. Indiana University. Bloomrgrton pp. 6 – 22.
- Oltmann, M. S. (2009). *Information Access* School of Library and Information Science. Indiana University. Bloomrgrton pp. 6 – 22.
- Omolase, C.O. (2010). Use of Internet for Health Information amongst Nigerian Optithalmologists. *Research Journal of Medical Sciences* vol. 4. No. 4 pp. 277 – 279.
- Osiobe, S. A. (1998). “Information Seeking Behaviour”. *International Library Review*, 20 pp 337 – 346.
- Osundia, S. (2005). *Principle and Practice of Health Information*. Nigeria Royal Class Printing. PP. 120-123
- Pakenham-Wals, N., Priestly, C. & Smith, R. (1997). Meeting the Information Needs of Health Workers in Developing Countries. *BMJ* Vol. 314 (7074): 90 Jan 11 1997 pp. 980-1418.
- Pantry, S. (1997). “The changing Role of Information Service. In Donald M. (ed.) *Information for Industry, Twenty-one years of library Association Industrial Group*. London: Library Association p. 86.
- Phyllis, C. S. (1998). “Today’s Challenge Integrating Information System. *College and Research Libraries* 45 (3) p. 120.
- Polit, D. & Hunglar, B. P. (1995). *Nursing Research: Principles and Methods*. 5th ed. Philadelphia: J.B. Lippincoott. P598.
- Primary Health Care: Report of the International Conference on Primary Health Care (1978) Alma-Ata, USSR, 6–12 September 1978. World Health Organization and UNICEF, Geneva.
- Sajjad, U. & Ramzy, V. (2004). Awareness and Use of Electronic information Review of Health Sciences Centre of Kuwait University, *Library Review*, Vol. 53 (3), pp. 150 – 156.
- Sajjad, U. & Ramzy, V. (2004). Awareness and Use of Electronic information Review of Health Sciences Centre of Kuwait University, *Library Review*, Vol. 53 (3), pp. 150 – 156.
- Salako, O. A. & Tiamiyu M. A. (2007): “Use of Search Engines for Research by Postgraduate Students of the University of Ibadan, Nigeria” *African Journal of Library Archives and Information Science* Vol. 13 (2) 103 – 115.
- Sampel, G.H. & Westley, B. H. (1989). *Research Method in Mass Communication System: A Case Study of Kindoni Municipality in Dar Es Salaam*. New Jersey: Prentice Hall. Pp150-172.
- Shanahan, M., Herrington, A. & Herrington, J. (2009). The Internet and the Medical Radiation Science Practitioner. *Radiography*, 15 (3), 233 – 24.
- Shanahan, M., Herrington, A. & Herrington, J. (2009). The Internet and the Medical Radiation Science Practitioner. *Radiography*, 15 (3), 233 – 24.

- Shoultz, J. & Hatcher, P. (1997). Looking Beyond Primary Care to Primary Health Care: An Approach to Community Based Action. *Nursing Outlook*, 45 (1) 23 – 26.
- Shoultz, J. & Hatcher, P. (1997). Looking Beyond Primary Care to Primary Health Care: An Approach to Community Based Action. *Nursing Outlook*, 45 (1) 23 – 26.
- Simba, D.O. & Nwangu, M. (2005). Region, Tanzania". *African Journal of Library, Archives and* "Knowledge, attitude and perception of health workers on health management information
- Stuart, R.D. & Moran, B.B. (1987). *Library Management*. 3rd ed. Littleton, Colorado: Libraries Unlimited.
- Togia, A. & Tsigilis, N. (2011). Awareness and Use of Electronic Information Resources by Education Gradaute Students. Preliminary Results from the Aristotle University of Thessaloniki. *Qualitative and Quantitative Methods in Libraries Theory and Application* (pp 646-472). Retrieved from http://eproceedings.worldscinet.com/9789814299701/97898299701_0058.html. Accessed on 22/7/2012.
- Togia, A. & Tsigilis, N. (2011). Awareness and Use of Electronic Information Resources by Education Gradaute Students. Preliminary Results from the Aristotle University of Thessaloniki. *Qualitative and Quantitative Methods in Libraries Theory and Application* (pp 646-472). Retrieved from http://eproceedings.worldscinet.com/9789814299701/97898299701_0058.html. Accessed on 22/7/2012.
- Tukman, B.C. (1988). *Conducting Educational Research*. 2nd ed. New York: Harcourt Brace Inc. pp98-110.
- Tyagi, S. (2011). Use and Awareness of Electronic Information Sources at IIT Roorkee India A Case Study. *JLISIT* Vol. 2(1), (Guigno/June 2011). Retrieved from DoI 10.1103/jhis.it-4586. Accessed on 25/7/2012.
- Tyagi, S. (2011). Use and Awareness of Electronic Information Sources at IIT Roorkee India A Case Study. *JLISIT* Vol. 2(1), (Guigno/June 2011). Retrieved from DoI 10.1103/jhis.it-4586. Accessed on 25/7/2012.
- Umar, M. (2002). *Introduction to PHC for Beginners in Community Health*. Zaria: Sankore Educational Publishers Ltd.
- UNESCO (2001). Integrating Modern & Traditional Information and Communication Technologies for Community Development (Seminar Report January 22–27, 2001 Kothonale, gri-lanka). Paris: Unesco.
- UNICEF & World Health Organization (1978). *Primary Health Care: Report of the International Conference on Primary Health Care*. Alma-Ata, USSR 6-12 September. Paris: Geneva.
- UNICEF & World Health Organization (1978). *Primary Health Care: Report of the International Conference on Primary Health Care*. Alma-Ata, USSR 6-12 September. Paris: Geneva.

- UNICEF (1998). *The State of World's Children 1998*. New York: Unicef <http://www.Unicef.org/sowc98>.
- Vigo, R. (2011). Representational Information: A New General Notion and Measure of Information. *Information Science*, 181; 4847 – 4859.
- Vigo, R. (2011). Representational Information: A New General Notion and Measure of Information. *Information Science*, 181; 4847 – 4859.
- Vukic, A. & Keddy, B. (2002). Northern Nursing Practice in Primary Health Care Setting. *Journal of Advanced Nursing*, 40 (5) 542 – 48.
- Vukic, A. & Keddy, B. (2002). Northern Nursing Practice in Primary Health Care Setting. *Journal of Advanced Nursing*, 40 (5) 542 – 48.
- Weidling (2001). Use and Awareness of Electronic Information Sources at III, Rookee India. A Case Study. *JLISIT*. Vol. 2(1) pp 464 – 472.
- Weidling (2001). Use and Awareness of Electronic Information Sources at III, Rookee India. A Case Study. *JLISIT*. Vol. 2(1) pp 464 – 472.
- Weights, W. (1993). “Patience Information Seeking Actions and Physicians’ Responses in Gynecological Consultations”, *Qualitative Health Research* Vol. 3. pp. 398 – 429.
- West, S. & Lowe, M. (1998). “Out of the Cold: Libraries in the Baltic States after Communism” *Journal of Librarianship and Information Science* 30 (1) p. 62.
- World Health Organization (2001). *Drug Information*. Geneva: World Health Organization. Pp. 1-5.
- World Health Organization (2004). E-Health for Health Care Delivery: Strategy 2004 – 2007 Geneva: who www.who.int/eht/en/EHT_strategy_2004_2007.
- World Health Organization (2005). Health and Millennium Development Goals. Geneva: WHO http://www.who.int/mag/prohabtions/mdg_report/en/index.html.
- World Health Organization (2006). E-Health Tools and Services: Needs of Member States: A Report of the Global Observatory for E-Health. Geneva: WHO http://www.who.int/KMS/initiations/tools_and_services.
- World Health Organization (2006). Working Together for Health Geneva: WHO <http://www.who.int/whr/2006/en/index.html>
- World Health Organization (2011). Working Paper on Data Resources, Methods and Result for Projection of Mortality and Burden of Disease for 2005, 2015, 2030. <http://www.who.int/chronicdisease/report/en>
- World Health Organization Report (1978). *Primary Health Care: Report of the International Conference on Primary Health Care*. Alma-Ata, USSR 6-12 September. Paris: Geneva.

- World Health Organization Report (1978). *Primary Health Care: Report of the International Conference on Primary Health Care*. Alma-Ata, USSR 6-12 September. Paris: Geneva.
- World Health Organization Report (2000). *Health Systems: Improving Performance*. Geneva: The World Health Organisation (WHO).
- World Health Organization Report (2000). *Health Systems: Improving Performance*. Geneva: www.who.int/whr/2000/en/whr2000.
- World Health Organization Report (2000). *World Health Report 2000 – Health systems: Improving performance*. Geneva: WHO www.who.int/whr/2000/en/whr2000.
- World Health Organization Report (2000). *World Health Report 2000 – Health systems: Improving performance*. Geneva: WHO www.who.int/whr/2000/en/whr2000.
- World Health Organization Report (2008). *Primary Health Care (Now More Than Ever)*. <http://www.who.int/whr/2008/en/index.htmlz>
- World Health Organization Report (2008). *Primary Health Care (Now More Than Ever)*. <http://www.who.int/whr/2008/en/index.htmlz>
- Yahya, I. H. (2000). “Information Resources Services and use in Indigenous manufacturing companies in Plateau and Kaduna States, Unpublished MLS Thesis, ABU: Zaria.

APPENDIX I

Awareness, Access and Utilization of Primary Health Care (PHC) Information Model

The growth of Primary Health Care Information has been increasing geometrically due to sheer abundance of information in multiple formats and the technology to handle it. In Nigeria, numerous health institutions, educational institutions, research institutes, non-governmental organization (NGO) produce, store, retrieve and disseminate Primary Health Care related information.

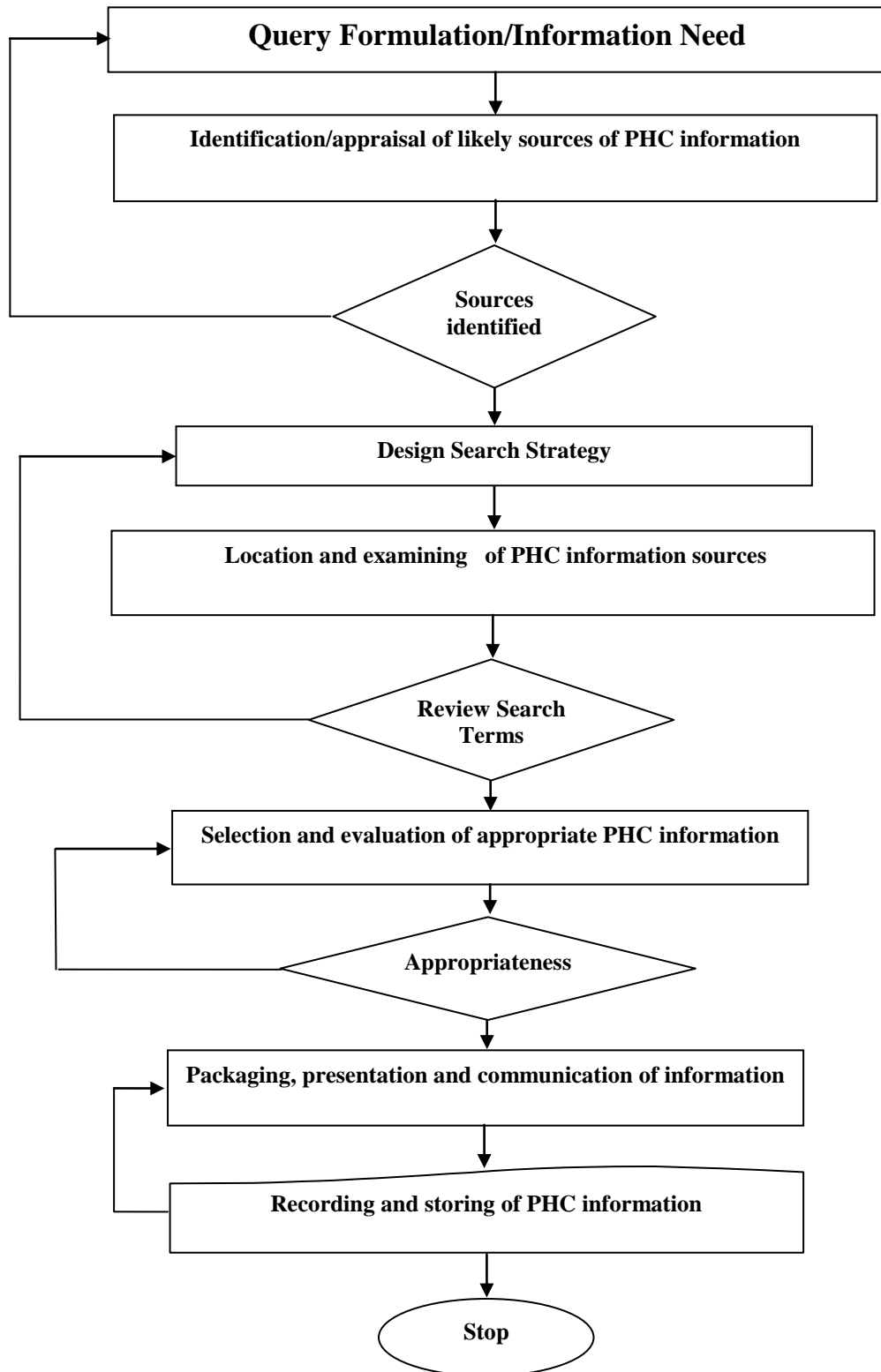
As already indicated by this research, access to relevant information constitute a very serious setback for effective delivery of Primary Health Care. In order to address this problem, awareness, access and utilization of PHC information model will provide a framework for effective access and utilisation of PHC information and its sources. The model will go a long way to help health care providers acquire information skills that will enable them use information to dispense PHC related health problems. The skills that can be developed from this model are not just important for PHC health care practitioners in dispensing PHC related services but are essential skills that can be used for all aspect of life: academic, professional and personal.

The first stage in PHC information model is **awareness** and identification of the need for PHC information and its sources. The activity is to identify the likely sources of information for PHC. These sources include printed electronic or online sources of PHC information. If PHC information sources are identified, the next task is to develop search strategy and move further. However, if sources are unidentified this will lead to redefinition of information need .

After developing a successful search strategy for PHC information, the next task is **access** which entails locating and examining PHC information sources. If the source meets the intended need for information, this will lead to the stage of selection and evaluation of appropriate PHC information. However, if the sources are at variance with the need, then search strategy will be reviewed.

The next stage is that of **use** which entails packaging, presentation and communication of the information and subsequently use and storing of primary health care information. A sketch below presented a diagrammatic picture of the proposed model.

Fig. 5.1: Model of Awareness Access to PHC Information



APPENDIX II
QUESTIONNAIRE

Department of Library and Information Science,
Ahmadu Bello University, Zaria
5th July, 2012.

Dear Respondent,

I am a Ph.D student in the above named department conducting a research entitled **“Awareness, access and utilization of information for primary health care development in Rural Areas of North Western State of Nigeria”**. The attached copy of questionnaire therefore is meant for collecting data on the topic. I shall be glad if you can assist me in this respect by responding to the questions raised therein to the very best of your knowledge. Your responses will be treated with most confidence.

Thank you for your cooperation on this exercise.

Yours faithfully,
Hadiza Talatu Mohammed

7. What type of health problem do pregnant women encounter in your PHC? Tick as many as possible
- a. Prolong labour []
 - b. Malnutrition []
 - c. Echlamsia []
 - d. Miscarriage/abortion []
 - e. Child killer diseases []
 - f. premature death of mother []
 - g. premature death of baby/foetus []
 - h. Others (specify) _____
8. What type of environmental problem is frequently reported in your PHC? Tick as many as possible
- a. Air pollution []
 - b. Water pollution []
 - c. Environmental Degradation []
 - d. Bush Burning []
 - e. Global warming []
 - f. Soil Erosion []
 - g. Oil Spillage []
 - h. Poisoning []
 - i. Others (specify) _____
9. On which type of health problem do you generate information? Tick as many as possible
- a. Information on maternal and child birth []
 - b. Information on immunization on childhood killer disease []
 - i. Whooping cough []
 - ii. Diptheria []
 - iii. Poliomyelitis []
 - iv. Measles []
 - v. Tetanus []
 - vi. Tuberculosis []
 - vii. Yellow Fever []
 - viii. Hepatitis []
 - ix. Cholera []
 - x. Cerebro spinal meningitis []
 - xi. Guinea worm []
 - c. Information on the provision of adequate water supply []
 - d. Information on water born disease []
 - e. Information on way to reduce outbreak of water born disease []
 - f. Information on environmental sanitation []
 - g. Information on how to reduce morbidity and mortality rate in children and adult []
 - h. Information on control of endemic diseases []
 - i. Information on provision of essential drugs []
 - j. Information on prevalent diseases in locality []
 - k. Information on appropriate treatment of diseases and injuries []
 - l. Information on mental health
 - a. Good health habit []

- b. Rest []
 - c. Poverty eradication []
 - d. Unemployment []
 - e. Mental breakdown/psychiatric problem []
 - m. Information on dental care []
 - n. Information on the availability of health care centers []
 - o. Others (specify)_____ []
10. In which format is information above generated? Tick as many as possible
- a. reports []
 - b. records []
 - c. statistics []
 - d. memos []
 - e. notices []
 - f. others (specify).....
11. Who is responsible for generating the information? Tick as many as possible
- a. Medical doctors []
 - b. Nurses []
 - c. Pharmacist []
 - d. Patients []
 - e. Record Managers []
 - f. Others (specify).....

SECTION C: Sources of PHC Information in Rural Areas of North Western States of Nigeria

What are the sources of PHC information in rural areas of North Western States of Nigeria? Tick [✓] as many as possible.

- Patients []
- Colleagues []
- Conferences / workshops / seminars []
- Library []
- Textbooks []
- Journals []
- Newspapers []
- Internet []
- Radios / TVs []
- CDs / Tapes / Cassettes []
- Research Reports []
- Professional Associations []
- Databases []
- Others (please specify) _____

SECTION D: Purpose of Use of PHC Related Information in the Rural Areas of North Western States of Nigeria

What are the PHC related information used from rural areas of North Western States of Nigeria?

- Planning []
- Treatment of Diseases and Injuries []
- Provision of essential drugs []
- Immunization []
- Environmental sanitation []

- Provision of adequate water supply []
- Morbidity and mortality rate reduction []
- Control of endemic disease []
- Dental control []
- Decision making []
- Others (please specify) _____

SECTION E: Awareness of Information on Primary Health Care in Rural Areas of North Western States of Nigeria

- 12. Are you aware of information generated on PHC
 - a. Yes []
 - b. No []
- 13. If yes, how do become aware of it?
 - a. Briefing []
 - b. Reports []
 - c. Meetings []
 - d. Seminar/Conference []
 - e. Others (specify).....
- 14. If no why

.....

.....

.....
- 15. To what Extent are you aware of information generated on the different diseases listed below?

S/No	Types of diseases	5	4	3	2	1
1	Whooping cough					
2	Diphtheria					
3	Poliomyelitis					
4	Measles					
5	Tetanus					
6	Tuberculosis					
7	Yellow Fever					
8	Hepatitis					
9	Cholera					
10	Cerebro spinal meningitis					
11	Guinea worm					
12	onchocerciasis					
13	malaria					
14	Others specify					

- Key:**
- 5 = Very much aware
 - 4 = Aware
 - 3 = Rarely aware
 - 2 = Not aware
 - 1 = Undecided

SECTION F: Access to Information for Primary Health Care in Rural Areas of North Western States of Nigeria

16. Please indicate the means through which you get access to information on primary health care? Tick as many as possible

- a. Library []
- b. Internet []
- c. Databases []
- d. Superior []
- e. Colleagues []
- f. Conference/seminar/workshop []
- g. Meeting []
- h. Focus group discussion []
- i. Archives/museum []
- j. Record center []
- k. Others specify _____

17. Who facilitate your access to information resources on primary health care? Tick as many as possible

- a. Librarian []
- b. Record manager []
- c. Archivist []
- d. Superior []
- e. Colleagues []
- f. Search engines []
- g. Catalogue/bibliographies/indexes []
- h. Self []
- i. Online public access catalogue []
- j. Others specify _____

18. How accessible is the following PHC related information ?

S/No	Types of Information	5	4	3	2	1
1	Maternal child birth					
2	Immunization on child killer diseases					
3	Provision of adequate water supply					
4	Information on water born diseases					
5	Environmental sanitation					
6	How to reduce morbidity and mortality rate in children and adult					
7	Information on control of endemic diseases					
8	Provision of essential drugs					
9	Prevalent diseases in locality					
10	Appropriate treatment of diseases and injuries					
11	Good health habit					
12	Rest					
13	Poverty eradication					
14	Unemployment					
15	Mental breakdown/psychiatric problem					
16	Dental care					
17	Availability of health care					

18	Others specify					
----	----------------	--	--	--	--	--

Key: 5 = Very accessible 4 = Accessible
3 = Rarely accessible 2 = Not accessible
1 = Undecided

SECTION G: Utilization of Information for Primary Health Care in Rural Areas of North Western States of Nigeria

19. What type of information do you use in providing health care services? Tick as many as possible

Types of information

- 1 Information on Maternal child birth []
- 2 Information on Immunization on child killer diseases []
- 3 Information on Provision of adequate water supply []
- 4 Information on water born diseases []
- 5 Information on Environmental sanitation []
- 6 Information on How to reduce morbidity and mortality rate in children and adult []
- 7 Information on control of endemic diseases []
- 8 Information on Provision of essential drugs []
- 9 Information on Prevalent diseases in locality []
- 10 Information on Appropriate treatment of diseases and injuries []
- 11 Information on Good health habit []
- 12 Information on Rest []
- 13 Poverty eradication []
- 14 Information on Unemployment []
- 15 Information on Mental breakdown/psychiatric problem []
- 16 Information on Dental care []
- 17 Information on Availability of health care []
- 18 **Others specify** []

19. What is the extent of your use of information on primary health care in rural areas of north western states of Nigeria?

S/No	Types of Information	5	4	3	2	1
1	Information on Maternal child birth					
2	Information on Immunization on child killer diseases					
3	Information on Provision of adequate water supply					
4	Information on water born diseases					
5	Information on Environmental sanitation					
6	Information on How to reduce morbidity and mortality rate in children and adult					
7	Information on control of endemic diseases					
8	Information on Provision of essential drugs					
9	Information on Prevalent diseases in locality					
10	Information on Appropriate treatment of diseases and injuries					

11	Information on Good health habit					
12	Information on Restuh					
13	Information on Poverty eradication					
14	Information on Unemployment					
15	Information on Mental breakdown/psychiatric problem					
16	Information on Dental care					
17	Information on Availability of health care					
18	Others specify					
Key:	5 = Very accessible	4 = Accessible				
	3 = Rarely accessible	2 = Not accessible				
	1 = Undecided					

SECTION H: Extent of Satisfaction with Information for Primary Health Care in Rural Areas of North Western States of Nigeria

21. To what extent are you satisfied with information on primary health care?

S/No	Types of Information	5	4	3	2	1
1	Information on Maternal child birth					
2	Information on Immunization on child killer diseases					
3	Information on Provision of adequate water supply					
4	Information on Information on water born diseases					
5	Information on Environmental sanitation					
6	How to reduce morbidity and mortality rate in children and adult					
7	Information on Information on control of endemic diseases					
8	Provision of essential drugs					
9	Prevalent diseases in locality					
10	Appropriate treatment of diseases and injuries					
11	Information on Good health habit					
12	Information on Rest					
13	Information on Poverty eradication					
14	Unemployment					
15	Information on Mental breakdown/psychiatric problem					
16	Information on Dental care					
17	Information on Availability of health care					
18	Others specify					
Key:	5 = Very accessible	4 = Accessible				
	3 = Rarely accessible	2 = Not accessible				
	1 = Undecided					