Information And Communication Technology Use as Determinant of Records Preservation and Conservation Practices in Selected Hospitals in Oyo State, Nigeria.

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Abstract- *Records Preservation and Conservation Practices (RPCP) is inevitable for record personnel that provide adequate health information and services in the hospitals. Preliminary investigations showed that adequate priority has not been given to records preservation and conservation practices in hospitals in Ibadan. This may be as a result of non-use of ICTs by records personnel RPCP. Little attention, however, has been paid to factors that could predict good records preservation and conservation practices among records officers in hospitals in Ibadan. It is on this background that the study investigated information and communication technology use as determinant of records preservation and conservation practices in selected hospitals in Ibadan. Unified Theory of Acceptance and Use of Technology was used as the framework, while the survey design of the correlational type was adopted. All the 190 records officers in five hospitals in Ibadan, Oyo State were enumerated. The instruments used were ICT use (a-0.882) scales, Records preservation and conservation (a=0.785) scales. Quantitative data were analysed using descriptive statistics, Pearson Product Moment Correlation and Multiple regressions at 0.05 level of significance. About 55.4% of the respondents were of the senior cadre and 69% possessed first degree certificate. The RPCP (proper handling of records $\bar{x}$=3.83, environmental control on records 3.78). The Information and communication technology use for records preservation and conservation practices (machine-based tech–photocopy machine $\bar{x}$=3.50 and computer $\bar{x}$=3.50, storage tech–hard disk $\bar{x}$=3.55 and flash drives $\bar{x}$=3.52 and storage tech: cloud storage $\bar{x}$=3.65). There is a positive significant relationship between ICT use and records preservation and conservation practices by the records officers (r=.275; df =183; p< 0.01). The ICT use (B=.156) relatively contribute to RPCP. Information and communication technology use determined records preservation and conservation practices in selected hospitals in Ibadan. Hospitals in Ibadan, Oyo State should address Information and communication technology use to drive records preservation and conservation practices.*

Index Terms Information and communication technology, Preservation and conservation practices.

I. INTRODUCTION

Hospital as an organisation of public health deals with life and health of patients. As many may think, the hospital is not only a place where sick people are taken care of, but a place where the health and wellbeing of people are maintained. Delivery of good medical care in the hospital requires a good record keeping. This is because without an accurate, comprehensive, up-to-date and accessible patient' case notes, health personnel may not be able to offer the best treatment or as the case may be misdiagnosed. This may however result in grave

consequences. Records as evidence of the hospitals accountability for its actions and a key source of data for medical research statistical reports and health information system must be preserved and conserved. This however, can be ensured through the use of information and communication technology.

According to Abdulrahaman (2015), the word "record" comes from the Latin word "recordari," which means to remember. According to the author, a record is any type of documented information that has been received and preserved by a company or institution in order to comply with legal and organisational requirements, regardless of the medium or form. In the words of Esse (2002), the word "records" comes from the Latin word "recordari," which denotes awareness or memory. It describes information that is acquired and kept up to date by a corporation or individual while carrying out legal obligations or engaging in any kind of activity, regardless of format or medium.

According to International Records Management Trust (1999), examples of records in the hospital includes: patient's case notes, X-rays, pathological specimens and preparations, patients indexes and registration, pharmacy and drug records, central administrative records, administrative records in clinical department, nursing and ward records and educational records. Patient's case notes when a patient interacts with a member of the medical team, a case note is prepared or written. Moreover, communication with nurses, physiotherapists, and other healthcare professionals can be documented in notes. Case notes include patient histories, findings from diagnostic tests, charts for blood pressure, temperature, and other measurements, as well as information on surgeries and other forms of treatment. In the majority of hospitals, all of the notes related to a patient are kept in a single file with the patient's name and other identifying information.

The file may include records pertaining to the patient's illness and referral letters from clinics or primary care physicians. The paperwork will accumulate over time to create a comprehensive medical history of the patient. To ensure the continuity of patient treatment, it is essential to keep a distinct file for each unique patient. In addition to notes made when people are admitted as in-patients

to hospital wards, notes should also be made when people visit as out-patients. Specialised outpatient clinics may keep detailed records of each patient. All of these documents must be retained in the same patient's file. General clinics, accident and emergency departments, and other departments may produce fewer notes or none at all in some hospitals. Local conditions will have an impact on the records made in outpatient departments, but in general, clinic visits result in less notes being made on each patient than ward admissions.

Preservation and conservation is a term used synonymously by a layman to connote the process directed at prolonging the life span of information resources and records within an organisation. Yet, despite the fact that both of these concepts are used to describe the protection of information assets and their storage in an organisation, they are distinct. According to Osunrinde and Adetunla (2017), the term preservation and conservation refer to a broad range of actions, ideas, rules, and structures that guarantee the applicability, durability, and accessibility of knowledge that has been documented. General collections restoration, reformatting (microfilming, photocopying, and digitisation), environmental monitoring and control, material care and handling, disaster preparedness and recovery, binding, and preservation teaching and training are a few examples of these activities.

The terms conservation and preservation are interchangeable, according to Srivastava and Kumar (2017). Although they are connected, technically these two words mean separate things. From this, it may be inferred that conservation and preservation refer to the actions taken to keep a thing secure from harm or loss, damage, destruction, or decay and to preserve it in a reasonably good shape for use now and in the future. When compared to conservation, preservation focuses on the ongoing care while the latter addresses the therapeutic aspect. Preserving important library and archive resources in accessible form for as long as possible through preservation and conservation procedures is a primary goal (IFLA-PAC China Centre, 2006). The goals of preservation and conservation are to prevent or lessen the deterioration of documents' physical and chemical properties. According to Jordan (2003), preservation

and conservation serve as catchalls for a wide range of actions, ideas, rules, and techniques that guarantee the utility, durability, and accessibility of knowledge that has been documented. Repairing general collections, reformatting (microfilming, photocopying, and digitising), and maintaining a controlled atmosphere are all examples of preservation and conservation tasks. Others include training and education in binding and preservation, material handling and care, disaster preparedness, and recovery. A factor that could influence records preservation and preservation practices is the use of Information and Communication Technologies.

ICTs can be utilised by hospital records officers for preservation and conservation practices like reformatting, migrating, copying, cloud computing, laminating, photocopying, and emulation, among others. Municipal Research and Services Centre (MRSC) (2019) claims that the use of ICTs for records preservation and conservation practices ensures improved efficiency, decreases staff expenses, lowers records storage costs, minimises the risk of lawsuit, and enhances. More service transparency, better regulatory compliance, improved record security, and improved backup and disaster recovery are all aided by it. Among other things, the usage of cloud-based storage contributes to safer document backup and recovery. Using ICTs simplifies the storage, retrieval, acquisition, searching, viewing, and handling of records. ICT use provides access to and storage of data in ways that have never been possible before. Computer systems, the internet, scanners, printers, and software programmes are just a few examples of ICT instruments that can be utilised for preservation and conservation. ICT use has the ability to redefine preservation and conservation practices, which could help address concerns about preserving long-term accessibility to digitally created and stored content (Kenney, Mannetti, Periro, Livi and Kashy, 2002).

A number of activities such as records creation, distribution and storage can also be done using technological devices such as computers thereby playing a crucial role in records management. Organisations such as hospitals around the world are making significant investment in information technologies and services that enable the digital transformation of their records management systems and services (Help Net Security, 2019). Reyden (1995) pointed out some information and communication technologies that should be made available for records preservation and conservation practices in organisations to include: preservation photocopying machine for low value, use and risk collections; microfilming machines for moderate value, high use and moderate risk collections; scanner for digitising high value, use and risk collections as well as motion picture transfer equipment and audio transfer equipment. ICT tools capable of storing information such as: flash drives, CD ROM and others should also be made available in records offices in hospitals for records preservation and conservation practices.

Studies like that of Ifijeh (2014), Awamleh and Faten (2022) have also affirmed the need for the provision of technological devices like: hard disk, magnetic tapes, optical disk (rewritable) and WORM optical disk (write once and read many), floppies, CD ROM and recently DVDs. In addition, preservation equipment such as: thermometer, hydrometer, smoke detectors, fire-extinguishers, air-conditioning can be used for effective records preservation and conservation practices in information organisations. According to Mulauzi et al. (2012), a record can be easily conceived and created by its initiator on the computer terminal and records can easily be produced effortlessly in multiple copies with very little extra cost. The authors further state that records created using ICT can be in variety of forms such as paper, microform, or electronic from just one source document and these extra outputs can be achieved cheaply and with little extra effort. However, the use of ICTs for records preservation and conservation practices in hospitals can be hampered by numerous challenges ranging from workers inadequacies to issues in the organisation, policies, guidelines and procedures. As a result of the significance of the independent variable (ICTs use) on dependent variables (preservation and conservation practices), this study investigates information and communication technology use as determinant of records preservation and conservation practices in selected hospitals in Oyo State, Nigeria.

Statement of the problem

Preservation and conservation practices are practices undertaken to minimise and reduce the physical and chemical deterioration of documents. Preservation and conservation of health records are to ensure continuous running of hospitals and to increase the longitivity of active materials through careful storage and use. Preserving and conserving of records in hospitals have been faced many challenges which may hinder smooth administration in hospitals. Despite the importance of preservation and conservation of records in hospitals, literature has revealed that records preservation and conservation practices in hospitals are still ineffective and not being accorded required priority.

The poor level of Information and Communication Technology (ICT) use for preservation and conservation by health record officers in hospitals could account for unpleasant incidences in preservation and conservation practices in hospitals. If the level of ICTs used for records preservation and conservation practices by records officers is low it could in turn reduce the efficiency in the administration in hospitals. The research therefore will investigate ICT use and staff quality as determinants of records preservation and conservation practices in selected hospitals in Oyo State, Nigeria.

Research questions

The following research questions are set to guide the study:

1. What are the records preservation and conservation practices in selected hospitals in Ibadan, Oyo State?
2. What are the types of ICT used for records preservation and conservation in selected hospitals in Ibadan, Oyo State?
3. What is the purpose of ICT use for records preservation and conservation in selected hospitals in Ibadan, Oyo State?
4. What is the frequency of ICT use for records preservation conservation in selected hospitals in Ibadan, Oyo State?

Hypotheses

1. There is no significant relationship between ICT use and records preservation and conservation practices in selected hospitals in Ibadan, Oyo State.

II. LITERATURE REVIEW

Preservation and conservation of records practices in hospitals

According to Abdulrahaman (2015), the word "record" comes from the Latin word "recordari," which means to remember. According to the author, a record is any type of documented information that has been received and preserved by a company or institution in order to comply with legal and organisational requirements, regardless of the medium or form. In the words of Esse (2002), the word "records" comes from the Latin word "recordari," which denotes awareness or memory. It describes information that is acquired and kept up to date by a corporation or individual while carrying out legal obligations or engaging in any kind of activity, regardless of format or medium.

According to Popoola (2010), the documented data known as "record" is what truly keeps organisations operating in the current bureaucratic system that penetrates the governance of organisations. One cannot overstate the importance of records preservation and conservation since decision-making requires recorded information from organisations, which can only be ensured via careful planning and prompt access to records. Hospitals in Nigeria maintain, control, and use records for a variety of reasons, including everyday operations, personnel, and equipment concerns.

According to International Records Management Trust (1999), examples of records in the hospital includes: patient's case notes, X-rays, pathological specimens and preparations, patients indexes and registration, pharmacy and drug records, central administrative records, administrative records in clinical department, nursing and ward records and educational records. Patient's case notes when a patient interacts with a member of the medical team, a case note is prepared or written. Moreover, communication with nurses, physiotherapists, and other healthcare professionals can be documented in notes. Case notes include patient histories, findings from diagnostic tests, charts for blood pressure,

temperature, and other measurements, as well as information on surgeries and other forms of treatment. In the majority of hospitals, all of the notes related to a patient are kept in a single file with the patient's name and other identifying information.

Also, the file may include records pertaining to the patient's illness and referral letters from clinics or primary care physicians. The paperwork will accumulate over time to create a comprehensive medical history of the patient. To ensure the continuity of patient treatment, it is essential to keep a distinct file for each unique patient. In addition to notes made when people are admitted as in-patients to hospital wards, notes should also be made when people visit as out-patients. Specialised outpatient clinics may keep detailed records of each patient. All of these documents must be retained in the same patient's file. General clinics, accident and emergency departments, and other departments may produce fewer notes or none at all in some hospitals. Local conditions will have an impact on the records made in outpatient departments, but in general, clinic visits result in less notes being made on each patient than ward admissions (International Records Management Trust, 1999).

International Records Management Trust (1999), further explained that one or more systems for oganising and storing information about patients in a hospital should be established, either in the form of traditional card indexes or electronically. These indexes, which may be referred to as a "master patient index" if they contain data about all patients, serve as a way to locate patient casenotes and other diagnostic documentation such as X-rays. Additionally, the indexes themselves are important records. In some hospitals, separate index may be maintained in individual departments. In addition to indexes, chronological registers of patients may be kept, either centrally or individual departments. Specialist departments may maintain day books or registers that record information about each patient seen or request received. Chronological registers may also be used by the hospital to keep track of admissions, discharges, births, and deaths of patients

According to International Records Management Trust (1999), the chief nurse's office will generate various types of records commonly found in executive or administrative offices, including correspondence, reports, meeting minutes, and staff records. The chief nurse may also keep copies of rules and procedures for nursing staff and patients, which are important but not likely to be bulky. In the wards, larger quantities of records may be produced. Wards may maintain their own admission registers in addition to the hospital's central record of admissions and discharges. Property and clothing books may be used to document possessions received from patients upon admission and their return upon discharge or death. Nurses may be required to write activity reports in a book kept on the ward for inspection by their managers, and they may also maintain records of nursing care for their own and their colleagues' use. As mentioned earlier, drug records should also be maintained in each ward. The officers, boards and committees of medical and nursing schools will produce their own records: minutes, correspondence, reports and so on. Autonomous schools will also produce the usual range of finance, personnel, estates and accommodation records. The school may issue an annual report and a calendar or handbook setting out details of courses. Records relating to the students themselves — for example, applications, study records, examination results, payment of fees, records of attendance, prizes and scholarships will also be generated.

According to Osunrinde and Adetunla (2017), the terms preservation and conservation refer to a broad range of actions, ideas, rules, and structures that guarantee the applicability, durability, and accessibility of knowledge that has been documented. General collections restoration, reformatting (microfilming, photocopying, and digitisation), environmental monitoring and control, material care and handling, disaster preparedness and recovery, binding, and preservation teaching and training are a few examples of these activities.

Preservation refers to any management initiatives created and implemented in an organisation with the goal of ensuring the ongoing use of information resources. Environmental control (temperature and humidity, heating, ventilation, air conditioning, cold storage, light, maintenance and housekeeping), education (basic guidelines for using research

materials, staff training, and patron education), disaster planning and response (evacuation of clients and staff, contingency plans during an emergency, collection priorities, general assessment or survey, and disaster recovery), staffing, and storage techniques are some of these activities (Ambika and Begum, 2017). On the other hand, conservation entails focused measures that are taken immediately to address and reverse deterioration of information resources within an organization (Balloffet and Hille, 2009). It follows that although conservation comprises direct and hands-on treatment, physical treatment provided to specific items in the organisation's collections, preservation entails the overall and indirect measures meant for the safeguarding of all the organisation's assets.

Alayeh (2019) states that methods of preserving medical records include cleaning of records, careful handling, use of effective storage media, photocopying, using air filter systems to control air pollution, sun shield, use of energy-saving light, air conditioners for controlling temperature and relative humidity, using papers with low acidity, fumigation against insects and rodents attack, fire extinguishers and sand buckets, microfilming of records, and making sure adequate space is available. In the management of patients, medical records are crucial records. They provide specifics regarding each patient's background, clinical findings, diagnostic test results, pre- and postoperative care, patient progress, and medical history and care across time within a single healthcare facility (Bali, et. al., 2011). Health care practitioners input a number of notes into a patient's medical record throughout time, noting observations and the administration of medications and therapies, as well as test results, x-rays, reports, mediations, and medical allergies, immunisation records, surgery history, etc. Maintaining correct medical records is a crucial component of providing high-quality treatment.

As a result, maintaining medical records is essential in a clinical setting. To ensuring that crucial knowledge is kept around for a while is the aim of preservation. Regardless of the format of the medical information (e.g., electronic or paper), effective record keeping promotes communication between various healthcare practitioners and allows for continuity of care (Mathioudakis et al., 2016). All multidisciplinary team members participating in a patient's care, including doctors, nurses, pharmacists, occupational therapists, psychologists, chaplains, and administrators, are responsible for documenting medical information. Yet, the major duty of the librarian or information specialist is to ensure that medical records are preserved (Alayeh, 2019). The task of arranging and safeguarding medical information falls under the purview of the librarian or archivist (Alayeh, 2019).

Hospital records preservation practices may include things like creating policies, designing buildings, installing equipment, controlling the atmosphere, educating patients, preparing for disasters, staffing emergency rooms, and using different storage techniques (Balloffet and Hille, 2009). But, conservation practices can also involve things like emergency preparedness and response, bookbinding, laminating, photocopying, wrapping, book repairs, and lamination (Ambika and Begum, 2017). Balloffet and Hille (2009) add that conservation emphasises the physical treatment of particular objects or collections and can involve both straightforward preventive measures and more involved treatments that could take many weeks to complete. Preservation and conservation practices like digitisation, periodic fumigation, integrated pest management system, and routine general cleaning and dusting at regular intervals are relevant to the current study.

Digitisation is a deliberate process which involves transferring printed things, such books, photos, and other paper-based information resources, into electronic form so that the computer can store and modify them. In an organisation, some information materials are born digital, while others are converted for simple access and storage. In order to provide access to the information without endangering the original materials, digitisation is frequently used as a technology in hospitals. As a result, hospital records departments must have access to digitisation tools and equipment including computers, scanners, and occasionally digital cameras or camera phones. In order to assure their preservation and conservation, it is suitable to keep materials that have been converted to digital form on various storage mediums, including magnetic media, optical media, and even the cloud.

According to Tyagi (2013), these technologies are best suited for collections whose intellectual content must be kept for an extended period of time and where secure copies are required for unique items.

Periodic fumigation and integrated pest management system are ways pivotal to preservation and conservation of records in hospitals. Fumigation is the application of gaseous pesticides directly to building components or to a portion or the entire building, including spaces used to handle, store, and process informational materials. Being a volatile gas at a variety of temperatures, a fumigant is a poisonous chemical or compound mixture that kills pests. For the objectives of this study, we take into account fumigant gases that are designed to eliminate rats, insects, and other pests that are infesting hospital informational materials. Libraries and archives are becoming more aware of how undesirable and ineffective it is to simply rely on harmful poisons and fumigants. Using an Integrated Pest Management (IPM) strategy is becoming a more popular and efficient way to control pest activity. IPM programmes are intended to stop pests from entering storage facilities and establishing themselves there.

Integrated pest management strategies, according to Minicka (2012), include monitoring for pest activity as well as taking precautions to make the environment around the books and storage as uninviting to insects and pests as possible. In order to protect historic collections from pests and other dangers, a sound building maintenance programme is another IPM-related strategy. After all, a sound building's fabric is the first line of defense. Hospital records officers should also focus on excellent cleaning and routine dusting, which can be summed up as good housekeeping programmes, as these activities are another aspect of preservation and conservation. According to Minicka (2012), good housekeeping programmes are implemented to keep storage areas clean and organised as well as to get rid of any potential sources of food and comfort for insects and pests in order to prevent the emergence of any such unfavorable conditions in records departments or offices. A crucial, low-toxic strategy for assisting in the elimination of pests from the storage environment is good housekeeping, which is a systematic program to maintain storage rooms as clean and sterile as feasible. Poor storage conditions considerably speed up the destruction of any published item, and those made with inferior materials have little chance of surviving under such circumstances, claims Akussah (1994). The condition of library information resources can be harmed by elements like high temperatures, high relative humidity, sunlight, light (ultraviolet), air quality problems, and dust.

Regardless of its formats, the goal of preservation and conservation is to guarantee the long-term retention of essential information resources (i.e. electronic or paper). Maintaining services and improving communication between various work units within an organisation are made possible by good preservation and conservation methods (Mathioudakis, Rousalova, Gagnut, Saad and Hardavella, 2016). It is regrettable that crucial tasks like cataloging and categorisation, acquisition, circulation, and serial management, which are performed by libraries and information centres, have received more attention than tasks like preservation and conservation (Rasaki and Abioye, 2013). Teper (2005) claims that while other library tasks are clearly established using the example of the library as a yardstick, the duties of effectively maintaining and preserving collections remain a mandate that is only partially performed. The failure to properly allocate resources and facilities to designated sections or units in hospitals may have an impact on hospital coordination and administration. Preservation and conservation are crucial records keeping practices in hospitals that should not be neglected.

Relevance of Information and Communication Technology use in hospitals

Numerous tools have been developed for the management of information and communication technologies (ICT), including the application of various best practices outlined in frameworks like the Ministry of Information and Communication Technologies, Control Objectives for Information and Related Technology (COBIT), Capability Maturity Model (CMM), and International Organisation standardisation (ISO) 2009. These four frameworks are just a few of the many that integrate beneficial best practices for managing ICT infrastructure in various business sectors, including

the record keeping, the subject of this study (Rousseau Wachtel, 2018).

ICTs can be utilised by hospital records officers for preservation and conservation practices like reformatting, migrating, copying, cloud computing, laminating, photocopying, and emulation, among others. Municipal Research and Services Centre (MRSC) (2019) claims that the use of ICTs for records preservation and conservation practices ensures improved efficiency, decreases staff expenses, lowers records storage costs, minimises the risk of lawsuit, and enhances. More service transparency, better regulatory compliance, improved record security, and improved backup and disaster recovery are all aided by it. Among other things, the usage of cloud-based storage contributes to safer document backup and recovery. Using ICTs simplifies the storage, retrieval, acquisition, searching, viewing, and handling of records. ICT use provides access to and storage of data in ways that have never been possible before. Computer systems, the internet, scanners, printers, and software programmes are just a few examples of ICT instruments that can be utilized for preservation and conservation. ICT use has the ability to redefine preservation and conservation practices, which could help address concerns about preserving long-term accessibility to digitally created and stored content (Kenney, Mannetti, Periro, Livi and Kashy, 2002).

Studies like that of Tyagi (2013); Ifijeh (2014), Awamleh and Faten (2022) have also affirmed the need for the provision of technological devices like: hard disk, magnetic tapes, optical disk (rewritable) and WORM optical disk (write once and read many), floppies, CD ROM and recently DVDs. In addition, preservation equipment such as: thermometer, hydrometer, smoke detectors, fire-extinguishers, air-conditioning can be used for effective records preservation and conservation practices in information organisations. According to Mulauzi et al. (2012), a record can be easily conceived and created by its initiator on the computer terminal and records can easily be produced effortlessly in multiple copies with very little extra cost. The authors further state that records created using ICT can be in variety of forms such as paper, microform, or electronic from just one source document and

these extra outputs can be achieved cheaply and with little extra effort. However, the use of ICTs for records preservation and conservation practices in hospitals can be hampered by numerous challenges ranging from workers inadequacies to issues in the organisation, policies, guidelines and procedures.

On the frequency of ICT use for records preservation and conservation practices, a study carried out by Toyo (2017) on the application of information and communication technology to the management of records in the Head of Service office Asaba, Delta State, Nigeria. The study found out that ICT facilities like, computer, USB flash drives, microforms mobile phones were used daily, while Compact Disc Read Only Memory (CD-ROM), scanners, Optical Storage Disc were used weekly. However, binding machine, shredding machines are used monthly. This could be the same situations in universities in Nigeria. To Adesoji, Bankole and Adebayo 2021., the adoption and integration of ICTs have tremendously brought efficiency and effectiveness in the service delivering and operations in hospitals. They have offered information users different options in carrying out various information operations which have resulted in fast and accurate results. It is becoming unrealistic for information/records officers to achieve success in their operations without the application, deployment or use of ICTs. However, the use of ICT for records preservation and conservation practices in hospitals can be hampered by numerous challenges ranging from workers inadequacies to issues in the organisation, policies, guidelines and procedures.

III. METHODOLOGY

The descriptive survey research design of the correlational type was adopted for the study. The population of the study comprises 190 health records officers in five hospitals in Ibadan, Oyo State. These are health records officers in the University College Hospital, Ibadan, Oyo State Government Hospitals, Adeoyo, Jaja Clinic, University of Ibadan, Oyo State Government Hospital, Jericho and Naomi Medical Centre Oke Padre. The total enumeration (census) technique was adopted for the study. The research instrument used for the study is the questionnaire. The data was analysed quantitatively using the descriptive and inferential statistics. Analysis of the

information obtained from data collected was undertaken on computer using the Statistical Package for the Social Sciences (SPSS) version 2.0 software.

IV. RESULTS

Research question one: What are the records preservation and conservation practices in selected hospitals in Ibadan, Oyo State?

The responses of the records officers on the records preservation and conservation practices in the selected hospitals were presented in Table 1

Table 1. Records preservation and conservation practices in the selected hospitals

S/N	Preservation and Conservation Practices	SA F %	A F %	D F %	SD F %	Mean S.D
1	Digitisation of records	16 8.7	22 12.0	130 70.7	16 8.7	2.21 .717
2	Photocopying of records	16 8.7	148 80.4	14 7.6	6 3.3	2.95 .540
3	Microfilming of records	16 8.7	30 16.3	126 68.5	12 6.5	2.27 .711
4	Use of pesticides, insecticides and insect repellent for records	136 73.9	41 22.3	5 2.7	2 1.1	3.69 .579
5	Environmental control on records	145 78.8	37 20.1	2 1.1	-	3.78 .443
6	Air conditioning of records	29 15.8	143 77.7	12 6.5	-	3.09 .464
7	Provision of firefighting equipment	123 66.8	57 31.0	4 2.2	-	3.65 .523
8	Training of staff on preservation of records	29 15.8	153 83.2	2 1.1	-	3.15 .384
9	Proper handling of records	155 84.2	27 14.7	2 1.1	-	3.83 .403
10	Cleaning and dusting of records	117 63.6	64 34.8	3 1.6	-	3.62 .519

Key: Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

Results revealed that the most prominent preservation and conservation practice in the selected hospitals was proper handling of records ($\bar{x}$=3.83). Others significant preservation and conservation practices were; use of pesticides, insecticides and insect repellent for records ($\bar{x}$=3.69), provision of firefighting equipment ($\bar{x}$=3.65) and cleaning and dusting of records ($\bar{x}$=3.62).

Research question two: What are the types of ICT used for records preservation and conservation in selected hospitals in Ibadan, Oyo State?

Table 2 presents the responses of the respondents on the types of ICT used for records preservation and conservation in their respective hospitals.

Table 2. ICT used for records preservation and conservation in selected hospitals in Ibadan, Oyo State

S/N	ICT DEVICES USED	HU F %	U F %	SU F %	NU F %	Mean S.D.
	Machine based technologies					
1	Computer	90 48.9	79 42.9	3 1.6	12 6.5	3.34 .808
2	Photocopy machine	95 51.6	86 46.7	3 1.6	-	3.50 .533
3	Microfilming machine	-	12 6.5	67 36.4	105 57.1	1.49 .618
4	Digitising machine	3 1.6	9 4.9	4 2.2	168 91.3	1.17 .581
5	Binding machine	18 9.8	8 4.3	40 21.7	118 64.1	1.60 .959
	Storage technologies					
6	Hard disk	129 70.1	39 21.2	4 2.2	12 6.5	3.55 .828
7	Magnetic tapes	26 14.`1	8 4.3	32 17.4	118 64.1	1.68 1.076
8	Audio tapes	-	9 4.9	17 9.2	158 85.9	1.19 .503
9	Video tapes	-	9 4.9	20 10.9	155 84.2	1.21 .513
10	Audio disc	-	14 7.6	32 17.4	138 75.0	1.33 .612
11	Video disc	25 13.6	17 9.2	56 30.4	86 46.7	1.90 1.018
12	CD/DVD	94 51.1	22 12.0	21 11.4	47 25.5	2.89 1.282
13	Flash drives	139 75.5	13 7.1	20 10.9	12 6.5	3.52 .929
14	Smart media (flash memory cards)	123 66.8	46 25.0	3 1.6	12 6.5	3.52 .823
15	Compact flash (flash memory)	116 63.0	53 28.8	3 1.6	12 6.5	3.48 .823

		HU	U	SU	NU	
	Storage technology: Cloud storage					
16	Internet, online database and so on	143 77.7	29 15.8	-	12 6.5	3.65 .789

Key: Highly Used (HU), Used (U), Seldom Used (SU), Not Used (NU*)*

Findings revealed that the machine-based technologies that were used by most of the respondents were photocopy machine ($\bar{x}$=3.50) and computer ($\bar{x}$=3.50). As regards the storage technologies, the types that were used were; hard disk ($\bar{x}$=3.55), flash drives ($\bar{x}$=3.52) and compact flash (flash memory) ($\bar{x}$=3.48). While the storage technology: cloud storage that was used by majority of the records officers ($\bar{x}$=3.65) were the Internet, online database etc. (Table 4.4).

Research question three: What is the purpose of ICT use for records preservation and conservation in selected hospitals in Ibadan, Oyo State?

The purpose of use of ICT for records preservation and conservation was presented in Table 3.

Table 3. Purpose of ICT use for records preservation and conservation in selected hospitals in Ibadan, Oyo State

S/N	PURPOSE OF ICT USE	SA F %	A F %	D F %	SD F %	Mean S.D.
1.	To capture information	171 92.9	13 7.1	-	-	3.93 .257
2.	To maintain and preserved records	170 92.4	14 7.6	-	-	3.92 .266
3.	To store records	169 91.8	13 7.1	2 1.1	-	3.91 .326
4.	To protect records from unauthorised users	109 59.2	75 40.8	-	-	3.59 .493
5	For easy and quick retrieval of records	99 53.8	85 46.2	-	-	3.54 .500
6.	To grant access to the authorised users	88 47.8	82 45.1	11 6.0	3 1.6	3.39 .676
7.	For digitisation of records	101 54.9	83 45.1	-	-	3.55 .499
9.	To improve sharing of information within the hospitals among other health care workers	141 76.6	40 21.7	-	3 1.6	3.73 .543
10	Photocopying of records	127 69.0	40 21.7	-	17 9.2	3.54 .952

Results revealed that most of the records officers use ICT to capture information ($\bar{x}$=3.93). Others reasons indicated by majority of the respondents were; to maintain and preserve records ($\bar{x}$=3.92), to store records ($\bar{x}$=3.91), to improve sharing of information within the hospitals among other health care workers ($\bar{x}$=3.73) and to protect records from unauthorised users ($\bar{x}$=3.59).

Research question four: What is the frequency of ICT use for records preservation conservation in selected hospitals in Ibadan, Oyo State?

Table 4 presents the results of the frequency of use of ICT for records preservation and conservation by the respondents.

Table 4. Frequency of ICT use for records preservation conservation in selected hospitals in Ibadan, Oyo State

S/N	ICT DEVICES	Daily F %	Weekly F %	Monthly F %	Quarterly F %	Annually F %	Never F %	Mean S.D
	Machine based technologies							
1	Computer	161 87.5	8 4.3	-	3 1.6	-	12 6.5	5.58 1.286
2	Photocopy machine	173 94.0	8 4.3	-	-	3 1.6	-	5.89 .542
3	Microfilming machine	3 1.6	9 4.9	3 1.6	-	77 41.8	92 50.0	1.74 1.099
4	Digitising machine	3 1.6	6 3.3	8 4.3	3 1.6	7 3.8	157 85.3	1.41 1.123
5	Binding machine	26 14.1	6 3.3	9 4.9	20 10.9	39 21.2	84 45.7	2.41 1.778
	Storage technologies							
6	Hard disk	155 84.2	11 6.0	-	-	3 1.6	15 8.2	5.47 1.444
7	Magnetic tapes	5 2.7	9 4.9	3 1.6	18 9.8	18 9.8	149 81.0	1.48 1.219
8	Audio tapes	-	3 1.6	14 7.6	-	8 4.3	159 86.4	1.34 .938
9	Video tapes	-	5 2.7	15 8.2	-	13 7.1	151 82.1	1.42 1.032
10	Audio disc	3 1.6	5 2.7	35 19.0	3 1.6	20 10.9	118 64.1	1.90 1.387
11	Video disc	28 15.2	7 3.8	37 20.1	3 1.6	28 15.2	81 44.0	2.70 1.888
12	CD/DVD	123 66.8	13 7.1	6 3.3	9 4.9	13 7.1	20 10.9	4.89 1.810
13	Flash drives	155 84.2	10 5.4	-	3 1.6	-	16 8.7	5.46 1.448
14	Smart media (flash memory cards)	134 72.8	24 3.0	11 6.0	3 1.6	-	12 6.5	5.38 1.329

15	Compact flash (flash memory)	125 67.9	33 17.9	11	6.0	3	1.6	-	12 6.5	5.33 1.323
	Storage technology: Cloud storage									
16	Internet, online database and so on	154 83.7	10 5.4	5	2.7	3	1.6	-	12 6.5	5.52 1.310

Findings in Table 4 showed that almost all the respondents 173 (94.0%) indicated that they used photocopy machine daily. Similarly, more than four-fifths of the records officers 161 (87.5%) also used computers daily as 155 (84.2%) noted that they used flash drives daily. The ICT devices that were never used by a high number of the respondents were; audio tapes 159 (86.4%), digitizing machine 157 (85.3%), video tapes 151 (82.1%) and magnetic tapes 149 (81.0%).

Hypothesis: There is no significant relationship between ICT use and records preservation and conservation practices in selected hospitals in Ibadan, Oyo State

Table 5 presents results on the correlation analysis conducted between ICT use and records preservation and conservation practices in the selected hospitals in Ibadan, Oyo State.

Table 5 Relationship between ICT use and records preservation and conservation practices
in selected hospitals in Ibadan, Oyo State

Variables	Mean	Std. Deviation	N	R	Df	Remarks
ICT use	33.10	2.509	184	.275**	183	Sig.
Records preservation and conservation practices	32.23	2.838				

Results showed that there is a positive significant relationship between ICT use and records preservation and conservation practices by the records officers (r=.275**; df =183; p< 0.01). Thus, the more the use of ICT, the more records preservation and conservation practices will improve. As a result of this, null hypothesis is rejected and the alternative that states that there is a significant relationship between ICT use and records preservation and conservation practices is hereby accepted.

Summary

The following are the summary of the study:
1. The prevailing records preservation and conservation practices in the selected hospitals were: proper handling of records, use of pesticides, insecticides and insect repellent for records, provision of firefighting equipment and cleaning and dusting of records.
2. The prevailing information and communication technology use for records preservation and conservation practices were photocopy machine, computer, hard disk, flash drives, compact flash (flash memory) and the Internet.
3. ICT is used records officers to: capture information, maintain and preserve records, store records, improve sharing of information within the hospitals among other health care workers and protect records from unauthorised users.
4. The ICTs frequently used for records preservation and conservation practices were: photocopy machine, computers and flash drives. While, audio tapes, digitising machine, video tapes and magnetic tapes were never used.
5. There was a positive significant relationship between ICT use and records preservation and conservation practices by the records officers.

V. CONCLUSION

Records preservation and conservation practices is very important if hospitals in Ibadan are to be successful in keeping effective records for the benefit of their patients. Therefore, it is imperative that any hospital that will run an effective records preservation and conservation practices must maintain good ICT use. This implies that ICT use is a major determinant of records preservation and conservation practices in selected in Ibadan.

VI. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Hospital managements should sustain the use of ICT in their hospitals by providing necessary emerging technologies to support record preservation and conservation practices.
2. The hospital management should encourage the use of audio tapes, digitising machine, video tapes and magnetic tapes by making them available as they were never used.
3. Hospitals management should set a special budget for smooth running of records preservation and conservation practices to be more effective within the hospitals since there are no specific budget for the preservation of records in the hospitals.

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