

A Study of Knowledge Management (KM) Practices of Health Information Management Practitioners in Tertiary Hospitals in Nigeria

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Abstract

The right to quality health care is one of the fundamental human rights for all people regardless of religion, culture or social class. Lack of quality health care in Nigeria has led to poor quality of life for the citizens. This study was undertaken to assess the extent of knowledge management practices among Health Information Management Practitioners in Nigeria teaching hospitals. The study employed a survey research design. The population for the study was 95 Health Information Management practitioners from the nine selected federal tertiary hospitals in Nigeria. Total enumeration technique was used and data were collected using structured questionnaire. Data analysis was done using descriptive statistics such as percentage distribution, mean and standard deviation. The respondents demonstrated a mean score of 3.03 on the scale of 5 points for knowledge capturing/creation practices, knowledge sharing practices was 3.20 while knowledge dissemination practices had the mean of 3.0, knowledge acquisition practices had the mean of 3.56 and the mean of knowledge application practices 3.38 on the scale of 5 points. Overall, the findings revealed that the respondent demonstrated a high level of knowledge management practices in the nine selected teaching hospitals in Nigeria. The study concluded that knowledge management practices were regularly carried out among Health Information Management Practitioners and hence the current practice should be sustained for sustainable health information management practices in teaching Hospitals in Nigeria.

Keywords: Knowledge; Management practices; Health information management; Teaching hospitals; Nigeria.

1. Introduction

The application of practical knowledge remains an integral part of a sustainable health care delivery system globally. Knowledge represents the decisive basis for intelligent, competent behavior at the individual, group and organization level. Knowledge can be described as the insights, understandings and practical know-how that people possess, the fundamental resource that allows humans to function intelligently. Organizational knowledge has been described as “a combination of data, assimilated with a set of rules, procedures and operations learned through experience and practice, the know-how, experience, insight, and capabilities that assist teams and individuals in making correct and rapid decisions, taking actions and creating new capabilities” (Takeuchi and Nonaka, 2004). The Nigerian health sector is not only multifaceted but also a heterogeneous sector involving professionals from diverse backgrounds with a different value system, people endowed with specific knowledge, skills, objectives, and behaviors established by standards of practice within their respective disciplines. The Nigerian health sector had its historical antecedents which include the absence of an effective mechanism to combine the diverse skills and expertise in the nation’s health sector. The recent migration to foreign countries by health care providers due to the economic downturn has further crippled the state of health service delivery in Nigerian tertiary health institutions. Nonetheless, an important concern in the nations’ health sector is poor knowledge management (KM) practices which have created a vacuum in the sector for ages thus making up for poor quality health service delivery in the country. The current study is undertaken to ascertain the extent of knowledge management practices among Health Information Management Practitioners in Nigeria Teaching Hospitals with a view to contributing to the existing body of knowledge in the field of Health Information Management.

In the last two decades, management of knowledge has emerged as an important activity in organizations such as the hospital and it has become an increasingly important management tool for achieving success stories. Two types of knowledge “tacit and explicit” (Takeuchi and Nonaka, 2004) are mostly reported in the literature. Tacit knowledge is subconsciously understood and applied, very difficult to articulate, but developed from direct experience and action. This type of knowledge is usually shared through highly interactive conversation, storytelling, and collective experiences. Tacit knowledge is embedded in mental processes, originates from practices and know-hows expressed through ability application. It is context dependent and highly personal in nature, it is hard to communicate and deeply rooted in action, commitment, and involvement. Tacit knowledge is regarded as being the most valuable source of knowledge and the most likely to lead to a breakthrough in the organization (Lam, 2000). Explicit knowledge can be more precisely and formally articulated. This type of knowledge is formalized and codified, it is sometimes referred to as know what. This type of knowledge is “fairly easy to identify, store and retrieve” (Wellman, 2009). Explicit knowledge is more abstractive, it can be more easily codified, documented,

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transferred or shared [Lee et al. \(2004\)](#). Explicit knowledge could be expressed in words and numbers, scientific formulas, product specifications, annuals, databases, memos, notes, documents, and universal principles. It is considered simpler in nature and cannot contain the rich experience based know-how that can generate lasting competitive advantage. However, what is important is how effective is the management of these two types of knowledge in the hospital environment.

More recently, the arrival of the Internet and social media, as well as a specific adaptation of technologies such as knowledge bases, expert systems, knowledge repositories, group discussion support systems, intranets, and other computer-supported cooperative works, have contributed significantly to advancement in knowledge management initiatives in many organizations across the globe ([Baesens et al., 2003](#)). KM comprises practices involving various activities which encompass theories, models, processes and technologies that support the protection, development, and exploitation of knowledge assets. It is the systematic management of an organization's knowledge assets for the purpose of creating value and meeting tactical and strategic requirements; it consists of the initiatives, process, strategies, and systems that sustain and enhance the storage, assessment, sharing, retirement, and creation of knowledge ([Alan, 2014](#)). Knowledge management is a conscious effort to get the right knowledge to the right people at the right time so that it can be shared and put into action ([Brikend et al., 2013](#)).

[Sheffield \(2008\)](#), argued that knowledge management practices in the healthcare industry are systemically more complex because of the caliber of professionals with specialized knowledge in the sector. Therefore, in order for the Nigerian healthcare industry to become efficient and effective organizations in meeting its knowledge demand, they would have to adopt knowledge management principles. Through the capture, organization, codification (conversion of knowledge), distribution and utilization of knowledge, the hospital can leverage and embrace knowledge management practices that enable employees to conduct positive tasks ([Awad, 2010](#)). Hospital organizations need to realize that knowledge management can help them to use their current competencies to develop new and innovative ideas, services, products, processes and working solutions to disease diagnosis and treatment ([Wickramasinghe et al., 2005](#)). In essence, the sharing platform is mostly represented in the form of research articles, for discussions, and clinical guidelines. [Jabr \(2007\)](#), argued that this kind of knowledge-sharing process is not well constructed in the health sector and these problems are still mounting in the country's health sector.

2. Review of Related Literature

This study examined knowledge management practices from three broad perspectives: knowledge capture and/or creation, knowledge sharing and/or dissemination as well as knowledge acquisition and/or application. Knowledge capture refers to the activities associated with the entry of new knowledge into the organizations' system including knowledge development and discovery. Knowledge creation refers to the practices of collecting or creating new knowledge. The second element in the cycle - knowledge sharing and/or dissemination refers to the activities associated with the flow of knowledge from one party to another within the organization ([Mohayidin, 2007](#)); ([Bordoloi and Islam, 2012](#)). Thus, unless knowledge is effectively disseminated, the developmental impact of knowledge may remain limited. The third element in the integrated KM circle: knowledge acquisition and /or application refers to the process of acquiring and capturing information about knowledge in the explicit forms. When knowledge is managed well, there is likely going to be a significant reduction in the time needed to complete tasks and unnecessary duplication is greatly minimized, if not totally avoided.

According to [Abidi \(2007\)](#), one good approach to improving the use of knowledge in the health sector has been the development of sophisticated information systems that integrate electronic knowledge bases with electronic health records and clinical decision support tools. Besides, knowledge-sharing practices are necessary to integrate the different disciplines, ideas, knowledge, and information possessed by the different team members and bring about (more) frequent communication ([Ratcheva, 2009](#); [Salas et al., 2008](#); [Sapsed et al., 2002](#)). When the individual team together, team working is more efficient because a tacit understanding is developed, shared and there is less need for explanations and demonstration ([Sapsed et al., 2002](#)). Unlike explicit knowledge, tacit knowledge cannot be transferred across time and space independently of the team members' interactions. Instead, sharing tacit knowledge requires close interaction and establishment of a shared understanding among the team members ([Lam, 2000](#)).

3. Theoretical Review

This study adopts the integrated model of KM cycle ([Bukowitz and Mayiams, 2000](#); [McEvily et al., 2000](#); [Meyer and Zack, 1996](#); [Wiig, 1993](#)) comprised (1) knowledge capturing/creation, (2) knowledge sharing/dissemination and (3) knowledge acquisition/application.

1. Knowledge Capturing/Creation: According to these models, knowledge creation requires the existence of a person or group of people who come about new ideas, new concepts, and innovative products, processes and services. [Styhre et al. \(2002\)](#), describe knowledge creation as the utilization of complex and discontinuous events and phenomena to deal with collectively defined problems. In the study of [Takeuchi and Nonaka \(2004\)](#), organizational knowledge creation is based on two dimensions. The first dimension is based on the idea that only individuals create knowledge. That is, converting tacit knowledge into explicit knowledge. The second dimension relates to the interaction between explicit and tacit knowledge. This means moving knowledge from the individual level to the group, organizational and inter-organizational levels.

2. Knowledge-sharing and dissemination: According to [Rashmi \(2009\)](#) "to share knowledge mean to learn, understand, extend and repeat the information, the ideas, the views and the resources with each other, connected with on a specific ground. An activity through which knowledge (i.e. information, skills, or expertise) is exchanged

among people, friends, or members of a family, a community, an organization or collaborative parties” (p.15). Knowledge-sharing is “the process where individuals and or groups mutually exchange knowledge and jointly create new knowledge” (Van den Hoof and Huysman, 2009). Knowledge-sharing (KS) involves not only human knowledge but also a process of giving and receiving of knowledge (McEvily *et al.*, 2000; Noor and Salim, 2011). Knowledge-sharing involves face to face discussions with colleagues at bar, coffee shops and classroom through sign language, coaching, instruction in the form of teaching, by listening, email exchange, e-learning platform, phone-mail system, discussion group in the universities and interactions in the form of conversations, dialogues and chats that provide opportunities to maintain social relationships, thereby enabling a wider reach for knowledge shared among colleagues Petersen and Poulfelt (2002); Lee *et al.* (2004). Knowledge-sharing is the fundamental means through which people can contribute to knowledge application, innovation and ultimately, the competitive advantage of the organization (Cabrera and Cabrera, 2005; Collins and Smith, 2006; Damodaran and Olphert, 2000; Jackson *et al.*, 2006; Mesmer-Magnus and DeChurch, 2009). Connelly and Kelloway (2003), finds that top management support affected both the level and quality of knowledge-sharing by influencing employee commitment to knowledge management practices.

Knowledge-sharing from the health care perspectives is the explication and dissemination of context-sensitive health care knowledge by and for health care stakeholders through a collaborative communication medium to advance the knowledge quotient of the participating health care stakeholders Abidi (2007). Besides, Zhou and Nunes (2012) isolated three types of knowledge from the above definition: (1) technical knowledge which includes the identification of patient conditions and problems, reasons and objectives for patient care, patient background, treatment agreement strategy, and explicit patient requirements and needs. (2) Ethical and emotional knowledge which involves dealing with patients’ feelings, emotions, and psychological statuses, approaches to communicating with, persuading and managing individual patients, and maintaining trusting and collaborative professional-patient relationships (Fennessy and Burstein, 2007). (3) Social and behavioral knowledge which concerns anticipating how others may behave and the perception of patients’ implicit requirements, behaviors and reactions, and expectations (Fennessy and Burstein, 2007). Knowledge can also be disseminated through the Internet, intranet, and extranet, as well as through social media and emails between and among health care providers and patients.

3. Knowledge acquisition/application occurs when the knowledge gained by the staff over the years is embedded in the organizational daily routines and practices. This can be done when every staff is determined to enhance his/her performance on a daily basis through the application of knowledge management practices among and between teams (Ghebrejorgis, 2019). In that wise, the role of knowledge expert is felt when the knowledge gained over the years is shared among the practitioners with a view to mentor and contribute to the growth of the new employees and the organization as a whole. Achieving all-inclusive quality health service delivery requires that the authorities of health care organizations and the Health Information Management Practitioners, in particular, adopt knowledge management practices in the policies and daily routines.

4. Methodology

Research Design: This study employed a descriptive survey research design. The survey approach was considered appropriate because it seeks to gain insight into a phenomenon as a means of providing basic information on it. Besides, the survey helps to collect primary data from a large population such as those targeted for this study. Through quantitative measures, the data generated were used to determine the extent of knowledge management practices of Health Information Management Practitioners in Nigeria Teaching Hospitals

Population: Nigeria currently has a total of 30 Teaching Hospitals, 22 Federal Medical Centres and 13 other Special Tertiary Hospitals across the six geopolitical zones (<http://www.health.gov.ng/>). However, this study was carried out at the Teaching Hospitals and Federal Medical Centres while Special Tertiary Hospitals were excluded due to their special structure. The target population for this study was Health Information Management practitioners in the outpatient departments of teaching hospitals in 3 geopolitical zones of the federal republic of Nigeria as shown in figure 1.

Figure-1a. Scope of the study (3 geopolitical zones) comprising North-Central, South-South and South-Western Nigeria

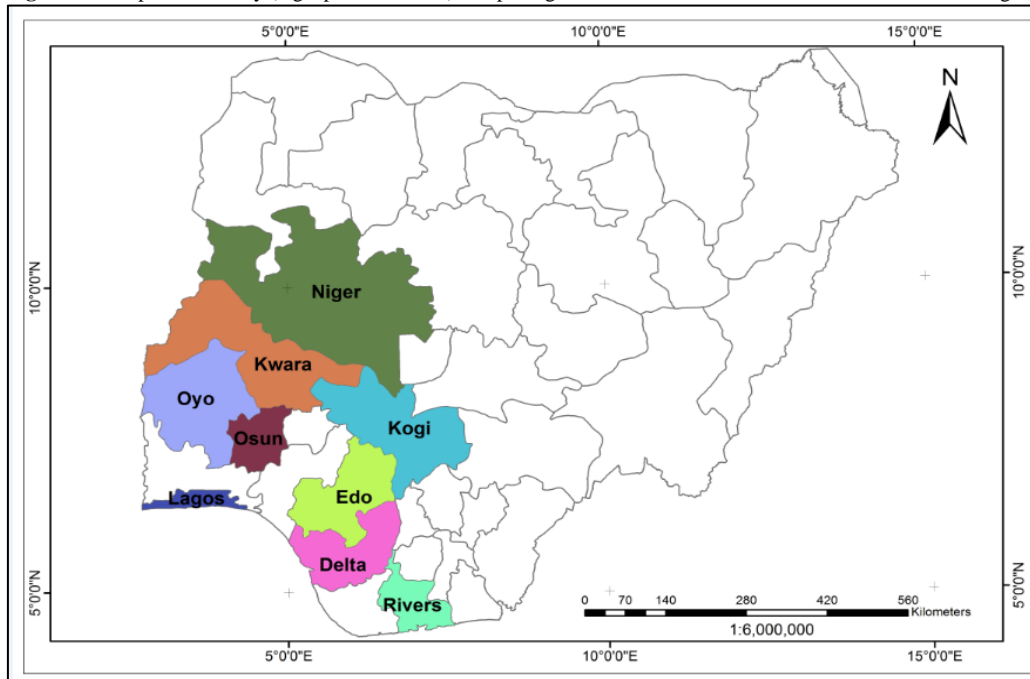
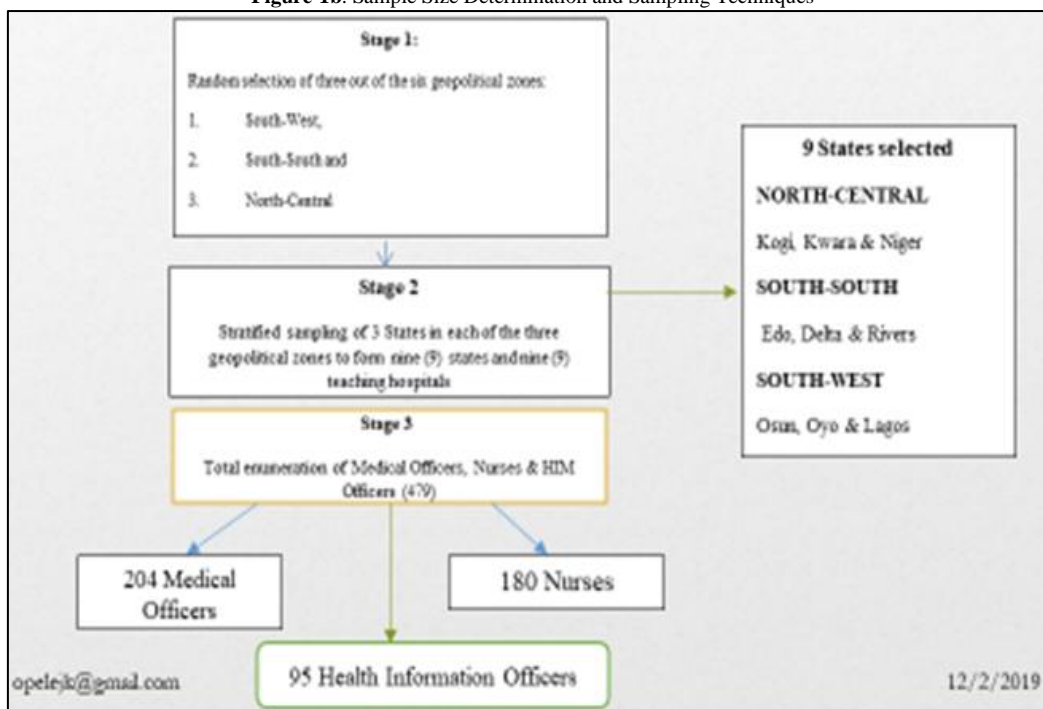


Figure-1b. Sample Size Determination and Sampling Techniques



Sample size and sampling Technique: Census (complete enumeration) was used to select Health Information Management Practitioners in the outpatient departments of the selected teaching Hospitals. Thus, a total of 95 licensed Health Information Management Practitioners in 9 tertiary hospitals were used in the study. That is, practitioners in the teaching hospitals and federal medical centers in South-West, South-South and North-Central zones of Nigeria were recruited into this study.

Instrumentation: The main instrument used for data collection was a questionnaire titled “Knowledge Management Practices (KMP) of Health Information Management Practitioners in Nigeria” (See Appendix A). The survey questionnaire was divided into two sections A and B. Section A examined respondents demographic characteristics while section B focused on knowledge management practices (KMP) of Health Information Management Practitioners. These practices included knowledge capturing, knowledge creation, knowledge sharing, knowledge dissemination, knowledge acquisition, and knowledge application practices. The section comprised 30 items that followed a 4 point Likert type scale of strongly disagree = 1, disagree =2, agree =3, strongly agreed = 4. Most of the items in this section were adapted from Ajayi (2015); Adewuyi (2015). In ensuring the validity of the instrument for this study, the questionnaire was given to senior colleagues in the field of Health Information management for face and content validation. Thereafter, the questionnaire was corrected and pre-tested by administration of 30 copies of the questionnaire to the Health Information management practitioners at Wesley Guild Teaching Hospital Ilesa, Osun State. The aim of the pilot study was to improve and to test out the proposed

questionnaire which was later used for the study. The internal consistency of the instrument was measured using Cronbach's Alpha test. This test estimates how consistently people respond to the items within a scale and the value of 0.75 and above was considered adequate for the study (Hair *et al.*, 2009).

Procedure: Data collection was carried out by the researcher and six well-trained research assistants in the study areas. The essence of training the assistants was to avoid errors in the administration of the questionnaire and to explain difficult areas in the questionnaire whenever the need arises. Permission to engage in research at the designated health facilities was sought from relevant authorities of the hospital in addition to the letter of introduction as well as ethical clearance from relevant authorities. Advance preparation was made towards getting the respondents on the appointed date and time through phone calls and emails. Efforts were also made to acquaint the respondents with the overall objectives of the study and the need to truthfully respond to each of the items in the instrument. Respondents were seen in their respective clinics as well as their lounge and/or restrooms within the clinics and they were assured of the strict confidentiality of all information provided. The administered instrument was retrieved immediately or at an agreed time between the researcher and the respondents. Besides, field editing was done immediately after retrieval, followed by the collation of data and analysis. Data collection was carried out within the period of three months (October through December 2016).

Data Analysis: Mugenda and Mugenda (2008) defined data analysis as the process of bringing order, structure, and meaning to the mass of information collected. Hence, data collected for this study was examined for completion, coded and entered into international business management (IBM) Statistical Package for Social Sciences (SPSS) Version 20 for analysis. Descriptive statistics such as frequency counts and percentage distribution, mean and standard deviation.

5. Results

5.1. Descriptive Analysis of Knowledge Management Practices

Tables 1-6 reveals a high level of knowledge management practices among health information management practitioners in Federal Tertiary Hospitals in Nigeria with an overall average mean of = 3.3 on the scale of 4 points. However, out of the 6 knowledge management practices, that is, knowledge capturing, knowledge creation, knowledge sharing, knowledge dissemination, knowledge acquisition, and knowledge application. Knowledge acquisition (= 3.56) appeared to be the most employed knowledge management practice by the respondents, closely followed by knowledge application (= 3.38), knowledge creation (= 3.29), knowledge sharing (= 3.20), knowledge dissemination (= 3.06) while knowledge capturing (= 3.03) was the least employed knowledge management practice by the respondents. The fact that the respondents have a high level of knowledge management practices indicates that, in general, are endowed with the need to work in the company of others and to share what is common to both parties. Also, what is likely difficult to ascertain in the respondent's knowledge management practices was the level at which individual professional employed these practices while working alone or working with others.

As regards the extent of knowledge management practices (KMP), the findings revealed a high level of knowledge management practices among health information management practitioners in the selected Teaching Hospitals in Nigeria. However, out of the six knowledge management practices, (that is, knowledge capturing, knowledge creation, knowledge sharing, knowledge dissemination, knowledge acquisition, and knowledge application). Knowledge acquisition was the most employed knowledge management practices while other practices were equally practiced to a large extent as frequently as possible. Contrary to the findings of Sheffield (2008) who claimed that knowledge management practices in the healthcare industry are systemically more complex. However, what is certain if employed is that knowledge management practices among the practitioners will not only guarantee effective service delivery but will also contribute to achieving the quality of care and sustainable health information management practices. A good avenue to share knowledge between the patients and the caregiver is when the situation demands that critical decisions be made, at such time the level of knowledge management practices tends to be high because both parties depend on each other for satisfactory health care outcome.

Table-1. Knowledge Capturing/Creation Practices

Practices	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	\bar{X}	Std Dev.
After hearing a new idea or concept, I compare it with my experience to help me comprehend the meaning	(44.9)	(47.0)	(6.3)	(1.9)	3.35	0.68
Most of the time, I transcribe some of the unorganized thoughts into concrete ideas	(23.4)	(62.6)	(11.9)	(2.1)	3.07	0.66
After every event, I organize and make a summary of what has happened	(27.3)	(52.8)	(17.1)	(2.7)	3.05	0.74
I understand others' thoughts better by repeating what they have said	(19.6)	(49.3)	(25.5)	(5.6)	2.83	0.81
When I have finished saying something, I ask the other person if it is necessary to repeat	(20.3)	(48.2)	(25.5)	(6.1)	2.83	0.82
Average Mean score = 3.03, Total Response Score = 15.1						

Table-2. Knowledge Creation Practices

Practices	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	\bar{X}	Std Dev.
Before group discussions, I collect necessary information to enhance contributions	(47.2)	(45.7)	(5.6)	(1.5)	3.39	0.66
When coming across problems, I use my experience to help solve problems	(44.3)	(50.9)	(3.1)	(1.7)	3.38	0.63
I like to collect new information, and make connection of new and old documented sources	(43.4)	(50.9)	(4.6)	(1.0)	3.37	0.62
When communicating with others, I give them enough time to think about what we have just discussed	(34.7)	(55.9)	37(7.7)	8(1.7)	3.24	0.66
I tell others what I think to make sure my idea is the same as theirs	(26.9)	(55.3)	(14.2)	(3.5)	3.06	0.74
Average Mean = 3.29, Total Response Score = 16.4						

Table-3. Knowledge Sharing Practices

Practices	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	\bar{X}	Std Dev.
I freely share what I know with my colleagues and also takes from them	(53.4)	(39.7)	(5.2)	(1.7)	3.45	0.67
I usually share knowledge with others in team discussion	(41.8)	(51.8)	(5.2)	(1.3)	3.34	0.64
I have a culture of communicating easily with professionals in other specialization	(37.0)	(54.3)	(6.7)	(2.1)	3.26	0.67
I have a circle of close colleagues in my organisation with whom I share knowledge.	(32.8)	(47.4)	(15.4)	(4.4)	3.09	0.81
I share my knowledge through knowledge repositories, e.g. intranet.	(18.4)	(53.4)	(23.4)	(4.8)	2.85	0.77
Average Mean = 3.20, Total Response Score =16.0						

Table-4. Knowledge Dissemination Practices

Practices	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	\bar{X}	Std Dev.
I have a personal laptop/desktop for my personal information dissemination	(40.1)	(43.4)	(12.1)	(4.4)	3.19	0.81
Mentoring is a common method of training and information dissemination	(33.8)	(51.6)	(11.3)	(3.3)	3.16	0.75
Memos are a common method of sharing information in my organisation.	(29.6)	(48.2)	(17.5)	(4.6)	3.03	0.81
Formal networks exist to facilitate dissemination of knowledge in my hospital	(28.2)	(48.6)	(18.6)	(4.6)	3.00	0.81
Minutes of meetings are always circulated via email, social media and face to face	(26.9)	(46.3)	(20.5)	(6.3)	2.94	0.85
Average Mean = 3.06, Total Response Score =15.3						

Table-5. Knowledge Acquisition Practices

Practices	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree N (%)	\bar{X}	Std Dev.
I acquired much knowledge through interaction with colleagues	(67.6)	(27.6)	(3.5)	(1.3)	3.62	0.62
My expertise has increased through the acquired knowledge	(65.3)	(30.1)	(3.5)	5(1.0)	3.60	0.61
Knowledge gained in the clinic has assisted me in effective patient care	(62.8)	(33.0)	(2.7)	7(1.5)	3.57	0.62
I acquired much knowledge through workshops, seminars and meetings	(56.4)	(38.6)	(4.0)	5(1.0)	3.50	0.63
I acquired much knowledge through documented sources	(55.7)	(38.8)	(4.2)	6(1.3)	3.49	0.64
Average mean = 3.56, Total Response Score =17.8						

Table-6. Knowledge Application Practices

Practices	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	\bar{X}	Std Dev.
I apply the knowledge gained to enhance my work performance	(65.8)	(30.7)	(2.5)	(1.0)	3.61	0.59
Knowledge application takes place when staff add professional value(s) to the organization	(48.4)	(47.2)	(3.8)	(0.6)	3.43	0.60
Knowledge gained from community of practice in my workplace is used for enhance service delivery	(43.8)	(52.6)	(3.5)	(0.0)	3.40	0.56
I apply knowledge acquired through discussion groups to improve my work processes	(39.9)	(55.1)	(3.8)	(1.3)	3.34	0.61
I make regular use of explicit knowledge (documented) more than tacit knowledge in solving work problems	(29.0)	(55.3)	(13.6)	(2.1)	3.11	0.71
Average Mean = 3.38, Total Response Score =16.9						

5.2. Limitation and Recommendations for Future Research

Decisions about criteria for subject inclusion, procedures for data collection, and measures of the key variables in the study as well as the choice of research design constituted major limitations to the study. However, this was overcome through regular discussion with the project supervisor and the clinical practitioners. Future research is needed on the perception of patients and consumers on the extent of knowledge management practices of other professionals within the health sector towards achieving sustainable quality health service delivery in Nigeria

6. Conclusions

Building upon the findings of this research, the study concluded that knowledge management practices were high among the respondents. The study also concluded that knowledge management practice is embedded in the practices of Health Information management practitioners in the selected hospitals. Such practices include knowledge capturing, knowledge sharing and knowledge dissemination etc. The study concluded that knowledge management practices were regularly carried out among Health Information Management Practitioners and hence the practice should be sustained for sustainable health information management practices in teaching Hospitals in Nigeria.

Support

This study did not receive any financial support from any individuals or corporate entity.

Acknowledgments

Acknowledgments to all Health Information Management Practitioners in the three geopolitical zones of Nigeria for their willingness to participate in the research and the support granted

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