

Impact Factor Value of 0.861 based on International Citation Report for year 2020/2021

**15TH EDITION
LAUTECH JOURNAL
OF NURSING**

**A Publication of the Faculty of Nursing Sciences,
College of Health Sciences,
Ladoke Akintola University of Technology, Ogbomosho, Nigeria**

VOLUME 15, July, 2024

ISSN 2659-1405

15th Edition LAUTECH Journal of Nursing (LJN)

Copyright © LAUTECH JOURNAL OF NURSING (LJN)

ISSN 2659-1405

© Copyright 2024

VOLUME 15, July, 2024

Address:

Faculty of Nursing Sciences,
College of Health Sciences,
Ladoke Akintola University of Technology,
P. M. B. 4000, Ogbomoso, Nigeria.

Tel: +2348033579737

All Rights Reserved:

No part of this journal may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Editor –in-Chief.

Printed and published in Nigeria by

Estom Graphic Prints

Ibadan, Oyo State

Nigeria.

+2347030298365,

E-mail: durowojuthomas@gmail.com

EDITORIAL BOARD

- Editor-in-Chief** - **Professor Florence O. Adeyemo**
Director Post Graduate Nursing Programmes
Department of Community Health Nursing
Faculty of Nursing Sciences,
College of Health Sciences,
Ladoke Akintola University of Technology,
Ogbomoso, Nigeria.
- Assistant Editor-in-Chief** **Dr. Uba, E. James**
Institute of Education
University of Ibadan
Ibadan – Nigeria
- Associate Editors** - **Dr. Zacheaus Oyewumi**
Department of Public/Community Health Nursing
Ladoke Akintola University of Technology,
Ogbomoso, Nigeria
- Dr Ade Adeniji**
Department of General Studies
Ladoke Akintola University of Technology,
- Ogbomoso, Nigeria
- **Adeyemo, Adewale Akinola**
Tennessee Technological University,
Cookeville, TN, 38505, USA.
- **Yinyinola O. Makinde**
Department of Maternal & Child Health Nursing
Faculty of Nursing Sciences, College of Health Sciences,
Ladoke Akintola University of Technology, Ogbomoso,
Nigeria.
- Editorial Advisory Board**
- Dr. Elkannah Ndie** Faculty of Health Sciences
National Open University of Nigeria
- Prof. Saliu Oguntola** College of Health Sciences,
Ladoke Akintola University of Technology, Nigeria.
- Dr. Ademola Adele** College of Health Sciences,
Ladoke Akintola University of Technology, Nigeria.
- Dr. Toyin Musa** Kwara State University,
Malete Ilorin, Nigeria.
- Prof. Adedayo A. Adegbola** Ladoke Akintola University of Technology,
Ogbomoso, Nigeria.

EDITORIAL COMMENT

1. LAUTECH Journal of Nursing (LJN) has the goal of becoming the most widely cited Nursing Journal in West Africa with Impact Factor Value of 0.861 based on International Citation Report (ICR) for the year 2020-2021.
2. The LJN has the tripartite mission of:
 - (a) Promoting a culture of excellence in Nursing Research.
 - (b) Encouraging the exchange of profound and innovative ideas capable of generating creative practice in nursing research practise.
 - (c) Disseminating information on nursing related development that are not usually easily available to academics and practitioners.
3. The Journal will accordingly encourage the publication of the following categories of papers.
 - (a) Research papers that move away from orthodoxy and which really break new grounds in terms of methodology and findings.
 - (b) Essays and issues papers that contribute to reorienting received ideas, values and practices.
 - (c) Documents emanating from national and international conferences, as well as from largescale research work that emerging trends and thinking in nursing related development.
4. LJN is published biannually in any area of nursing interest or relevant to needs of academics and practitioners.

In this edition, eighteen (18) manuscripts scale through the eye of the needle of the Editor-in Chief. The title of the papers in this edition are: effect of cold compress on the reduction of musculoskeletal pain, swelling and hemarthrosis among orthopaedic patients in Lautech Teaching Hospital, Ogbomoso, Oyo State, Nigeria; Awareness of Prostate Cancer Screening Among Male Civil Servants In Egor Local Government Area, Edo State, Nigeria; Knowledge, Perception And Utilization Of Maternal And Child Health Care Among Women In Ogbomosho, Oyo State, Nigeria; Assessment Of Knowledge And Utilization Of Electronic Medical Records Among Nurses In Secondary Health Care Facilities In Jigawa State, Nigeria; Effect Of Midwife Led Educational Intervention On Knowledge Of Anaemia And Risk Factors Among Pregnant Women Attending Ante-Natal In Selected Primary Health Care Facilities In Osun State, Nigeria; Knowledge Of Health Implications Of Rape And Associated Factors Among Male Undergraduates In Ahmadu Bello University Zaria, Nigeria; Effectiveness Of Family Caregivers Centered Nursing On Knowledge Of Pressure Ulcer Prevention In A Tertiary Health Facility In Kano, Nigeria; Knowledge And Practice Of Malaria Prevention Among Expectant Mothers In Selected Primary Health Centers In Mushin Local Government Area, Lagos State, Nigeria; Prevalence Of Sexual And Psychological Abuse In Almajiri System Of Education In Zaria Local Government Area, Kaduna State, Nigeria; Assessment Of Male Involvement In Maternity Care In Selected Health Facilities In Ado Ekiti, Ekiti State, Nigeria; Educational Intervention On Knowledge Of Prevention And Self-Care Practices Of Selected Lifestyle Diseases Among Civil Servants In State Secretariat Oke-Mosan, Abeokuta Ogun-State, Nigeria; Nursing In An Age Of Change In Nigeria; Knee Replacement Surgery: The Role Of The Nurse In Patient Safety In The Operating Room, The Nigerian Perspective; Choice Of Places Of Delivery Among Women Attending Ante Natal Clinic At Ngwo Health Centre; Systematic Review On Adolescent Girls' Knowledge And Practice Of Menstrual Hygiene In Nigeria; Knowledge And Prevention Of Hypertension Among Patients Attending Medical Outpatient Department Of Garki Hospital, Abuja, Federal Capital Territory, Nigeria And Socio-Cultural Factors Influencing Nutritional Status In Under-Five Children In Akure North Local Government, Ondo State, Nigeria.

EDITORIAL DESK

Welcome to LAUTECH Journal of Nursing!

LAUTECH Journal of Nursing focus on but not limited to research findings in the different areas of Nursing: Nursing Care, Nursing Education, Medical Surgical Nursing, Maternal and Child Health Nursing, Community Public Health Nursing, and Psychiatric/Mental Nursing. This journal is published to promote quality scholarly writing and hence instigating and generating vibrant discourse in the different areas of nursing. Apart from providing an outlet for publications of research findings, it offers opportunities for professionals and students to disseminate their views or position on topical issues and emerging theories within the scope of the journal. The Journal is peer reviewed by seasoned scholar. Sixty two authors have contributed in one way or the other to the thirteenth edition of the journal.

In this regard, the journal welcomes articles from individuals and corporate organisations for the sixteenth edition. Interested contributors may forward copy of their manuscript; computer-typed in double line spacing, using Times New Roman 12 point font, with abstract not more than 300 words on a separate page. Manuscript should not be more than 15 pages and sent to doctoradeyemo@yahoo.com or lautechjournal@gmail.com.

Happy reading!!!

GUIDELINES FOR AUTHORS

Contributors to the journal are to respect its avowed principle of QUALITY in all its Ramifications and ensure that:

(a) **Presentation of Manuscript**

We require an electronic copy, doubled spaced and paginated. The file should be saved as a Word Document, do not use PDF. Ensure the manuscript you provide is double space throughout, including indented block quotes, excerpt, extract, references. The font should be Times New Roman 12 Points. **RESEARCH PAPERS** are technically and faultlessly designed, executed and reported

(b) **ESSAYS AND ISSUES PAPERS** are analytically sound, presenting solidly original ideas that can positively influence change in educational thoughts, research and practices.

(c) The manuscript, which should include title, abstract, text, tables, figures, where necessary, should be typewritten on A4 size paper with double-spacing and should not exceed 15 pages

(d) The abstract should not be more than 250 words

(e) Authors should use the latest APA manual of styles. Some examples are:

I. **Book**

Uba, J. E. (2007). *Overcoming the hurdles of research projects, thesis, dissertation*. Calabar, Nigeria, Ushie Printers.

ii. **Chapter in edited book**

(a) Simeon, O. L & Adewale, J.G. 2013. Student Extrinsic and Intrinsic Factors as Correlates of Technical and Vocational Education Enrolment in Osun State. A. O. U. Onuka. Eds. Esthom Graphic Prints, Nigeria. 286-296.

iii. **Chapter in edited book**

(b) Oluwaponmile G. A. & Adegbile J. A. 2013. The Concept of Individualization of Instruction and Christian Education. A. O. U. Onuka. Eds. Esthom Graphic Prints, Nigeria. 114-155.

iv. **Article from journal**

Halliday, M. A. K. (1961). Categories of the theory of grammar word, 17, 241-92. (**Note** No 'pp.' required for journal articles).

Millers, A. (2000). Choice and the relative pleasure of consequences. *Psychological Bulletin* 126.3:910-924.

Landro, M. (1999). Repeatability issues of 3-D VSP data. *Geophysics* 64:1673-1679.
_____. 2001. Discrimination between Pressure and fluid saturation changes from time lapse seismic data. *Geophysics* 66:836-844.

v. **Article from magazine**

Kandel, E. R. and Squire, L. R. 2000. Neuroscience: breaking down scientific barriers to the study of brain and mind. *Science* 290. Nov 10:113-1120.

Article from newspaper

(where the name of the author is neither given nor known, begins reference with “Anon”)

Encyclopaedia article

Bergmann, P.G. 1993. Relativity. *The new encyclopaedia Britannica*. Chicago: Encyclopaedia Britannica, 501-508.

Patent

Fawole, I., Afolabi, N. O. and Ogunbodede, B. A. 1986, Description of cowpea cultivar: IFH101.NGVU-00-22,2000.

Unpublished theses, dissertation, projects and essays

Alaba, O.B. 2003. Balance of payment adjustment mechanisms in Nigeria. PhD. Thesis. Department of Economics. University of Ibadan. Xiv+183pp

E-journal article from the internet

VandenBos, G, Knapp, S. and Deo, J. 2001. Role of reference element in the selection of resources by psychology undergraduates. *Journal of Bibliographic Research* 5. 117- 123. Retrieved June. 13,2019, from <http://jbr.org/article.html>.

Organization/Government/Personal web page

U.S. General Accounting Office. Feb., 1997, Telemedicine: federal strategy is needed to guide investments. Publication No. GAO/NSAID/HEHS-97-67. Retrieved Sept. 15,2000, from http://www.access.gpo.gov/su_docs/aces_160.shtml?/gao/index.html.

Tables

1. A table should be typed with the minimum of horizontal rules. Vertical rules should be avoided.
2. Table should be referred to in the text as 'in Table 2' rather than 'in the following table or in the table above or below'.
3. All tables should have captions, source and notes are placed immediately below.

- (f) Papers which should be written on only one side should be submitted in triplicate (hard copies)
- (g) Papers are blind peer-reviewed, each paper attracts an assessment fee of #5000.00 or \$100.00.
- (h) Neither the editor, nor the editorial board shall be liable for article(s) lost in transit. (i) The editor and editorial board will not enter into correspondence with authors over rejected articles
- (j) Those whose articles are accepted for publication will pay the sum of #40,000.00 and be informed as regards other commitments:
- (k) Papers could be transmitted at any time for publication in any subsequent issue.

Manuscripts should be submitted electronically to the:

Editor in-chief, **Prof. Florence O. Adeyemo**, Department of Community Health Nursing, Faculty of Nursing Sciences, College of Health Sciences, Ladoke Akintola University of Technology, Ogbomosho and copy the Editor, LAUTECH Journal of Nursing (LJN) using the following email addresses: doctoradeyemo@yahoo.com or lautechjournal@gmail.com

Copyright

1. Permission must be obtained if you want to quote at length from another author's work or use an illustration previously published. Please note that obtaining permissions can be a lengthy process and should therefore be initiated well before the final manuscript is submitted to Continuum. Please refer to copyright holder's website/information: they may have forms or templates for requesting permission. If they provide no specific information on submitting requests, a standard permission request letter is available from us and should be used when approaching the copyright holder.
2. Please be aware that permission must also be sought for images, text etc that is sourced from the internet. Copyright may belong to the website owner, or to the original creator. Do not assume that just because an item is on a website it is in the public domain - it may be that the website owner does not have the permission to use it.

If you have any questions about the preparation of your article at any stage, please do not hesitate to ask.

Prof. Florence O. Adeyemo
The Editor-in-Chief

doctoradeyemo@yahoo.com or lautechjournal@gmail.com

LIST OF CONTRIBUTORS

- ABIODUN FUNMILAYO LAYENI** Faculty of Nursing Science,
College of Health Sciences,
Bowen University, Iwo, Osun State
Phone number: 09050000273
Email Address: funmiyeni99@gmail.com
- ABDULLAHIM.** Department of Art and Social Science,
Faculty of Education,
Ahmadu Bello University, Zaria- Nigeria
Phone No: 08169825372
Email: ummuhajara2014@gmail.com
- ABIOYE, ABIGAIL ADEBISI** Department of Maternal and Child Health Nursing,
School of Nursing Science,
Obafemi Awolowo University Teaching Hospital
Complex, Ile Ife
Phone No: 08035320808
Email: sundayabioye@gmail.com
- ADAMU-ADEDIPE FOYEKEMIO.** Department of Maternal and Child Health Nursing,
School of Nursing Science,
Crysland University, Ogun State.
Phone No: 08033462616
Email: foyekemiadamuadedipe@gmail.com
- ASADU L. CHINENYE** Nursing Department, University of Benin
Bethel Faith Medical Center,
Erediauwa, Ekenwa Rroad Benin City
Phone No: 07030255496
Email: chinenyeadu385@gmail.com
- AUWALU YUSHA'U** Jigawa State College of Nursing Science,
Birnin-kudu Campus. Nigeria
Phone: 08036825516, 08153365775
Email: auwalyushau1@gmail.com,
- ATTAHIR, I.** Department of Nursing Science,
Kaduna State University, Nigeria
Phone: 0806 913 4559
Email: drhaqqun@gmail.com
- ABDULRAHEEM, AMINA** Department of Nursing Science,
University of Maiduguri,
Borno State, Nigeria.
Phone No. 08065480186
Email: aminaabdulraheem@unimaid.edu.ng
- AFOLABI, ADEBUKUNOLAO.** Obafemi Awolowo University Teaching
Hospitals Complex, Ile-Ife, Osun-State, Nigeria
Phone No: 08034548318
Email: bukieafolabi@yahoo.com

ADAMU DALHATU

Department of Nursing Sciences,
Bayero University Kano, Nigeria
Phone No: 08039503072
Email: adamudalhatu206@gmail.com

ABOSEDE ADEKUNBI FAROTIMI

Department of Nursing Science,
Faculty of Clinical Science, College of Medicine,
University of Lagos.
E-mail: afarotimi@unilag.edu.ng
Phone No: 08025952450

ABDURRAHMAN SALIHU KOMBO

Department of Nursing Sciences,
Ahmadu Bello University, Zaria, Nigeria
Phone No: 08032916542, 08061307902
Email: aksalihu@abu.edu.ng

ABARIBE E. CHIDINMA

Department of Community Health Nursing,
Babcock University, Ogun State
Phone No. 07038991043
Email: abaribech@babcock.edu.ng

AGBEDIA CLARA

Department of Nursing Science,
Faculty of Allied Health Sciences,
Benson Idahosa University,
Benin City, Edo State, Nigeria.
Phone No: 08033814530
Email: oniovo4life@gmail.com

AIKABELI PRISCILLA O.

Department of Nursing Science,
Faculty of Allied Health Sciences,
Benson Idahosa University,
Benin City, Edo State, Nigeria.
Phone No: 07036404241
Email: emikeaikabeli@yahoo.com

ADEKEMISOLA R. JIMOH

Department of Nursing Science,
Faculty of Health Sciences,
National Open University of Nigeria,
Abuja, Nigeria.
Phone No: +2348034125028
Email: jadekemisola@gmail

AKINBOWALE BUSAYO TEMILOLA

Department of Nursing Science,
Osun State University, Osogbo
Busayo.akinbowale@uniosun.edu.ng
+2348034125952

AMINA MUHAMMED ALKALI

College of Nursing Science,
Ahmadu Bello University Teaching Hospital,
Zaria.
Phone No: +2348063729417
Email: ameenamama.83@gmail.com

- BATURE F. U.** Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Allied Health and Pharmaceutical Sciences,
Kaduna State University. Kaduna.
fatimabature143@gmail.com
08063166005
- BALARABE F.** Department of Nursing Science,
Ahmadu Bello University,
Zaria. Kaduna State, Nigeria.
Phone No: +2348068345117
Email: fatimabalarabe68@gmail.com
- BALARABE R.** Department of Nursing Science,
Ahmadu Bello University,
Zaria. Kaduna State, Nigeria.
Phone No: 08036436229
Email: hamdanrahma@gmail.com
- BIDMUS, LATEEF IYANDA** Department of Community/Public Health Nursing,
Faculty of Nursing Sciences,
Ladoke Akintola University of Technology,
Ogbomoso, Oyo State.
Phone No: 08063068769
Email: lateefiyandabidmus@gmail.com
- CHINEDUM I. AHAIWE** Department of Nursing Science,
Faculty of Nursing and Allied Health Sciences,
University of Abuja
Phone No: 09030545657
Email: ahaiwe2@aol.com
- DALHAT K. S.** Department of Nursing Science,
Ahmadu Bello University, Zaria
Phone No: 07035385167
Email: dksani@abu.edu.ng
- EDO-OSAGIE CHINENYENWA** Department of Nursing Science,
University of Benin
Phone No: 07030255496
Email: chinenyenwa.edo-osagie@uniben.edu
- ELIZABETH M. JOSEPH-SHEHU** Department of Nursing Science,
Faculty of Health Sciences,
National Open University of Nigeria,
Abuja, Nigeria.
Phone No: +2347034487611
Email: ejoseph-shehu@noun.edu.ng,
- ENUNWAONYE, HOSSANNA C.** Department of Nursing Science,
Faculty of Allied Health Sciences,
Benson Idahosa University,
Benin City, Edo State, Nigeria.
Phone No: 08033869339
Email: henunwaonye@biu.edu.ng

EZE, UCHECHUKWU ELIAS

Department of Nursing Sciences,
Faculty of Basic Medical Sciences,
College of Medicine,
Enugu State University of Science and Technology
Enugu, Nigeria
Phone No: 08063729836
Email: ezeuche@gmail.com

EZE, UCHENNA AUGUSTINA;

College of Nursing Sciences,
Bishop Shanahan Hospital,
Nsukka. Enugu State Nigeria
Phone No: 07034982423
Email: ucnurse66@gmail.com

FAROOQ M.A.

Department of Nursing Science,
Ahmadu Bello University, Zaria- Nigeria
Phone No: 08067271666
Email: farooooq2013@gmail.com

FOLAKEMI ESTHER AYO-IGE

Directorate of Health Services,
Federal Polytechnic, Ado Ekiti,
Ekiti State, Nigeria
Phone No: +2348038171464
Email: ayoigef@gmail.com

GBEMISOLA BOLANLE OGBEYE

Department of Nursing,
Faculty of Basic Health Sciences,
Federal University,
Oye Ekiti, Nigeria
gbemisola.ogbeye@fuoye.edu.ng;
gbemisolaogbeye@gmail.com
+2348033663305, +2348075753175.

ORCID NUMBER: <https://orcid.org/0000-0002-3620-2689>

HADIZAM. S.

Department of Nursing Science,
Ahmadu Bello University, Zaria- Nigeria
Phone No: 08037196349
Email: mohammedsanihadiza@gmail.com

HAYATI. M. GOMMAA

Department of Nursing Science,
Ahmadu Bello University, Zaria, Nigeria
Phone No: 08096536406
Email: h_gommaa@yahoo.com

HUSAINI MUHAMMAD AIKAWA

Institute of Continuing Education,
Bayero University Kano, Nigeria
Phone No: 08032878751
Email: hmaikawa.sce@buk.edu.ng

IDRIS ABDULRASHID

Department of Nursing Sciences,
Bayero University Kano, Nigeria
aidris.nur@buk.edu.ng,
Phone:+2348063375818

JOELOJO ALUKO

Department of Nursing,
College of Health Sciences,
University of Ilorin,
Kwara State, Nigeria.
Phone No: 07015055376
Email: joelforfavour@gmail.com

KOMOLAFE O. FOLASADE

Department of Community Health Nursing,
Babcock University, Ogun State, Nigeria.
Phone No: +2348063137818, +2347038991043,
Email: folekomo@gmail.com

MUSA-MALIKA, A. U.

Department of Nursing Science,
Ahmadu Bello University,
Zaria. Kaduna State, Nigeria.
Phone No: +2347038159582
Email: aumusamali@abu.edu.ng

MUNGE MARY

Department of Nursing Science,
Faculty of Allied Health Sciences,
Benson Idahosa University,
Benin City, Edo State, Nigeria.
Phone No: 08068737793
Email: mmunge@biu.edu.ng

NIFEMI TUNRAYO BABALOLA

Department of Nursing,
College of Basic Health Sciences,
Achievers University, Owo,
Ondo State, Nigeria.
Phone No: +2348167705280
Email: nifeturayo@gmail.com

NDIE, ELKENAH CHUBIKE

Department of Nursing Science,
Faculty of Health Science,
National Open University of Nigeria.
University Village, Cadastral Zone,
Nnamdi Azikiwe Expressway, Jabi, Abuja, Nigeria.
Phone No: 09120048771, 07066789961
Email: chubuike2005@yahoo.com

NWANNERIA. C.

Department of Nursing Science.
Faculty of Allied Health Sciences,
College of Medicine,
University of Nigeria, Enugu.
Enugu State.
Phone No: +2348064854206
Email: ada.nwaneri.edu.ng

- OKAFOR N. ANTHONIA** Department of Community Health Nursing,
Babcock University, Ogun State
Phone No: 08035273775
- OPARANMA FLORENCE U.** Email: okafor@babcock.edu.ng
Department of Nursing Sciences,
Faculty of Basic Medical Sciences
College of Medical Sciences,
Rivers State University Port Harcourt, Nigeria
Phone No: +2348123563395
Email: uche.florence2015@gmail.com
- OYEWUMI ZACCHEUS OPEYEMI** Department of Community/Public Health Nursing,
Faculty of Nursing Sciences,
Ladoke Akintola University of Technology,
Ogbomoso,
Oyo State, Nigeria.
Phone No: +2348037689685
Email: zooyewumi@lautech.edu.ng
- OYEWUMI LYDIA OMOWUMI** Department of Nursing Science,
Ladoke Akintola University of Technology
Open and Distance Learning Centre, Ogbomoso,
Oyo State, Nigeria.
Phone No: +2347039026486
Email: looyewumi@lautech.edu.ng
- OYANA N. E.** Department of Nursing Science,
University of Benin, Benin City
Phone No: 08066643513
Email: nwakaegooyana@gmail.com
- OWOPETU, CHRISTIANA ADETOUN** Department of Nursing Science,
Lead City University, Ibadan, Oyo-State
Phone No: 08060887574
Email: owopetuc@babcock.edu.ng
- OPATUNJI FLORENCE OMOWUNMI** University teaching hospital,
Clinical Nursing Department Ibadan
Phone No: 08035909007
Email: opatunjiflorence@gmail.com
- RAYMOND T. L.** Department of Nursing Science,
Ahmadu Bello University,
Zaria, Kaduna State, Nigeria.
Phone No: +2348027427378
Email: laurenciaray@yahoo.com
- SANI H. M.** Department of Nursing Science,
Ahmadu Bello University,
Zaria, Kaduna State, Nigeria.
Phone No: 08032824193
Email: saneeshat4life@gmail.com

- SALIHU A. K.,** Department of Nursing Science,
Ahmadu Bello University, Zaria, Nigeria,
Phone No: 08061307902
Email: aksalihu@abu.edu.ng
- SANI M. S.** Nursing Science Programme,
Ahmadu Bello University Distance Learning
Center, Zaria- Nigeria
Phone No. 08032824193
Email: saneeshat4life@gmail.com
- SALISU ALIYU** Department of Computer Science,
Ahmadu Bello University Zaria. Nigeria
Phone No: 08067993631
Email: aliyusalisu@abu.edu.ng
- SOWUNMI, CHRISTIANA
OLANREWAJU** Department of Maternal and Child Health Nursing,
School of Nursing Science,
Babcock University, Ilishan-Remo, Ogun-State
Phone No: 08023500321
Email: lanresowunmi@gmail.com
- TEMITOPE EBUNOLUWA
OSHINYEMI** Department of Nursing Science,
Faculty of Clinical Science,
College of Medicine,
University of Lagos
Phone No: 08127773528
E-mail: tososanya@unilag.edu.ng
- VERA ONYINYECHI TASIE** Department of Nursing Science,
Faculty of Clinical Science,
College of Medicine,
University of Lagos
Phone number: 08092774399
Email: 160709705@live.unilag.edu.ng
- VICTORIA BOLANLE BROWN** School of Nursing,
University College Hospital, Ibadan, Oyo State
Phone number: 08037272857
Email: vicbrown2010@gmail.com
- YUNUSA AHMAD** Department of Nursing Science,
Ahmadu Bello University, Zaria- Nigeria
Phone No: 08065954975
Email: yunusahmad8078@gmail.com
- YUNUSA, U.** Department of Nursing Science,
Bayero University,
Kano State, Nigeria.
Phone No: +2348038199802
Email: yunusa.nur@buk.edu.ng

TABLE OF CONTENTS

1.	Effectiveness Of Family Caregivers Centered Nursing On Knowledge Of Pressure Ulcer Prevention In A Tertiary Health Facility In Kano, Nigeria Idris Abdurashid; Dalhat Khalid Sani; Abdurrahman Salihu Kombo; Husaini Muhammad Aikawa; & Adamu Dalhatu	1
2.	Knowledge Of Health Implications Of Rape And Associated Factors Among Male Undergraduates In Ahmadu Bello University Zaria, Nigeria Musa-Maliki, A. U.; Abdulraheem Amina; Balarabe F.; Sani H. M.; Yunusa U.; Balarabe R.; & Raymond T. L.	9
3.	Effect Of Cold Compress On Musculoskeletal Pain, Swelling And Hemarthrosis Among Orthopaedic Patients In Lautech Teaching Hospital, Ogbomosho, Oyo State, Nigeria Bidmus, Lateef Iyanda	16
4.	Awareness Of Prostate Cancer Screening Among Male Civil Servants In Egor Local Government Area, Edo State, Nigeria Oyana N. E., Asadu L. Chinenye & Edo-Osagie Chinenyenwa	36
5.	Knowledge, Perception And Utilization Of Maternal And Child Health Care Among Women In Ogbomosho, Oyo State, Nigeria Abiodun Funmilayo Layeni & Victoria Bolanle Brown	44
6.	Assessment Of Knowledge And Utilization Of Electronic Medical Records Among Nurses In Secondary Health Care Facilities In Jigawa State, Nigeria Salihu A. K.; Auwalu Yusha'u; Abdullahi M.; Sani M. S.; Dalhat K. S.; Hadiza, M. S.; Attahir, I.; Farooq, M. A.; Hayat I. M. Gommaa; Yunusa Ahmad; & Salisu Aliyu	57
7.	Effect Of Midwife Led Educational Intervention On Knowledge Of Anaemia And Risk Factors Among Pregnant Women Attending Ante-Natal In Selected Primary Health Care Facilities In Osun State, Nigeria Abioye, Abigail Adebisi; Owopetu, Christiana Adetoun; Sowunmi, Christiana Olanrewaju Adamu-Adedipe Foyekemi. O.; Opatunji Florence Omowunmi; & Afolabi, Adebukunola O.	72
8.	Knowledge And Practice Of Malaria Prevention Among Expectant Mothers In Selected Primary Health Centers In Mushin Local Government Area, Lagos State, Nigeria Abosedede Adekunbi Farotimi; Temitope Ebunoluwa Oshinyemi; & Vera Onyinyechi Tasie	85

9.	Prevalence Of Sexual And Psychological Abuse In Almajiri System Of Education In Zaria Local Government Area, Kaduna State, Nigeria Bature F. U.; Alkali, M. A.; & Nwanneri, A. C.	97
10.	Assessment Of Male Involvement In Maternity Care In Selected Health Facilities In Ado Ekiti, Ekiti State, Nigeria Gbemisola Bolanle Ogbeye; Folakemi Esther Ayo-Ige; Joel Ojo Aluko & Nifemi Tunrayo Babalola	107
11.	Educational Intervention On Knowledge Of Prevention And Self-Care Practices Of Selected Lifestyle Diseases Among Civil Servants In State Secretariat Oke-Mosan, Abeokuta Ogun-State, Nigeria Komolafe O. Folasade; Okafor N. Anthonia; & Abaribe E. Chidinma	119
12.	Nursing In An Age Of Change In Nigeria Agbedia, C.; Aikabeli, P.; & Munge, M.	135
13.	Knee Replacement Surgery: The Role Of The Nurse In Patient Safety In The Operating Room, The Nigerian Perspective Aikabeli, Priscilla O. & Enunwaonye, Hossanna C.	142
14.	Choice of Places of Delivery Among Women Attending Ante Natal Clinic At Ngwo Health Centre Eze, Uchechukwu Elias, Eze, Uchenna Augustina & Ndie, Elkenah Chubike	152
15.	Adolescent Girls' Knowledge And Practice Of Menstrual Hygiene In Nigeria: A Systematic Review Adekemisola R. Jimoh & Elizabeth M. Joseph-Shehu	159
16.	Knowledge And Prevention Of Hypertension Among Patients Attending Medical Outpatient Department Of Garki Hospital, Abuja, Federal Capital Territory, Nigeria Chinedum I. Ahaiwe; & Oparanma Florence U.	170
17.	Socio-Cultural Factors Influencing Nutritional Status In Under-Five Children In Akure North Local Government, Ondo State, Nigeria Oyewumi Zaccheus Opeyemi; Akinbowale Busayo Temilola & Oyewumi Lydia Omowumi	181

ASSESSMENT OF KNOWLEDGE AND UTILIZATION OF ELECTRONIC MEDICAL RECORDS AMONG NURSES IN SECONDARY HEALTH CARE FACILITIES IN JIGAWA STATE, NIGERIA

SALIHU A. K.; AUWALU YUSHA'U; ABDULLAHI M.; SANI M. S.; DALHAT K. S.; HADIZA, M. S.; ATTAHIR, I.; FAROOQ, M. A.; HAYAT I. M. GOMMAA; YUNUSA AHMAD; & SALISU ALIYU

ABSTRACT

This study was carried out to assess the knowledge and utilization of electronic medical records among nurses in Jigawa State secondary healthcare facilities. A cross-sectional descriptive survey design was chosen to guide the study. A self-structured questionnaire was used for data collection in which questionnaires were administered based on the sample size with the help of research assistants. Two hundred and seventy-five (275) questionnaires were administered but only two hundred and sixty four (264) questionnaires were completed and retrieved given a return rate of (96%). Data analysis was done based on the completed retrieved questionnaires using descriptive statistics (frequency distribution tables and percentages) on excel sheets. The data collected was pooled together and analysed using Statistical Package for Social Sciences (SPSS) version 24.0. The demographic characteristics of the respondents in this study indicated that majority of the respondents age is between 31 -40years (33.7%), majority are females (55.4%), with educational qualification as RN (46.6%), with General Nursing as area of specialty (74.6%). Also, majority of respondents have 1-10years experience (65.2%) This study also shows that the knowledge level of EMR was very high (71%) and perception level was positive. (3.2), but the level of utilization of EMR among respondents was low (1.8). This study further noted that the factors affecting utilization of EMR among respondents are poor ICT infrastructure in the hospital for effective EMR use (96.3%), poor local area network connectivity in accessing patient information (90.1%), financial limitations to purchase data bundles (High cost of subscription) (90.5%) lack of management interest in EMRs utilization (Absence of policy for EMR use) (90.5%), inadequate computers and other ICT devices in the hospital (95.1%), lack of experts for ICT support and training on EMRs utilization in the hospital (incompetency of handlers) (91%), Non availability of EMR facilities in the hospitals (90.5%), lack of continuous training (92.8%) and Delayed IT support in times of need (92.1%). It was concluded from the

findings of this study revealed that knowledge level is high, positive perception and level of utilization of EMR is high in clinical care settings among nurses is a crucial instrument to enhance communication and improvement in clinical care practice. Therefore, provision of tangible solutions to numerous outlined factors affecting utilization of EMR among nurses by all stakeholders in healthcare delivery through provision of necessary resources (human and material) is a major recommendation forwarded to ensure effective utilization of the technology to improve general nursing care practice.

Keywords: Knowledge; Utilization; Electronic Medical Records; Nurses

INTRODUCTION

The knowledge and utilization of electronic medical records (EMR) play an essential role in documenting clinical information. Nurses are integral to the success of an EMR use and implementation, as they are the largest group of employees in hospitals that provide patient care. A major factor in the success of EMR implementation is nurses' acceptance of the system. Technology in health care is increasingly becoming an integral part of the health care delivery system and is declared by strategists as a means whereby sustained improvement in health-care outcomes may be attained. Nurses' roles in client care delivery have a pivotal role in this technology deployment, maintenance and evolution (Ademuyiwa, 2020). The electronic medical records (EMR) or electronic health record (EHR) constitutes the core eHealth and a central component of an integrated health information system. Whilst there are a number of operational definitions, the United States

(US) institute of standards and technology defines EHR as a longitudinal collection of patient-centric health care information available across providers, care settings and time Black, Car, Pagliari, Ananda *et al* (2019). The terms EMR and EHR are commonly viewed as interchangeable synonyms because of lack of standardization of definitions across the health informatics sector (Boonstra and Broekhuis 2015, Archer and Cocosila 2015, World Health Organization 2019).

The World Health Organization WHO, (2012) recommends electronic medical records (EMR) as a real-time patient health record with access to evidence-based decision support tools and tools other than clinical care for billing, quality management, outcome reporting, public health, disease surveillance and reporting. Electronic Health Records (EHR) according to WHO (2018) is defined as a longitudinal electronic record of patient health information generated by one or more encounters and includes demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports. Electronic medical record (EMR) is increasingly being deployed within health care organizations to improve the safety and quality of care. However, to achieve these goals, the EMR must be used by Nurses and other clinicians, and this remains a major challenge (Rania *et al*, 2014). Clinicians such as Nurses spend the majority of their time providing direct care to patients and it is hoped that an EMR could increase this patient-interaction time and consequently improving the quality of care delivered to clients by nurses. Electronic health records (HER) contain detailed information about the patient such as services provided and treatment plans (Brown *et al*, 2017).

Nigeria as a developing country has invested heavily in ICT with the mission and vision to improve patient care outcomes; Scholars also strongly agreed that Nigeria realizes that patients with healthy lives are better able to maintain healthy minds, healthy lifestyles, and a balance

between work and family. In a similar vein, healthcare service organizations also seek for optimal strategies and solutions to increase their medical services though ICT utilization in general and use of EMR in particular for improvement in patient care outcomes (Yen *et al* 2019). According to Abedalaziz (2018), in Nigeria, there are increasing demands for health tourism, so hospitals need to upgrade their healthcare services to meet international standards; the increasing pressure for governments to upgrade the healthcare industry and today's technological/globalization demands as well as consumers demanding better healthcare and customer services especially patients requiring nursing care are some of the driving factors in the need for adopting automation in the healthcare industry.

Nurses play important role in providing clinical care; thus they have a valuable role in successful implementation of electronic medical record (EMR). If health care providers including nurses do not accept this technology and do not utilize it where it is available, all the benefits associated with it will not be guaranteed. Little is known about how clinical nurses use electronic medical record in Nigeria. Therefore, this study seeks to assess knowledge and utilization of electronic medical records among Nurses working in secondary healthcare facilities in Jigawa State, Nigeria. It is imperative that nurses continuously improve their computer skills to keep up with technological advancements in order to improve client care outcomes. Considering the role of nurses in providing high-quality healthcare services to patients, adequate health information accessibility along with user-friendly systems and proper training is required to improve their viewpoint towards computerization, which in turn will influence the current and future planning and implementation of EMR. Hence this study on the assessment of knowledge and utilization of electronic medical records among nurses in secondary health care facilities of Jigawa State

OBJECTIVES

1. To assess the knowledge of Electronic medical records (EMR) among nurses in secondary healthcare facilities of Jigawa State.
2. To explore the perception of Nurses on the utilization of EMR in Jigawa state secondary healthcare facilities
3. To assess the level of Utilization of Electronic medical records (EMR) among nurses in secondary healthcare facilities of Jigawa State.
4. To identify the factors affecting utilization of Electronic medical records (EMR) among nurses in secondary healthcare facilities of Jigawa State.

METHODOLOGY

Design: A descriptive cross-sectional survey study design was employed for the study to collect information from the respondents about their Knowledge and Utilization of Electronic Medical Records among Nurses in Secondary Healthcare facilities of Jigawa State In a cross-sectional study design, data are collected at one point in a time (Polit and Beck 2008). The employment of descriptive cross sectional study design is a suitable method for exploring a variable within a specific population and obtaining data about it. The descriptive survey method using questionnaires is an appropriate method for a descriptive study, specifically when the researcher is concerned with knowledge, utilization and attitudes, as indicated by previous research.

Setting: This study was conducted in Jigawa State, located in north-western Nigeria. Jigawa State is one of the 36 states that make up the Federal Republic of Nigeria, situated between latitude 11.00°N-13.00°N and longitude 8.00°E-10.15°E. The state shares borders with Kano and Katsina states to the west, Bauchi state to the east, Yobe state to the north-east, and the Republic of Niger to the north, providing opportunities for cross-border trade. Jigawa State comprises 27 Local Government

Councils, with the state capital, Dutse, serving as the commercial, administrative, and residential hub. The state has a surface water volume of approximately 477 million cubic meters (streams, rivers, and ponds), a groundwater volume of 30,000-40,000 cubic meters per square kilometer per year, and a water recharge rate of 3,676 million cubic meters per year from rainfall (Sanusi et al., 2013). According to the 2006 population census, the state has a population of 4,361,002, with 50.4% males and 49.6% females. Notably, 85% of the population resides in rural areas. Jigawa State is divided into three senatorial zones: Northern, Southern, and Western. The socio-cultural landscape of Jigawa State is relatively homogeneous, with the Hausa/Fulani ethnic group predominating across the state. The state's secondary health facilities include Dutse, Jahun, Birnin-Kudu, Kazaure, Hadejia, Kafin-Hausa, Birniwa, Gumel, Babura, Ringim General Hospitals, and Rasheed Shekoni Specialist Hospital.

Population: The target population for this study comprised all nurses providing direct patient care in selected secondary healthcare facilities in Jigawa State. These facilities included Ringim, Gumel, Kazaure, Babura, Hadejia, Kafin-Hausa, Birniwa, Birnin-kudu, Jahun, Dutse General Hospitals, and Rasheed Shekoni Specialist Hospital. The total population consisted of 740 nurses, according to the personnel and record management departments of the secondary healthcare facilities in Jigawa State (2023). This number served as the basis for drawing the sample size for the study.

Inclusion and Exclusion criteria: All registered nurses providing direct patient care in the selected secondary healthcare facilities were included while other nurses not directly involved in patient care such as those in administration and nurses on field work were excluded.

Sample Size Determination: Crochan formula was used to calculate and determine the sample size of 275.

Sampling Technique: Multistage sampling technique was employed for this study.

Cluster sampling technique: Jigawa state was clustered into the three senatorial zones; Jigawa East, Jigawa south and Jigawa northwest senatorial zones. One secondary health care facility with highest number of nurses was selected from each senatorial zone as follows; Jigawa Northwest; Ringim General Hospital, Jigawa Central; Rasheed Shekoni Specialist's Hospital and Jigawa East; Hadejia General Hospital.

- **Proportionate sampling:** proportionate sampling was used to allocate number of samples to each health care facility selected in each senatorial zone.
- **Simple random sampling technique:** was used to select the respondents from the hospitals selected by balloting.

Instrument: A self-structured questionnaire was used to collect data from the respondents for the purpose of this study. A self-structured questionnaire was designed, and the validity of the instruments was ascertained by presenting to experts who read through to improve, modify and correct the instrument. The instrument was subjected to vetting by experts in the field of Nursing and Electronic Medical Records to determine its appropriateness and the extent to which the instrument produces the same results on separate occasions of use. The questionnaire has five (5) sections (A-E). Section A contains the socio-demographics of the respondents which includes age, gender, qualification, specialty and years in service. Other variables in section B is composed of the knowledge of respondents on EMR, section C of the instrument contains the perceptions of respondents on EMRs use, section D talks on the level of utilization of EMRs among the respondents and Section E contains factors affecting utilization of EMRs

Data Collection: Data collection was through the use research assistants who helped the researcher in the distribution and retrieval of completed questionnaires. Questionnaires

were shared among the respondents that met the inclusion criteria. Adequate time was provided to respondents for the successful completion of the questionnaires while consent and anonymity were ensured.

Data Analysis: The data collected was sorted, coded and entered using frequency distribution tables on excel sheet and analyzed using statistical package for social sciences windows (SPSS version 24). After checking the data for completeness and consistency, only 264 questionnaires were duly completed given a return rate of (96%).

Ethical Considerations: Letter of introduction was collected which enables the researcher to receive an ethical clearance certificate from the ethics committee. Based on the ethical clearance certificate obtained from ABU, the researcher formally applied to the Jigawa State ethics and research committee of Jigawa state ministry of health for support letters to the hospitals that were selected for the study. After reviewing the research proposal, the Jigawa State ethics and research committee issued an approval letter which was conveyed to the hospitals by the investigator. This letter from the Jigawa state ethics and research committee was delivered to each hospital. After endorsement by the management of the hospitals for the participation of their staff members in the research, respondents were selected at random by the data collector who explained the purpose of the study and the data collection instrument before administering the questionnaires. The participants were informed that all the information provided would be kept with confidentiality and only used for the purpose of this research.

RESULTS

Table 1 presents the demographic characteristics of the respondents. The mean age of the respondents is 31.8 ± 8.1 years, with the majority (51.5%) falling within the age range of 31-40 years. The least represented age group was 51-60 years, with only 2.7% of respondents. In terms of gender, more than half

Salihu A. K.; Auwalu Yusha'u,, Abdullahi M.; Sani M. S.; Dalhat K. S.; Hadiza, M. S.; Attahir, I.; Farooq, M. A.; Hayat I. M. Gommaa; Yunusa Ahmad; & Salisu Aliyu

(54.5%) of the respondents were female. The majority (46.6%) held a Registered Nurse (RN) qualification, while 15.9% had both RN and Registered Midwife (RM) qualifications. Only 0.4% of respondents held a PhD. The table also shows that the majority (65.2%) of respondents had 1-10 years of work experience, while

26.5% had 11-20 years of experience. The mean years of service were 10.0 ± 7.0 . In terms of area of specialty, the majority (74.6%) were in the "others" category, which includes oncology, nephrology, critical care, accident and emergency, public health, and burns and plastic nursing. The remaining specialties were

Table 1. Socio-demographic Data of the respondents (n= 264)

Variable	Frequency	Percentages	Mean
Age (Years)			
20-30	136	51.5	
31-40	89	33.7	
41-50	32	12.1	31.8±8.1
51-60	7	2.7	
Gender			
Male	120	45.5	
Female	144	54.5	
Educational qualification			
RN	123	46.6	
RM	31	11.7	
RN/RM	42	15.9	
BNSC	58	22.0	
MSC	9	3.4	
PhD	1	0.4	
Speciality			
Perioperative	26	9.8	
Anaesthesia	17	6.4	
Orthopaedic	8	3.0	
Ophthalmic	16	6.1	
General Nursing.	197	74.6	
Years in service			
1-10	172	65.2	
11-20	70	26.5	
21-30	16	6.1	10.0±7.0
31-35	6	2.3	

Table 2 presents the respondents' knowledge and skills related to Electronic Medical Records (EMRs). The majority of respondents (64.0%) had attended a computer literacy program in the past, and 76.5% had basic computer skills. However, despite these skills, less than one-third (29.9%) had used computers at work, and 70.1% had never used computers for patient care. Furthermore, 78.8% of respondents had never attended a workshop on EMRs organized by their hospital, and 60.6% had never used computers or mobile phones to send or store patient information. The mean aggregate score for knowledge questions was 17.6 out of 20,

indicating a high level of knowledge among respondents. The individual responses show a strong understanding of EMRs, with 95.5% of respondents correctly defining EMRs, 94.7% recognizing the role of EMRs in facilitating communication and coordination, 93.9% understanding the process of patient information dissemination through EMRs, and 91.7% acknowledging the benefits of EMRs in healthcare. The only exception was the question on data entry and typing, which 73.1% answered correctly. Overall, this study indicates a high level of knowledge (71%) among respondents regarding EMRs.

Table 2 Knowledge Level of EMR among respondents (n =264)

SN	STATEMENT	Correct		Incorrect	
		Frequenc y	Percentag e	Frequen cy	Percentag e
	Computer Literacy of respondents				
1	You have ever attended computer literacy program	169	64.0	95	36.0
2	You Have skills of operating a computer	202	76.5	62	23.5
3	You have ever work with computer at work	185	70.1	79	29.9
4	You have ever attend workshop on EMR organized by your hospital	56	21.2	208	78.8
5	You have ever used any device (computer, mobile phone) to send or store patient information	104	39.4	160	60.6
	Knowledge of EMR	143	54	121	46
6	The Proces s of patient information dissemination through the use of computers, mobile phones and other technology devices is known as EMRs	248	93.9	16	6.1
7	A system of information exchange between healthcare professionals using electronic communication methods is called EMRs.	238	90.2	26	9.8
8	EMRs are methods of sending patient information from the nurse to another heath care team member.	217	82.2	47	17.8
9	EMRs is a process of electronic information exchange between one unit to the other in the hospital during patient care	235	89.0	29	11.0
10	A system of healthcare information records to keep patient information in the hospital	234	88.6	30	11.4
11	EMRs means Recording healthcare information of patients using information technology devices	242	91.7	22	8.3
12	Managing patients records by healthcare professionals using electronic devices such as computers means EMRs	239	90.5	25	9.5

13	A system of keeping patients' information and other relevant records for future use using ICT gadgets in the hospitals can be regarded as EMRs	252	95.5	12	4.5
14	EMRs Provide easy access to patient information and simplifies nursing care tasks	239	90.5	25	9.5
15	EMRs Reduce delays in management of patients as it makes records keeping easier for nurses	237	89.8	27	10.2
16	EMRs Provides opportunity for nurses to render better care and supports to patients	221	83.7	43	16.3
17	EMRs helps better and prepare nurses working in healthcare industry to face various technical challenges	220	83.3	44	16.7
18	EMRs provides opportunities medical staff, nurses and to access information and communicate with other healthcare team members and patients	236	89.4	28	10.6
19	EMRs is considered a useful tool and strategy to address challenges and barriers faced by nurses in communicating patient care information	233	88.3	31	11.7
20	EMRs simplifies workflow and improves work efficiency and quality of care which serves as a protective mechanism for patients	236	89.4	28	10.6
21	EMRs helps Nurses to facilitate communications between caregivers at various levels in the healthcare settings and improve coordination during hospital admission of patients	250	94.7	14	6.5
22	EMRs bring important benefits. In today's health care the focus is on automating clinical work practices	229	86.7	35	13.3
23	EMRs brings important benefits in today's health care the focus is on automating clinical work practices e.g. ordering tests and prescriptions	241	91.3	23	8.7
24	Data entry and typing had been difficult, time consuming and uncomfortable for healthcare professionals using EMRs	193	73.1	71	26.9
25	EMRs are healthcare records used in settings such as in elderly care settings, surgical care settings, and acute care and in the community care.	200	75.8	64	24.2
		232	88	32	12
	TOTAL		71%		29%

Table 3a presents the perceptions of respondents towards the use of Electronic Medical Records (EMRs). The mean score of all items was 3.2 out of 4 points, indicating that most respondents have a positive perception of EMR use. The table shows that more than four-fifths of respondents agreed or strongly agreed with statements such as: EMR use supports team communication and clinical decision-making (90.9%), EMR implementation impacts nurses' work and workflows (89.4%), nurses are confident and willing to use EMRs (86.7%), and EMR use reduces the risk of nurse attrition (85.6%).

Additionally, a significant majority of respondents agreed or strongly agreed that EMR system use is influenced by individual nurse motivation and engagement (82.6%), nurse motivation is influenced by EMR usability and competence (85.2%), and multifaceted strategies are required to support EMR adoption (84.5%). Most respondents also agreed that nurses are the largest potential users of EMRs (81.1%) and that EMRs can be implemented in all healthcare organizations (79.5%). Overall, this study indicates a positive perception regarding EMR use among respondents, with a mean score of 3.2 out of 4 points.

Table 3a: Perception on the use of EMR among respondents (n=264)

STATEMENT	Strongly Agree F (%)	Agree F (%)	Disagree F (%)	Strongly Disagree F (%)	Mean	Remarks
Nurses are the largest potential users of electronic medical record (EMR) systems in health care settings	119(45.1)	95(36.0)	37(14.0)	13(4.9)	3.21	Positive perception
Nurses have confidence and willing toward using EMRs systems in healthcare settings	98(37.1)	131(49.6)	32(12.1)	3(1.1)	3.2	Positive perception
Electronic medical record system implementations has impact on nurses, their work and workflows	95(36.0)	138(52.3)	29(11.0)	2(0.7)	3.2	Positive perception
Multifaceted strategies targeting multiple behaviours are required to support adoption of the electronic medical record by nurses	64(24.2)	159(60.2)	36(13.6)	5(1.9)	3.1	Positive perception

Use of EMRs by nurses reduces the risk for nurse attrition in the workforce	97(36.7)	129(48.9)	35(13.3)	3(1.1)	3.2	Positive perception
EMR systems can be implemented by nurses in all healthcare organizations	78(29.5)	132(50.0)	43(16.3)	11(4.2)	3.1	Positive perception
EMR use by nurses supports inter- and intra-disciplinary team communication, and aid clinical decision-making	106(40.2)	130(49.2)	22(8.3)	6(2.3)	3.3	Positive perception
EMR system use may be influenced by individual nurse's motivation and engagement	64(24.2)	154(58.3)	42(15.9)	4(1.5)	3.0	Positive perception
Nurse motivation to use an EMR system is influenced by its usability, nurses' competence and confidence	75(28.4)	150(56.8)	37(14.0)	2(0.8)	3.1	Positive perception
Use of EMRs by nurses is dependent upon their digital proficiencies, and perceptions	113(42.8)	127(48.1)	20(7.6)	4(1.5)	3.3	Positive perception
Aggregate Mean of items =					3.2	Positive perception

Table 3b Shows the final scores on perception of the use of EMR among respondents when all the cores are pooled together. This table shows that almost all 261(98.1) of the respondents have positive perception towards the use of

EMR, while 3(1.1%) have negative perception towards the use of EMR. This means that the respondents in this study have positive perception towards the use of EMR.

Table 3b Summary of perception of use of EMR among respondents (n= 264)

Level of Perception on EMR	Frequency	Percentage	Mean
Positive perception	261	98.9	
Negative perception	3	1.1	
Total	264	100.0	31.8±3.8

Cut-off point: positive perception 20-40 point; negative perception 1-19 point

Table 4a presents the level of utilization of Electronic Medical Records (EMRs) among respondents, with a mean aggregate score of 15.8 out of 36 points, indicating a low level of utilization. About two-thirds of respondents have never used EMRs for various purposes, including electronic patient discharge information registers (67.4%), electronic patient referral notes to other departments (69.3%), electronic prescribing, dispensing, and serving of medication (67.8%), and electronic booking of patients for new admissions (67.4%). Furthermore, three-fifths of respondents have never used EMRs for

sending and retrieval of investigations and results (62.9%), decision supports such as alerts, warnings, and other responses (62.9%), capturing and assessing patients' clinical data (59.5%), searching for patient files and previous health records (62.5%), and capturing patient demographics and other related information (60.2%). Overall, a significant majority (64.5%) of respondents have never used EMRs, while 13.4% have used them always, 14.2% sometimes, and 7.9% seldom. This study observes that the level of utilization of EMRs among respondents is low.

Table 4a: Level of Utilization of EMR among respondents (n =264)

STATEMENT	Always F (%)	Sometimes F (%)	Seldom F (%)	Never F (%)	MEAN	Remarks
Use of electronic Patient discharge information register	38(14.4)	37(14.0)	11(4.2)	178(67.4)	1.7	Poor Utilization
Use of electronic Patient referral notes to other departments	33(12.5)	33(12.5)	15(5.7)	183(69.3)	1.7	Poor Utilization
Use of electronic prescribing, dispensing and serving of medication	26(9.9)	34(12.9)	25(9.5)	179(67.8)	1.6	Poor Utilization
Use of electronic sending and retrieval of investigations and results	41(15.5)	33(12.5)	23(8.7)	167(63.3)	1.8	Poor Utilization
Use of electronic Decision supports such as alerts, warnings and other responses	36(13.6)	35(13.3)	27(10.2)	166(62.9)	1.8	Poor Utilization
Electronic Capturing and assessing of patients' clinical data	40(15.2)	47(17.8)	20(7.6)	157(59.5)	1.9	Poor Utilization
Electronic Searching for patient's files and previous health records	43(16.3)	37(14.0)	19(7.2)	165(62.5)	1.8	Poor Utilization
Electronic booking of patients for new admissions	30(11.4)	33(12.5)	23(8.7)	178(67.4)	1.7	Poor Utilization
Electronic capture of patient's demographics and other related information	32(12.1)	49(18.6)	24(9.1)	159(60.2)	1.8	Poor Utilization
Total responses = 2376 (100%)	319 (13.4)	338 (14.2)	187 (7.9)	1532 (64.5)	1.8	Poor Utilization

Key: Always=4; Sometimes =3; Seldom=2; Never =1 points

83

Table 4b shows the summary score of Utilization of EMR when all the scores are pooled together. The table shows that more than half 144(54.5%) of the respondents have

poor utilization of EMR, while 61(23.1%) and 57(22.3%) have good and moderate utilization of EMR respectively. This shows that there is poor utilization of EMR among majority of the respondents.

Table 4b Summary score showing levels of Utilization of EMR among respondents (n =264)

Levels of Utilization of EMR	Frequency	Percentage	Mean = 15.9±8.9
Good utilization	61	23.1	
Moderate utilization	59	22.3	
Poor utilization	144	54.5	
Total	264	100.0	

Cut-off point: Good- 31-45 points; Moderate – 16-30 points; Poor – 1-15points

Table 5 shows the result of factors affecting utilization of EMR. The factors are ranked on how highly they affect utilization of use of EMR. The table shows that most of the respondents choice of highly affected factors affecting utilization of EMR are; poor ICT infrastructure 200 (75.8%) ranked first, Inadequate computers and other ICT devices 190(72.0%) ranked second, Lack of continuous training on system upgrades 187(70.8%) ranked third, Poor local area network connectivity in accessing patient information 178(67.4%) ranked fourth, and Non-availability of EMR facilities in the hospital 173(65.5%) ranked fifth. Lack of management interest in EMRs utilization (Absence of policy for EMR use) was ranked the least (11th) with 142(53.8%) of respondents reporting it as highly affecting utilization of

EMR. This study noted that the factors affecting utilization of EMR among respondents are poor ICT infrastructure in the hospital for effective EMR use (96.3%), poor local area network connectivity in accessing patient information (90.1%), financial limitations to purchase data bundles (High cost of subscription) (90.5%) lack of management interest in EMRs utilization (Absence of policy for EMR use) (90.5%), inadequate computers and other ICT devices in the hospital (95.1%),lack of experts for ICT support and training on EMRs utilization in the hospital (incompetency of handlers) (91%), Non-availability of EMR facilities in the hospitals (90.5%), lack of continuous training (92.8%) and Delayed IT support in times of need (92.1%).

Table 5 Factors Affecting Utilization of EMR among respondents (n=264)

STATEMENT	Highly Affected F (%)	Affected F (%)	Not Affected F (%)	Highly not Affected F (%)	Rank
Poor ICT infrastructure in the hospital for effective EMR use	200(75.8)	54(20.5)	8(3.0)	2 (0.80)	1 st
Poor local area network connectivity in accessing patient information	178(67.4)	60(22.7)	23(8.7)	3 (1.1)	4 th
Financial limitations to purchase data bundles (High cost of subscription)	168(63.6)	71(26.9)	22(8.3)	3 (1.1)	7 th
Low acceptability of EMRs by Nurses (poor culture on electronic information exchange)	150(56.8)	71(26.9)	28(10.6)	15(5.7)	*9 th
Lack of management interest in EMRs utilization (Absence of policy for EMR use)	142(53.8)	97(36.7)	19(7.2)	6 (2.3)	11 th

Lack of expert for ICT support and training on EMRs utilization in the hospital (incompetency of handlers)	167(63.3)	73(27.7)	12(4.5)	12(4.5)	8 th
Non availability of EMR facilities in the hospital	173(65.5)	66(25.0)	16(6.1)	9(3.4)	5 th
Frequent power blackouts in the hospital	171(64.8)	63(23.9)	24(9.1)	6(2.3)	6 th
Inadequate computers and other ICT devices in the hospital	190(72.0)	61(23.1)	5(1.9)	8(3.0)	2 nd
Lack of continuous training on system upgrades	187(70.8)	58(22.0)	8(3.0)	11(4.2)	3 rd
Delayed IT support in times of need	147(55.7)	96(36.4)	12(4.5)	9(3.4)	10 th

Cut-off point: 90% and above

Discussion of Findings

This study determines the knowledge and utilization of electronic medical records among nurses in secondary health care facilities of Jigawa State. The demographic characteristics of this study indicate that majority of the respondents age is between 31 -40years, majority are females, with educational qualification as RN(46.6%), with General Nursing as area of specialty. Also, majority of respondents have 1-10years experience. This study shows that the knowledge level of EMR among respondents is very high (71%).

This study shows that the knowledge level of EMR among respondents is very high. This study is not in agreement with Hsu & Wu, (2017) who stated that EMRs use simplifies workflow and improves work efficiency and quality of care yet many healthcare professionals lack literacy skills in using computer to manage patient information. This study agrees with Coiera, (2015) who observe high knowledge level among respondents and also observed that EMR systems provide interfaces and a host of functionalities to healthcare delivery system. The result of this study is not consistent with Dai *et al*, (2016) who asserted that data entry and typing had been difficult, time consuming and uncomfortable for healthcare professionals using EMRs. This study is consistent with Alothman, et' al (2017) who asserted that nurses have good knowledge and attitudes toward EMR utilization and computer usage which have been integrated into their lives, nurses frequently use software and mobile phone applications for Internet browsing and social media.

This study observes that the level perception on the use of EMR among respondents is positive. The result agrees with Elizabeth (2015) with the same result. This study corresponds with the result of Kemper *et' al* (2016) who penned that Electronic medical records systems (EMRs) adoption in healthcare to facilitate work processes has become common in many countries. This study is in consonance with Asaro and Boxerman (2018) who respondent's perception is positive and they also explained that multifaceted strategies targeting multiple behaviours are required to support adoption of the electronic medical records by nurses, and reduce the risk for nurse attrition in the workforce. This study is line with Coiera *et al* (2015) who explained that Nurses motivation to use an EMR system is influenced by its usability, nurses' competence and confidence, digital proficiency, and perceptions. The result of this study corresponds with Schenk *et al* (2015) who indicate that Nurses' perceptions and attitudes on the use of EMR were generally positive and correlated with the type of nursing care they provide.

This study observes that the level of utilization of EMR among respondents is low. This study is in consonance with Kowitlawakul *et al*, (2015) who noted that only nurses utilizing EMRs can improve patient care or clinical outcomes. This study support Dai, Wang, & Ayala, (2016) who narrated that EMRs are important tools effective in patient referral to other departments. This result disagrees with the opinion of McGinn *et al* (2018) who opined

that electronic booking of patients for new admissions is commonly practiced in many hospitals in sub Saharan Africa. The result also indicated that (62.9%) of the respondents have never used EMR for sending and retrieval of investigations and results, this agrees with the assertion of Kaye, (2017) who outlined that EMRs are essential for sending and retrieval of investigation results in hospital settings. The result also shows that (62.9%) respondents never use EMRs for decision supports such as alerts, warnings and other responses, this statement also agrees with Kaye, (2017). Result from this study indicated that (59.5%) of the respondents never use EMRs for capturing and assessing of patients' clinical data, this result is in agreement with Boonstra, &Broekhuis, (2015) assertions who explained that EMR use facilitates nurses' documentation of more specific topics such as patient education, the need for restraints, and assessment of pain. This study is in conformity with Hellströmet *al* (2019) who opined that nurses are satisfied with their specific EHR-system such as e-prescribing, searching of patient's file and other forms of care provided to clients. This study is in line with Menachemiet *al* (2016) who noted that that there is poor utilization of EMR among majority of the respondents and out of 756 licensed healthcare professionals on the status of EMRs utilization showed low rates of 17.8% among medical practitioners, 19.6% among nurses, 43.4% among pharmacists and 64.0% among other healthcare practitioners.

This study noted that the factors affecting utilization of EMR among respondents are poor ICT infrastructure in the hospital for effective EMR use, poor local area network connectivity in accessing patient information, financial limitations to purchase data bundles (High cost of subscription), lack of management interest in EMRs utilization (Absence of policy for EMR use) (90.5%), inadequate computers and other ICT devices in the hospital, lack of experts for ICT support and training on EMRs utilization in the hospital (incompetency of handlers), Non availability of EMR facilities in the hospitals, lack of continuous training and Delayed IT support in times of need. This result is in agreement with Woreta *et al* (2018) who outlined that Infrastructure challenges such as unstable

power supplies, insufficient communication networks, inadequate or unreliable Internet connectivity and lack of human resources with the necessary technical expertise were the frequently cited barriers for developing countries in the global survey on e-Health. The result also is in line with Archer, and Cocosila, (2015) who perceived identified factors affecting EMR utilization as frequent power blackouts, inadequate computers, retrospective data entry EMRs operation mode, lack of continuous training on system upgrades, and delayed IT support.

CONCLUSION

It can be concluded from the findings of this study that the importance of good knowledge, positive perception, and good utilization of EMR in clinical care among nurses can never be over emphasized. These key parameters as examined in this study from the various literatures reviewed are critical instruments needed to assist nurses in the improvement of the quality of care they provide to their patients. As various hospitals in the world have adopted the use of EMRs to facilitate communication between care givers especially nurses and their patients and in order to improve recording and storage of patient clinical information electronically to hasten easy access and referral when the need arises, however many hospitals especially in the developing countries, Africa, Nigeria and Jigawa State in particular have shown less readiness and less concerns to adopt these technological innovations and co-opt it to utilize EMR as a strategy to monitor patient's progress and store other clinically related information for future use and to make documentation of nursing care as easy as possible through reducing contact times with patients which alleviates much suffering to access nursing care by the clients and other numerous benefits of EMR need to be reemphasized. Therefore, having good knowledge, positive perception, and high level of utilization and providing tangible solutions to various factors affecting the utilization of EMRs among health professionals, government, non-governmental organizations and nurses in particular would tremendously be a good strategy to improve utilization of EMR

RECOMMENDATIONS

In conformity with the findings of this study, the researcher wish to recommend as follows:

- 1- Nurses and other health care team members' knowledge and perception toward EMR utilization need to be improved through training and retraining by their employers to equip them with necessary knowledge of EMRS.
- 2- According to the findings of this study, level of utilization of EMR is poor among the Nurses, therefore nurses, other health professionals, managers of hospitals and governments at all levels need to be sensitized by Government to ensure good utilization of the EMRs technology for improving the quality of care in relation to patient information quality and maintenance.
- 3- It is also recommended that numerous factors affecting utilization of EMR as clearly stated by this study require holistic approach to individually and holistically provide tangible solutions by hospital managers and governments through provision of all needed materials and supports for effective utilization of EMR in hospitals.
- 4- The need for further, expansion and more elaborate research to be conducted on this topic to explore more in the area of EMR knowledge and utilization among nurses and other health professionals is also highly recommended.

REFERENCES

- Ab Rahim, B., & Shamsiah, M. (2016). Teaching using information and communication technology: Do trainee teachers have the confidence ? Universiti Putra Malaysia, Malaysia. *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, 4(1), 5–12.
- Abdrbo, A. A. (2015). Nursing Informatics Competencies Among Nursing Students and Their Relationship to Patient Safety Competencies. *CIN: Computers, Informatics, Nursing*, 33(11), 509–514.
- Ademuyiwa, S. O. Faleke2, & E. E. Otetubi (2020) Knowledge and Use of Nursing Informatics among Nurses in a University Teaching Hospital in Lagos, Nigeria. *International Journal of Health Sciences and Research Vol.10; Issue: 12; December 2020 Website: www.ijhsr.org Original Research Article ISSN: 2249-9571*
- Aharony, N., & Shonfeld, M. (2015). ICT use: Educational technology and library and information science students' perspectives – an exploratory study. *Interdisciplinary Journal of E-Skills and Lifelong Learning*, 11, 191–207.
- Baig, M. M., GholamHosseini, H., & Connolly, M. J. (2015). Mobile healthcare applications: system design review, critical issues, and challenges. *Australasian Physical & Engineering Sciences in Medicine / Supported by the Australasian College of Physical Scientists in Medicine and the Australasian Association of Physical Sciences in Medicine*, 38(1), 23–38.
- Borycki, E. M., & Frisch, N. C. (2016). Nursing Informatics in the 21st Century, 45, 6–8.
- Brown AH and Bonnie A. (2017). The Impact of Informatics on Nursing Education: A Review of the Literature. *Journal of Continuing Education in Nursing*, 4(5):228-23
- Büyükbaykal, C. I. (2015). Communication Technologies and Education in the Information Age. *Procedia - Social and Behavioral Sciences*, 174, 636–640.
- Coiera, E. (2015). *Population surveillance and public health informatics. Guide to Health Informatics*.
- Croteau, A., Venkatesh, V., Beaudry, A., & Rabah, J. (2015). The Role of Information and Communication Technologies in University Students' Learning Experience: The Instructors' Perspective. *2015 48th Hawaii International Conference on System Sciences*, 111–120.
- DesRoches, CM, Campbell, EG, Rao, SR, Donelan, K, Ferris, TG, Jha, A, Kaushal R, Levy DE, Rosenbaum, S, Shields, AE & Blumenthal, D. (2018), Electronic health records in ambulatory care--a national survey of physicians. *N Engl J Med*. 2008 Jul 3;359(1):50-60

- Salihu A. K.; Auwalu Yusha'u,, Abdullahi M.; Sani M. S.; Dalhat K. S.; Hadiza, M. S.; Attahir, I.; Farooq, M. A.; Hayat I. M. Gommaa; Yunusa Ahmad; & Salisu Aliyu
- Dohan, M. S., Green, M., & Tan, J. (2017). The impact of healthcare informatics competencies on dynamic capabilities: A multilevel study of paramedic services. *Health Policy and Technology*, (2017).
- Eley, R, Fallon, T, Soar, J, Buikstra, E & Hegney, D. (2018), Barriers to use of information and computer technology by Australia's nurses: a national survey. *Journal of Clinical Nursing*, 18, 1151–1158.
- Elizabeth, M. (2015). Teaching Nursing Informatics in Australia, Canada, and Denmark. <https://doi.org/10.3233/978-1-61499-574-6-39>
- Fiore, P. (2015). Teaching Health Information Science for Health Care Instructors. *Procedia - Social and Behavioral Sciences*, 174, 1415–1419.
- Forehand, J. W., Miller, B., & Carter, H. (2017). Integrating Mobile Devices Into the Nursing Classroom. *Teaching and Learning in Nursing*, 12(1), 50–52.
- Furaha Akimanimpaye. (2016), *Attitudes of undergraduate nursing students towards e-learning at the University of the western cape*. The University of the Western Cape.
- Gilmour, J., Strong, A., Chan, H., Hanna, S., & Huntington, A. (2016). Primary health-care nurses and Internet health information-seeking: Access, barriers and quality checks. *International Journal of Nursing Practice*, 22(1), 53–60.
- Hsu, H.-H., & Wu, Y.-H. (2017). Investigation of the Effects of a Nursing Information System by Using the Technology Acceptance Model. *CIN: Computers, Informatics, Nursing*, 35(6), 315–322.
- Huang, K. T., Cotten, S. R., & Rikard, R. V. (2017). Access is not enough: the impact of emotional costs and self-efficacy on the changes in African-American students' ICT use patterns. *Information Communication and Society*, 20(4), 637–650.
- Kaye, S. R. (2017). Nurses' Attitudes Toward Meaningful Use Technologies: An Integrative Review. *CIN: Computers, Informatics, Nursing*, 35(5), 237–247.
- Kisanga, D. H. (2016). Determinants of Teachers' Attitudes towards E-Learning in Tanzanian Higher Learning Institutions. *International Review of Research in Open and Distributed Learning*, 17(5), 109–125.
- Mills, J., Francis, K., McLeod, M., & Al-Motlaq, M. (2015). Enhancing computer literacy and information retrieval skills: A rural and remote nursing and midwifery workforce study. *Collegian*, 22(3), 283–289.
- Risling, T. (2017). Educating the nurses of 2025: Technology trends of the next decade. *Nurse Education in Practice*, 22, 89–92.
- Taiwo Adeleke, I. (2015). ICT knowledge, Utilization, and Perception among Healthcare Providers at National Hospital Abuja, Nigeria. *American Journal of Health Research*, 3(1), 47.
- Tubaishat, A., Aljezawi, M., Al-Rawajfah, O. M., Habiballah, L., & Akhu-Zaheya, L. M. (2016). Exploring changes in nursing students' attitudes towards the use of technology: A four-wave longitudinal panel study. *Nurse Education Today*, 38, 101–106.
- Varkenvisser, CM, Pathmanathan, I & Brownlee, A. (2003), *Designing and Conducting Health Systems Research Projects*.
- Wang, Q. (2008). A generic model for guiding the integration of ICT into teaching and learning. *Innovations in Education and Teaching International*, 45(4), 411–419.
- Woreta, S. A., Kebede, Y., & Zegeye, D. T. (2013). Knowledge and utilization of information communication technology (ICT) among health science. *BMC Medical Informatics and Decision Making*, 13.
- World Health organization (2012), *Management of patient information Trends and challenges in Member States Global Observatory for eHealth series*, 6.
- World Health Organization. (2019), *Atlas eHealth country profiles: based on the findings of the second global survey on eHealth. Global Observatory for eHealth Series*, 1
- Yen, K, Shane, EL, Pawar, SS, Schwendel, ND, Zimmanck, RJ & Gorelick MH. (2019), *Time Motion Study in a Paediatric Emergency Department Before and After Computer Physician Order Entry. Annals of Emergency Medicine*.