Nurses Use of Electronic Information Resources for Healthcare Service Delivery in General Hospitals of Jigawa State-Nigeria

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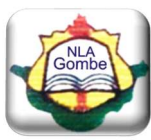muhdaa2510@gmail.com

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Abstract

This study examines the use of electronic information resources EIRs by nurses for enhancing healthcare service delivery in Jigawa State. The study adopted a quantitative research methodology using cross-sectional survey design. The population of the study consisted all the 384 clinical nurses currently working in nine general hospitals in Jigawa State employing a census sampling technique. A structured questionnaire was used to collect relevant data analysed using descriptive and inferential statistics. The descriptive statistics findings revealed the major sources of accessibility of EIRs by nurses to be search engines (mean=3.41), online database and smart phones (mean=3.19). The major types of EIRs used are Medline Biomedical and Health Resources(mean=2.75), Global Infectious Disease and Epidemiology Network (GIDEON) (mean=2.50) and Nursing Reference Center Plus for enhancing the provision of health education in preventing the spread of contagious diseases using empirical findings (mean=2.66) and learning new ways of measuring and monitoring patients' vital signs. The findings also revealed that nurses possess skills for formulating questions based on information needs (mean=2.64), ability to distinguish potential information resources (mean=2.89) and ability to evaluate information obtained from different sources. The major problems include lack of knowledge of availability of resources, poor internet connectivity (mean=3.00), inadequate evaluating facilities for using e-resources (mean=3.37). The inferential statistics found that the relationship is positive (r(350) = .378, n=352, p=.000, i.e. less than 0.05) in the first hypothesis with a weak correlation and also positive (r(350) = .601, n=352, p=.000, i.e. less than 0.05) in the second hypothesis with a very strong correlation and therefore reject all the two null hypotheses because there is sufficient evidence of significant correlation between the variables. The study recommends that libraries be established in the general hospitals with robust internet connectivity.

Keywords: Electronic Information Resources, Nurses, Health Resources, Health Informatics, Online Database.

Introduction
Information is a very important key resource for every type of organization. The exponential growth in information and increase in the number of documents being published in various fields affects the way professionals access information, nurses included. During recent decades, nurses have responded to the transformation of information resources from primarily that of print to a dynamic interface of access to electronic information resources. While data regarding use of EIRs proliferates, analysis of this use and its relationship to nurses is complex. Today, many believe that EIRs are the latest solution to the effort of getting closer to the information they seek.
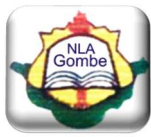
Electronic information resources containing Health Resources for nursing information needs include the Medline Database containing full text biomedical and health journals, PubMed Databases is a services of the National Library of Medicine which provide access to Medline Data citations. Other resources include CINAHAL Plus covering literature related to nursing and allied health, EMBASE-Excerpta Medica, Database for international research on drugs and disease coverage. EIRs are relevant to nursing research in enhancing effective healthcare service delivery in hospital because they contain information such as Nursing Reference Center Plus which is a master nursing best practices with premier source that answers questions quickly.

Health information is crucial to every medical personnel in providing healthcare services to their patients. Medical personnel need current, relevant and reliable information in order to discharge their duties. Healthcare delivery is the provision of healthcare services to individual or community by health workers in order to improve the health status of the people. Therefore, the role of health personnel also contributes to the economic devolvement of every nation. Medical personnel need various information sources in order to obtain relevant information resources to satisfy their information needs and discharge their clinical duties, because information is a tool for both clinical and professional development in nursing profession.

It is against this background and inadequate supported evidence that this research become imperative to investigate the knowledge of nurses on the availability, relevance and level of utilization of EIRs for healthcare service delivery in general hospitals in Jigawa State and also to explore the relationships between EIRs and enhancing effective healthcare service delivery.

Statement of the problem
Nurses play a vital role in healthcare delivery, they are involved in promoting healthcare services to the community they serve, they also play important role in assisting doctors in performing daily medical routines. As such, nurses need accessible, current and relevant health information (especially electronic information resources) to perform their duties effectively. However, Oduwole & Idowu (2012) and Aina (2014), have indicated that due to information explosion, various professional groups including nurses find it difficult to utilize and harness the vast information imbedded in the electronic world. Most of the nurses lack information literacy skills and computer skills to search for information online, as a result that they cannot find the information they needed for healthcare delivery. This statement is supported by Momoh, Oni and Oshinebo (2015), who found that most nurses still find it difficult to find current and relevant information resources online to help them when managing their patients. It is in view of the above, this research aims to carry out an investigation to determine the knowledge and skills for utilization possessed by the nurses on

the health resources for nursing research in enhancing effective healthcare service delivery in the general hospitals in Jigawa State.

Objectives of the Study

1. To identify the sources of E-resources for Research in Nursing used by nurses in General Hospitals in Jigawa State;
2. To identify the type of E-resources used for Nursing Research by nurses for healthcare delivery under study;
3. To investigate the level of Information Literacy Skill of Nurses on the utilization of E-resources for healthcare delivery;
4. To examine the influence of E-resources for Nursing Research on enhancing healthcare delivery under study;
5. To determine the common problems encountered when using E-resources for Nursing Research by Nurses under study;

Hypotheses of the Study

H_01 There is no statistically significant relationship between the type of E-resources for Nursing Research and the level of Utilization of the Resources by Nurses for Effective Healthcare Services Delivery.

H_02 There is no statistically significant relationship between the level of Utilization of E-resources and the Influence of E-Resources on Effective Healthcare Service Delivery by Nurses in General Hospitals in Jigawa State.
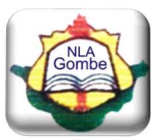
REVIEW OF RELATED LITERATURE

Electronic Information Resources

Information resources are the various means or channels by which information is recorded, obtained and used by an individual or an organization. Nurses as professionals need a wide variety of information sources in order to acquire relevant and current information for clinical or professional needs. According to Ricks and Ten (2015), information resources are the various means by which a person is informed about something or knowledge which is provided or shared with someone, group of people or an organization. Information resources can be in print or electronic resources such as e-books, e-journals, internet, databases that are used by individuals to find relevant information with regards to their daily activities.

A study by Arvind & Maheswarappa (2014), found that 97% of nurses used Community health centers as their main information sources followed by 95% used doctors while 81% used libraries and neighbours. However, 93% of nurses sourced health information from printed sources like posters, magazines and newspapers, 40% used neighbours 55% used family members while 45% used relatives and friends. The above findings have shown that nurses do not use electronic outlets to sources information for healthcare services delivery as none of the literature reviewed has indicated any of the nurses using e-resources as their main sources of information, hence this study intends to fill the gap in these reviewed studies.

With the increase in number of publications in nursing profession and the introduction of the internet, many new electronic information sources are now available to nurses. The availability of internet has provided opportunity to the most current and reliable information sources. In view of this, Anyanwu & Oparaku (2016),found that 28% of nurses used internet as their information sources followed 22% who used journals while 21% used books as their information source, 32.1% used other health professionals like doctors and 29.3% used

nursing colleagues, 28.6% used health/medical libraries, only 11.4% used electronic data bases. Most of the studies revealed that majority of the nurses used their professional colleagues as their main source, this showed that very few of the nurses use internet and electronic databases.

However, Dee and Stanley (2005)cited in Adamu and Olaide (2013), found that only 8% of the nursing students used online databases more than six (6) times a week, 84% of them used them from one to five times a week, and 8% indicated usage of less frequently than once a week. On the other hand, only 4% of clinical nurses used databases more than six (6) times a week, 32% used them one to five times a week, and 64% did not perform searches even on a weekly basis. The usage figures clearly reflected the different access to databases and the previous training for each group. Additional comparisons of factors that influenced database searching by nursing students and clinical nurses found that insufficient time for electronic database searching was a deterrent indicated by 28% of the nursing students, compared to 76% of clinical nurses.

From the discussion above, a knowledge gap is identified whereby majority of nurses used their professional colleagues as their information resources for healthcare delivery. Thus, other types of information resources such as medical textbooks, journals and internet are not commonly utilized by the nurses, this was found from the study conducted by Adamu & Oloide (2013), Anyanwu et al. (2016) and Momoh et al. (2015) who found that most nurses in Nigeria used their professional colleagues and few used printed resources as their main information resources. The review also showed that few nurses use internet and electronic information resources to obtain information for healthcare delivery. It is against this background that the study investigated the nature of electronic information resources used by nurses for effective healthcare service delivery in general hospitals of Jigawa State.
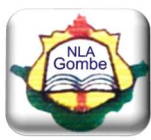
Methodology
The study was conducted in all the 9 general hospitals of Jigawa state which are Birnin-Kudu, Birniwa, Dutse, Gumel, Hadeja, Jahun, Kafin Hausa, Kazaure, and Ringim general hospitals. The population of the study comprises of all the clinical nurses currently working in the nine general hospitals in Jigawa state which is three hundred and four (384). Census sampling technique was used to sample all the population of the study. A cross-sectional survey method was used with structured questionnaires administered to collect data from the respondents. The data collected was subjected to both descriptive and inferential statistics. The descriptive statistics that was used to examine the nature of electronic information resources among members of the study population were frequency counts, means and percentages where adopted. Pearson's Product Moment Correlation (PPMC) was used to show the relationship between the independent variable (types and utilization of electronic information resources by nurses) and the dependent variables (effective healthcare services delivery).

Discussion and Findings
Table 1.0 Response Rate

Questionnaire	Frequency	Percentage (%)
Administered	384	100%
Returned	352	92%
Not returned	32	8%

A total of three hundred and eighty-four (384) copies of the questionnaire were administered to the nurses in the nine (9) general hospitals of Jigawa State, and three hundred and fifty-two

(352) were returned and found useful for the study. Only 32 were not returned. Thehigh rate of return was due to the fact that most of the respondents were within the reach of the researcher. The table below shows the response rate of the respondents.

Table 2.0 Demographic Information

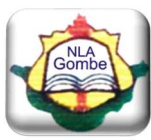| OPTIONS	FREQUENCY	PERCENTAGE(%)
GENDER OF THE RESPONDENTS		
Male	275	78%
Female	77	22%
Total	**352**	**100%**
YEARS OF WORKING EXPERIENCE		
0-5 Years	64	17.2%
6-10 Years	201	53.4%
11-15 Years	46	12.2%
16-20 Years	37	9.8%
21 Years and Above	28	7.4%
Total	**352**	**100%**

The table presented the demographic information of the respondents. It shows that 275(78%) of the respondents were male and 77(22%) were females. The table also showed that more than half 201(53.4%) of the respondents had 6-10 years working experience, 64(17.4%) had only 0-5 years working experience, 46(12.2%) had 11-15 years working experience, 37(9.8%) had 16-20 years working experiences and 28(7.4%) had 20 years and above in years working experience.

Research Objective One: To identify the sources of E-resources for Research in Nursing used by nurses in General Hospitals in Jigawa State.

Table 3.0 Sources of E-Resources for Nursing Research

Source of E-resources	Very High	High	Low	Not Applicable	Mean	Decision
Smart phones	151 (42.9%)	119 (33.8%)	79 (22.4%)	3 (0.9%)	**3.19**	**Accepted**
Data files	35 (9.9%)	45 (12.8%)	71 (20.2%)	201 (57.1%)	1.76	Rejected
Online database	151 (42.9%)	99 (28.1%)	102 (29.0%)	0 (0.0%)	**3.14**	**Accepted**
Search engines	206 (58.5%)	85 (24.1%)	61 (17.3%)	0 (0.0%)	**3.41**	**Accepted**
Institutional Repositories	35 (9.9%)	32 (9.1%)	26 (7.4%)	259 (73.6%)	1.55	Rejected
Total					**2.61**	**Significant**

The respondents were asked about the sources through which they frequently accessed e-resources for nursing research. The result on table 3.0 above showed that respondents accessed e-resources from different sources which depended mainly on availability. Over 291(82.6%) of the respondents indicated that the sources through which they accessed e-resources the most is search engines (mean=3.41) particularly Google, 270(76.7%) access through their smart phones (mean=3.19)while 250(71%) access e-resources through online database (mean=3.14). Only 80(22.7%) of the respondents had accessed e-resources through data files (mean=1.76) and 67(19%) access e-resources through institutional repositories (mean=1.55).The analysis further revealed that the overall mean was significant (mean=2.61) which shows that nurses uses different sources of e-resources for research in nursing towards effective healthcare service delivery in general hospitals in Jigawa state.

Research Objective Two: To identify the type of E-resources used for Nursing Research by nurses for effective healthcare service delivery in general hospital in Jigawa state;

Table 4.0   Medical e-resources used

E-Resource	Very High	High	Low	Not Applicable	Mean	Decision
Medline Biomedical and Health resources.	121 (34.5%)	83 (23.6%)	87 (24.7%)	61 (17.3%)	2.75	**Accepted**
PUBMED and Excerpta Medica Database (EMBASE).	39 (11.1%)	44 (12.5%)	72 (20.5%)	197 (56.0%)	1.79	Rejected
CINAHL Plus and COCHRANE Library.	30 (8.5%)	74 (21.0%)	90 (25.6%)	158 (44.9%)	1.93	Rejected
HINARI, POPLINE and TOXNET.	56 (15.9%)	36 (10.2%)	82 (23.3%)	178 (50.6%)	1.91	Rejected
LILACS and TRIP Pro.	48 (13.6%)	84 (23.9%)	38 (10.8%)	182 (51.7%)	1.99	Rejected
Global Infectious Disease and Epidemiology Network (GIDEON).	109 (31.0%)	53 (15.1%)	85 (24.1%)	105 (29.8%)	2.50	**Accepted**
Nursing Reference Center Plus.	100 (28.4%)	90 (25.6%)	67 (19.0%)	95 (27.0%)	2.55	**Accepted**
Overall Mean					2.20	**Not Significant**

Table 4.0 above represent the analysis of the different types of medical e-resources used by nurses. The table reveals that Medline Biomedical and Health resources (mean=2.75), Global Infectious Disease and Epidemiology Network (GIDEON) (mean=2.50) and Nursing Reference Center Plus (mean=2.55) with the mean marks above 2.50 bench mark are accepted as the only types of medical e-resources used by nurses in general hospitals in Jigawa state. PUBMED and Excerpta Medica Database (EMBASE) (mean=1.79) have over 197(56.0%) of the total respondents rated not applicable to their research while CINAHL Plus and COCHRANE Library (mean=1.93), HINARI, POPLINE and TOXNET (mean=1.91) and LILACS and TRIP Pro (mean=1.99) are rejected by the respondents as not part of the types of medical e-resources used by them.

The table further revealed that the overall mean is not significant with a mean mark below 2.50 bench mark (mean=2.20) due to the respondents rejecting most of the medical e-resources. This may be due to a lack of awareness about the resources or their preference to using professional colleagues than e-resources.

Research Objective Three: To investigate the level of Information Literacy Skill of Nurses on the utilization of E-resources for effective healthcare service delivery in the general hospital under study;

Table 5.0   Information Literacy Skills of Nurses

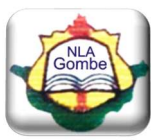| Item	Very High	High	Low	Not Applicable	Mean	Decision
Ability to formulate questions based on my information needs.	65 (18.5%)	136 (38.6%)	110 (31.2%)	41 (11.6%)	2.64	**Accepted**
Ability to distinguish potential information resources.	136 (38.6%)	83 (23.6%)	90 (25.6%)	43 (12.2%)	2.89	**Accepted**
Ability to construct strategies for locating information.	151 (42.9%)	87 (24.7%)	60 (17.0%)	54 (15.3%)	2.95	**Accepted**
Ability to evaluate information obtained from different sources.	85 (24.1%)	115 (32.7%)	87 (24.7%)	65 (18.5%)	2.63	**Accepted**
Ability to use information in critical thinking and problem solving.	93 (26.4%)	66 (18.8%)	78 (22.2%)	115 (32.7%)	2.39	Rejected
Overall Mean					2.71	Significant

Table 5.0 represent the information literacy skills of the respondents. The analysis nurses in general hospitals in Jigawa state possessed significant level of information literacy skills (overall mean=2.71) for accessing e-resources in nursing research for effective healthcare service delivery. The table showed that the ability to formulate questions based on my information needs(mean=2.64), Ability to distinguish potential information resources (mean=2.89), ability to construct strategies for locating information (mean=2.95) and ability to evaluate information obtained from different sources (mean=2.63) are accepted as the level of information literacy skills of the respondents.
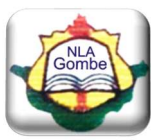
While the analysis revealed that Ability to use information in critical thinking and problem solving (mean=2.39) was rejected as the level of information literacy skills of the respondents. The implication of the above result is that, majority of the nurses in Jigawa state possess significant level of information literacy skill

Research Objective Four: To examine the influence of E-resources for Nursing Research on enhancing effective healthcare services delivery in the General Hospitals under study;

Table 6.0: Electronic Information Resources for Healthcare Services Delivery by Nurses

Item	Very High	High	Low	Not Applicable	Mean	Decision
Provision of current nursing information to patients on contemporary diseases	78 (22.2%)	89 (25.3%)	25 (7.1%)	160 (45.5%)	2.24	Rejected
Providing health education in preventing the spread of diseases using empirical findings	165 (46.9%)	35 (9.9%)	20 (5.7%)	132 (37.5%)	2.66	Accepted
Applying new trends of patients examination based on findings from empirical studies	61 (19.3%)	30 (8.5%)	160 (45.5%)	101 (28.7%)	2.15	Rejected
Modern ways of admitting and discharging patients with prior notice electronically	129 (36.6%)	25 (7.1%)	132 (37.5%)	66 (18.8%)	2.62	Accepted
Learning new ways of measuring and monitoring patients' vital signs using EIRs	182 (51.7%)	31 (8.8%)	32 (9.1)	107 (30.4%)	2.82	Accepted
Promoting health status of patients through enlightenment campaigns	94 (26.7	82 (23.3%)	113 (32.1%)	63 (17.9%)	2.59	Accepted
	Overall Mean				2.51	Significant

Table 6.0 represent the level of influence of E-resources on enhancing healthcare service delivery in general hospitals in Jigawa state. The table revealed that the influence of e-resources is significant (mean=2.51) as e-resources have positive effect on nursing research for effective healthcare service delivery. The analysis indicated that majority 200(56.8%) of the respondents rated e-resources enhances the provision of health education in preventing the spread of contagious diseases using empirical findings from electronic resources (mean=2.66), modern ways of admitting and discharging patients with prior notice electronically (mean=2.62),Learning new ways of measuring and monitoring patients' vital signs using electronic information resources (mean=2.82) and Promoting health status of patients through media enlightenment campaigns (mean=2.59) are accepted as the level of enhancing effective healthcare service delivery as a result of utilization of e-resources by nurses in general hospitals. The analysis further showed that the provision of current nursing information to patients on contemporary diseases (mean=2.24) and applying new trends of patients' examination based on findings from empirical studies (mean=2.15) are rejected and

not among the influences of e-resources on enhancing effective healthcare service delivery in general hospitals in Jigawa State.

Research Objective Five: To determine the common problems encountered when using E-resources for Nursing Research by nurses in the General Hospital under study;

Table 7.0   Common problems encountered when using e-resources

Item	Very High	High	Low	Not Applicable	Mean	Decision
Inability to seek and obtain information.	167 (47.4%)	80 (22.7%)	105 (29.8%)	0 (0.0%)	**3.18**	**Accepted**
Lack of requisite computer use skills.	115 (32.7%)	130 (36.9%)	46 (13.1%)	61 (17.3%)	**2.85**	**Accepted**
Knowledge of availability of resources.	352 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	**4.0**	**Accepted**
Unstable power supply.	10 (2.8%)	342 (97.2%)	0 (0.0%)	0 (0.0%)	**3.03**	**Accepted**
Poor internet connectivity.	0 (0.0%)	352 (100.0%)	0 (0.0%)	0 (0.0%)	**3.0**	**Accepted**
Inadequate facilities for using e-resources.	166 (47.2%)	150 (42.6%)	36 (10.2%)	0 (0.0%)	**3.37**	**Accepted**
Inability to evaluate information sources.	166 (47.2%)	150 (42.6%)	36 (10.2%)	0 (0.0%)	**3.37**	**Accepted**
Overall Mean					**3.11**	**Highly Significant**

Respondents were asked about common problems limiting access to, and use of e-resources by the nurses under study. The table revealed the overall mean of the problems as highly significant (mean=3.11) as the respondents faces numerous problems while accessing and using e-resources through accepting all the items indicated on table 7.0 above. The findings showed that all the respondents rated lack of knowledge of availability of resources(mean=4.0) and Poor internet connectivity (mean=3.00) very high as it affects their accessibility and utilization of the resources. Inability to seek and obtain information(mean=3.18), Lack of requisite computer use skills (mean=2.85), Unstable power supply (mean=3.03), Inadequate facilities for using e- resources and Inability to evaluate information sources(mean=3.37) among others as the major problems nurses encountered while accessing and using e-resources for nursing research in enhancing effective healthcare service delivery in general hospitals in Jigawa State.

Inferential Statistics Analysis
Hypotheses
H_01: There is no statistically significant relationship between the sources of E-resources for Nursing research and the level of utilization of the resources by Nurses for effective healthcare services delivery.

Table 8.0: Correlational Analysis of Sources and Level of Utilization of E-resources

Correlations		Utilization of E-resources	Source of E-Resources
Sources of E-Resources for Nurses Research	Pearson Correlation	1	.378**
	Sig. (2-tailed)		.000
	N	352	352
Level of Utilization of E-resources by Nurses	Pearson Correlation	.378**	1
	Sig. (2-tailed)	.000	
	N	352	352

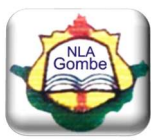**. Correlation is significant at the 0.01 level (2-tailed).

Table 8.0 represent the Pearson's Product Moment Correlation (PPMC) of the first hypothesis of the study on the different sources of E-resources and the level of Utilization by the nurses under study. The analysis revealed that the correlation coefficient is significant at the 0.01 level (2-tailed) and the relationship is positive (r(350) = .378, n=352, p=.000, i.e. less than 0.05). This analysis revealed a weak correlation that is only 37% of the different sources of E-resources for Nursing Research influences utilization of the resources. While over 63% are being influenced by other factors.

If the P value significant level is less than 0.05 (p < .05) the Null Hypothesis of the study will be rejected while if the P value significant level is greater than 0.05 (p > .05) the Null Hypothesis of the study will be retained. Therefore, according to this analysis, the **H₀** is rejected (p < 0.05 i.e. Sig = 0.001), because there is sufficient evidence of significant correlation between the different sources of E-resources for Nursing Research and the level of utilization of the resources by the nurses in general hospitals in Jigawa State.

H₀2   There is no statistically significant relationship between the level of Utilization of E-resources and the influence of E-Resources on effective healthcare service delivery by nurses in General Hospitals in Jigawa State.

Table 9.0: Correlational Analysis of Level of Utilization and Influence

Correlations

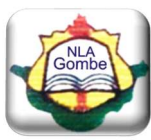|		Utilization of E-Resources	Influence of E-Resources
Level of Utilization of E-resources by Nurse	Pearson Correlation	1	.601**
	Sig. (2-tailed)		.000
	N	352	352
Influence of E-resources on Effective Healthcare Service Delivery	Pearson Correlation	.601**	1
	Sig. (2-tailed)	.000	
	N	352	352

**. Correlation is significant at the 0.01 level (2-tailed).

Table 9.0 represents the Pearson's Product Moment Correlation (PPMC) of the second hypothesis of the study on the level of utilization of E-resources and influence of the resources on effective healthcare service delivery by the nurses under study. The analysis revealed that the correlation coefficient is significant at 0.01 level (2-tailed) and the relationship is positive (r(350) = .601, n=352, p=.000, i.e. less than 0.05) that is high increase in the level of utilization of E-resources for Nursing Research will increase the level of enhancement of effective healthcare service delivery. Effective healthcare service delivery is influenced by more than 60% through utilization of E-resources while the remaining 40% is influenced by other factors.

If the P value significant level is less than 0.05 (p < .05) the Null Hypothesis of the study will be rejected while if the P value significant level is greater than 0.05 (p > .05) the Null Hypothesis of the study will be retained. Therefore, according to this analysis, the **H₀** is rejected (p < 0.05 i.e. Sig = 0.001), because there is sufficient evidence of significant correlation between the different types of E-resources for Nursing Research and the level of utilization of the resources by the nurses in general hospitals in Jigawa State and was statistically insignificant.

Discussion of Major Findings

The methodology employed in this study was the cross-sectional survey design. The study first runs a descriptive statistics analysis to obtain frequency counts and percentages before running an inferential analysis using Pearson Product Moment Correlation (PPMC) to show the Relationship among the variables of the study.

I. Sources of Electronic Information Resources for Nurses Research

The descriptive analysis shows that the sources for accessing e-resources for nursing research was significant (mean=2.61) which shows that nurses uses different sources of e-resources for research in nursing towards effective healthcare service delivery in general hospitals in Jigawa state. The study found out that the major mode of accessibility of electronic information resources by nurses in Jigawa State is through search engines (mean=3.41) particularly Google, 270(76.7%) of the nurses access e-resources through their smart phones (mean=3.19) while 250(71%) access e-resources through online database (mean=3.14). Only 80(22.7%) of the respondents access e-resources through data files (mean=1.76) and 67(19%) access e-resources through institutional repositories (mean=1.55).This finding is in line with the findings of Song and Buba (2017)which identifies that professionals accessed e-resources majorly through their mobile phones.

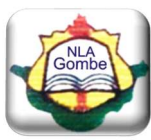**II. Level of utilization of different Types of EIRs for Nurses Research**
The study found out that the level of utilization of the resources by the nurses is not significant (mean=2.20) due to the respondents rejecting most of the different types of medical e-resources. This may be due to a lack of awareness about the resources and problems identified by the study or their preference to using professional colleagues than e-resources. The different types of medical e-resources used by nurses include Medline Biomedical and Health resources (mean=2.75), Global Infectious Disease and Epidemiology Network (GIDEON) (mean=2.50) and Nursing Reference Center Plus (mean=2.55) while PUBMED and Excerpta Medica Database (EMBASE) (mean=1.79),CINAHL Plus and COCHRANE Library (mean=1.93), HINARI, POPLINE and TOXNET (mean=1.91) and LILACS and TRIP Pro (mean=1.99) are rejected by the respondents as not part of the types of medical e-resources used by them. The findings indicated in general that the nurses do not, make use of the various medical e-resources available. This could be as a result of lack of conducive environment for using e-resources.

III. Information Literacy Skills of Nurses on the use of electronic information resources
The study found out that nurses in general hospitals in Jigawa State possessed significant level of information literacy skills (overall mean=2.71) for accessing e-resources in nursing research for effective healthcare service delivery. The ability to formulate questions based on information needs(mean=2.64), ability to distinguish potential information resources (mean=2.89), ability to evaluate information obtained from different sources (mean=2.63) and ability to synthesize and build on existing knowledge (mean=2.72) are found to be the level of information literacy skills of the respondents. The implication of the above result is that, majority of the nurses in Jigawa state possess significant level of information literacy skill

IV. Influences of EIRs for Nurses Research on Enhancing Healthcare Service Delivery
The study found out that electronic information resources influences healthcare service delivery in general hospitals in Jigawa State (mean=2.51) with a positive effect on nursing research for effective healthcare service delivery. The study found out that EIRs enhances the provision of health education in preventing the spread of contagious diseases using empirical findings from electronic resources (mean=2.66), modern ways of admitting and discharging patients with prior notice electronically (mean=2.62) and promoting health status of patients through enlightenment campaigns (mean=2.59) are accepted as the level of enhancing effective healthcare service delivery as a result of utilization of e-resources by nurses in general hospitals. This is in line with the findings by Adamu and Olaide (2013) who found

that only 8% of the nursing students used online databases or any form of electronic information resources for their hospital work.

V. Common problems encountered when accessing and using EIRs

The problems encountered by nurses while accessing and using EIRs as found by the study is highly significant (mean=3.11) as the respondents faces numerous problems while accessing and using e-resources. The major problems found by the study include lack of knowledge of availability of resources(mean=4.0),poor internet connectivity (mean=3.00), Unstable power supply (mean=3.03), inadequate facilities for using e- resources and inability to evaluate information sources(mean=3.37) are the major problems nurses encountered while accessing and using e-resources for nursing research in enhancing effective healthcare service delivery in general hospitals in Jigawa state. This finding corroborates the findings by Omoike (2013) that among the various factors that militate against effective utilization of electronic information resources are poor electricity supply, poor Internet connectivity.

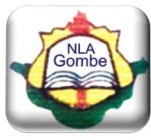## Inferential Statistics Findings

The study rejects both the two null hypotheses of the study which implies that there are statistically significant relationships between the different sources of e-resources for nursing research, level of utilization and the influences of the resources on enhancing effective healthcare service delivery in general hospitals in Jigawa state. Even though the relationship between the sources and level of utilization of the resources is weak due low mean level of utilization of the resources (mean=2.20) as a result of the problems associated with utilization as identified by the study such as lack of knowledge of availability of resources(mean=4.0) and poor internet connectivity (mean=3.00) but the relationships are still significant.

Conclusions and Recommendations

This study concludes that electronic information resources is necessary for nursing research mainly because they provide better, faster and easier access to information than print media for nurses in enhancing effective healthcare services delivery in their hospital. The study concludes that nurses in Jigawa state access electronic information resources through search engines particularly Google, smart phones and online database on different types of nursing research from Medline Biomedical and Health resources, Global Infectious Disease and Epidemiology Network (GIDEON) and Nursing Reference Center Plus. The study also conclude that nurses possess skills in formulating questions based on information needs and ability to evaluate information obtained from different sources to enhances the provision of health education in preventing the spread of contagious diseases using empirical findings from electronic resources. The problems identified by this study include lack of knowledge of availability of resources, poor internet connectivity, Unstable power supply, inadequate facilities for using e- resources and inability to evaluate information sources. The study also concludes that there are positive and strong correlations between all the independent variables of the study with the influences of the resources on healthcare service delivery in general hospitals in Jigawa State.

Bases on the findings of the study, the following recommendations were offered:
1. The government of Jigawa State should establish and maintain a library with adequate and relevant Electronic Information Resources for the benefits of all their health workers and even patient relatives in general hospitals.
2. The general hospitals should enhance Internet connectivity, infrastructures and access points at strategic locations in the hospitals.

3. General Hospitals need to subscribe to relevant databases and make them readily available to the nurses for them to keep abreast of the new and trending issues pertaining healthcare delivery.

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