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**KNOWLEDGE AND ATTITUDE OF HEALTH WORKERS
TOWARDS HEALTH INFORMATION MANAGEMENT
SYSTEM. A CASE STUDY OF DELTA STATE UNIVERSITY
TEACHING HOSPITAL, OGHARA, DELTA STATE**

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ABSTRACT

Background: This project work was based on the knowledge and attitude of health workers towards Health Information Management system in Delta state University Teaching Hospital Oghara Delta state. **Objectives:** The objectives of this work are to knowledge and attitude of health workers towards Health Information Management system in Delta State University Teaching Hospital, Oghara; to identify if the use of Health Information Management System in the healthcare sector enhances quality and efficiency of patient care. **Design:** A descriptive survey design was employed for the study. **Methods:** Data were collected with the aid of a self-structured five (5) point rating Likert scale format questionnaire, and analyzed using descriptive statistical tools for the biographic data and research questions; and the null hypothesis (H_0) was tested using one sample T test at 0.05 level of significance and n-1 degree of freedom. **Result:** From the analysis, it was revealed that the level of computer literacy of health workers does not significantly affect the implementation of Health Information Management System (HIMS). It was revealed that passion of health workers does significantly promote the implementation of HIMS in the hospital; Many Health workers are enthusiastic about the ease that will be brought along when it is fully implemented due to all the numerous advantages. **Conclusion:** Based on the discussion of results, it was concluded that management should make necessary provisions to support the HIMS in the country. Since health information management system enhances patient care delivery, Health workers should be trained and retrained on computer literacy.

Keywords: Knowledge; Attitude; Health; Workers; Information; Management; System;

Introduction

Health Information Management (HIM) is the practice of obtaining, examining and preserving digital and traditional medical information vital to providing standard patient care.

With the general computerization of health and medical records, paper-based records are being substituted with Electronic Health Records (EHRs).

Health Management Information Systems (HMIS) are one of the six building blocks essential for health system strengthening. HMIS is a data collection system specifically designed to support planning, management, and decision making in health facilities and organizations.

Health Information Systems (HIS) are considered fundamental to the efficient delivery of high quality health care. However, a large number of legal and practical constraints influence the design and introduction of such systems (1).

A major issue facing Africa is inability to quantify and analyze the situation it faces with credible data and to use the information in planning and managing service delivery (2,3). The hypothesis is that "poor performance is caused by inability to implement health systems improvement policies and strategies as a result of deteriorating socio-economic situations, made worse by inadequate information systems for evidence-based management of the health system" (4). In terms of data use for local planning and management, countries have not adequately supported health workers who are responsible for collecting data. Some observers, speculate that facilitating greater local use of data could improve the overall quality of data, as those collecting the data should be more motivated (5). Using a simple health care information system that is managed from the lowest level of the health system, for health sector reform and health system management helps to make data more user friendly for local use (6).

A good health information system brings together all relevant partners to ensure that users of health information have access to reliable, authoritative, useable, understandable, comparative, complexity and unpredictability of implementation efforts which creates difficulties for organizations that attempt to implement technology based change (7).

The challenge of identifying techniques to ease the incorporation of information technology into healthcare organizations remains an important one (8).

The use of information systems in health services emerged by the extensive use of information technologies and computers in different branches of medical industries (9). However, the term of Health Information System (HIS) has emerged in the early of 1990, by the employment of variety of information and communication technology developments to be used in health services. HIS is defined as health service applications and technologies which have electronic background to provide basis for communication and processes of health affairs (10).

The Health Management Information System (HMIS) provides specific information support at various levels of the health system to assist in evidence-based decision making in effective management of health system (11). HMIS is one of the most critical areas in the national health care system. Being a low resource country, Pakistan's health sector is facing tremendous problems in meeting the health care needs of its people. Information needed to run the health system lacks due to poor data management (12). Information management therefore plays a vital role in effective Management of Health system HMIS was designed to generate information on the status of ongoing health-related activities in order to facilitate evidence-based decision-making and effective management of health care systems at all levels.

Previously the primary focus in information systems has been on the technical aspects, and it has recently been accepted that lack of disease reporting is of critical importance in the management of information systems (13).

Accomplishment of information technology in health care depends on the position of organization in health care institutions and on the organization's own internal structure. The organization needs strong leadership with sufficient means and abilities to manage change in the organizational and work paradigms (14).

Information Management forms an essential part of patient's past, present and future health care services rendered. It is described as a written collection of information about a patient's health and treatment; they are utilized specifically for the present and continuing care of the patient as the systems capture, store, manage, or transmit information related to the health of individuals or the activities of an organization that work within the health sector. In spite of all these importance, benefits among other relevance and differences it creates in the healthcare sector/institution, there is still less awareness and knowledge of healthcare workers, and their attitude towards it is very low as most of them has little or no knowledge about the system and are not computer literate. Hence, health workers feel less concern about HIMS, though; it makes work easy but it requires a lot of trained personnel and uninterrupted power supply among others to work effectively and efficiently. This appears that the knowledge and attitudes of health workers do not reflect the concept of the principles and practice of health information management system in the national and international standard and best practices. Therefore, Health Workers attitude supposed to serve as a pointer to the effective HIMS but reverse is the case. This is actually mystifying so the researcher intends to carry out this study to really know the knowledge

and attitude of health workers towards health information management system in Delta State University Teaching Hospital, Oghara Delta State.

The Health Management Information System (HMIS) is an instrument which could be used to improve patient satisfaction with health services by tracking certain dimensions of service quality. The objective of the HMIS would be to record information on health events and check the quality of services at different levels of health care.

According to (15), Health Information Management System utilization can be influenced by factor and supporting clinical decision-making and professional practice such as: individual characteristics, systems quality and institutional characteristics.

Health Information Management (HIM) plays a significant role in the maintenance of health information. The Global Health Workforce Council, has defined Health Information Management (HIM) as “the practice of acquiring, analyzing, and protecting digital and paper-based medical and health information vital to providing quality patient care and maintaining the daily operations management of health information and electronic health records” (16).

The main role of a HIM professional is to maintain organized and accurate information, and to do that they need to perform several complex tasks across the lifecycle of information, from acquisition to archiving to destruction, in their health care organizations. They play a critical role in completing, protecting and ensuring the availability of high-quality clinical information for purposes including patient care, reimbursement, quality assurance, research, statistics gathering and management decision making (17,18).

Health information technology (HIT) consists of set of technologies with a great diversion for transmitting and managing health care data for the use of all stakeholders. Stakeholders of health information include payer, providers and all other groups having interest in health and health care system (19).

Health information system is spreading worldwide and thus promoting health and prosperity for humans. Simplest definition of hospital information system is “Computer application in hospital” (20).

Information systems are increasingly important for measuring and improving the quality and coverage of health services (21,22).

For optimum delivery of these information intensive tasks, HIM professionals need to integrate a variety of skills, such as expertise in computer and information technology (IT), a strong knowledge of medical terminology, profound understanding of disease processes and other conditions, experience in using clinical classification systems and excellent managerial skills, to enable them to manage the range of health information services for which they are responsible, including human resources (23,24).

METHODS

Study settings

The Delta State University Teaching Hospital (DELSUTH) is a renowned and accredited University teaching hospital to the Delta State University (DELSU), Abraka. Located in Oghara, Ethiope West Local Government Area of Delta State, the hospital was built initially as a 180-bed ultra-modern specialist hospital. An inaugural management board headed by Professor Joseph Otobo was sworn in June 2009 to manage the affairs of the Hospital when it kicked off initially. The earliest staff of DELSUTH consisted of a team of qualified Nigerian medical professionals drawn from the United Kingdom and the United States. The Hospital was officially commissioned on the 19th of June, 2010 by the then President of the Federal Republic of Nigeria, Dr. Goodluck Ebele Jonathan.

Study design

A descriptive survey research design was employed for the study. The study aimed to examine knowledge and attitude of health workers towards Health Information Management System in Delta State University Teaching Hospital Oghara, Delta State.

Study Population

The targeted population of the study was selected health workers in Delta State University Teaching Hospital, Oghara, Delta State Nigeria such as Health Information Managers, Doctors, Nurses, Pharmacist and Labouratory Scientist.

Sample size

The sample size for the study was determined through the research population. The sample size of Three Hundred and Seventy-Six (376) was used for this study. A simple random sampling technique was employed to distribute the questionnaire.

Instrument for data collection

The research instrument used for the study was questionnaire which also serve as the primary source of data for where the overall judgment was based on.

Method of Data analysis

All retrieved questionnaires were checked for errors and necessary corrections were made before the data analysis. The data was analyzed using frequency distribution tables to determine the mean and standard deviation while null hypothesis was tested with one Sample T-Test at 0.05, level of significance.

Ethical Consideration

An ethical approval was sort from the Research and Ethics Committee of the hospitals, and granted consent to carry out the study in the Hospitals.

Result

The findings showed that total number of instrument administered to respondents was 376 out of which 343 was retrieved while 33 was not retrieved, a percentage retrieval of 91.22% as against 8.78%. This indicated that, the value of non-retrieval is less than 10% which is not significant thus the retrieved instruments only were used for the data presentation and analysis.

TABLES

Test Statistic: $T = \frac{\bar{x} - \mu}{\sigma/\sqrt{n}}$ (ONE SAMPLE T TEST)

Hypothesis 1: There is no relationship between the use of health Information management system in health sector and the quality and efficiency of patient’s care

	SA	A	DK	D	SD	Total
Health Information management system efficiency and effectiveness of patient care	258	63	14	1	7	343
Health Information management does not ensure safe and adequate patient care	7	49	21	63	203	343
Health Information management system ease storage presentation and retrieval of patient health information	252	42	35	7	7	343
Health information Management system does not ease accessibility of patients health information	21	21	7	119	175	343
	538	175	77	190	392	274.4±186.6

T cal = 3.288 T critical value = 3.747 at $\alpha = 0.05$

Decision: Ho is rejected. It is concluded that there is significant relationship between the use of health information management system in health sector and the quality and the efficiency of patient care

Hypothesis 2: level of computer literacy of health workers does not significantly affect implementation of health information management system

	SA	A	DK	D	SD	Total
Lack of Computer knowledge of health workers affect implementation of health information management systems	189	112	14	14	14	343
High level of computer literacy of health workers does not affect the implementation HIMS	63	14	63	77	126	343
Low level of computer literacy of health workers affect the implementation of HIMS	140	154	21	21	7	343
Computer literacy of health workers has nothing to do with the implementation of HIMS	14	28	28	91	182	343
	406	308	126	203	329	274.4±10.16

T cal= 5.569 T critical value = 2.132

Ho is not rejected. Therefore, it's concluded that the level of computer literacy of health workers does not significantly affect the implementation of health information management system.



Hypothesis 3: HIMS does not significantly too difficult for the Health workers to operate

	SA	A	DK	D	SD	Total
Complexity of HIMS make its implementation difficult	14	84	56	126	63	343
HIMS does not require trained personnel	14	28	14	77	210	343
	28	112	70	203	273	137.2±9.8

Tcal= 3.07; Tcritical value = 2.015

Ho is not rejected. It means that Health information management system does not significantly too difficult for the health workers to operate.

Hypothesis 4: The passion of health workers does not significantly promote the HIMS in the hospital.

	SA	A	DK	D	SD	Total
Lack of awareness and unacceptability of health workers made the implementation of HIMS difficult	140	91	56	21	85	343
Health workers promote the implementation of HIMS	134	125	49	33	1	343
Inadequate recognition of HIMS among Health workers does not promote its implementation.	105	91	49	84	14	343
Health workers have passion for HIMS implementation	133	112	70	14	14	343
	512	419	224	152	114	284.2±173.3

T cal = 3.67; T critical value = 4.541

Ho is rejected. Therefore, it is concluded that the passion of health workers does significantly promote the implementation in the hospital.

Hypothesis 5: There is no relationship between the problem militating against the passion of health workers and HIMS.

	SA	A	DK	D	SD	Total
Lack of interest and concern of health workers on amount updates made implementation of HIMS difficult	147	112	42	14	28	343
Some paper to electronic environment militates against HIMS implementation.	126	56	42	77	42	343
Lack of political will and administration commitment to support HIMS affects it implementation.	189	77	42	28	7	343
Steady power supply does not affect the implementation of HIMS.	42	42	14	28	217	343
Proper funding militates against the implementation of HIMS.	182	112	28	7	14	343
	686	399	168	154	308	343±217

T cal=3.53; T critical value = 3.747

Ho is rejected. It is concluded that there is relationship between the problems militating against the passion of health workers and the implementation of HIMS.

Discussion of findings

The findings revealed that the level of computer literacy of health workers does not significantly affect the implementation of Health Information Management System (HIMS). That is the fact that health workers are not all literate in computer cannot stop the implementation of HIMS because training and retraining method will always take place. The study also revealed that Health Information Management System is not too significantly difficult for the health workers to operate because it is user friendly. It was also discovered that the passion of health workers does significantly promote the implementation of HIMS in the hospital. Many Health workers are enthusiastic about the ease that will be brought along when it is fully implemented due to all the numerous advantages.

It was confirmed from the study that solutions must be well profound to stem down those problems, like poor working condition, training of staff among others, that discourages the health workers in implementation of the HIMS.

Based on the findings of this study, it was concluded that, level of computer literacy of health workers does not significantly affect the implementation of Health Information Management System (HIMS); the passion of health workers does significantly promote the implementation of HIMS in the hospital. The researcher also concluded the study that solutions must be well profound to stem down those problems, like poor working condition, training of staff among others that discourage the health workers in implementation of the HIMS.

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Conflict of Interest

None detected

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