LAUTECH
JOURNAL OF NURSING

LAUTECH SENATE BUILDING

6TH EDITION LAUTECH JOURNAL OF NURSING

Address:
Faculty of Nursing Sciences,
College of Health Sciences, Osogbo,
Ladoke Akintola University of Technology
P. M. B. 4000, Ogbomoso, Nigeria.
Tel: +2348033579737

Printed and Published in Nigeria by
Esthom Graphic Prints
Ibadan, Oyo State
Nigeria.
+2347030298365,
E-mail: durowojuthomas@gmail.com

EDITORIAL COMMENT

1. LAUTECH Journal of Nursing (LJN) has the goal of becoming the most widely cited Nursing Journal in West Africa.
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 re-orienting received ideas, values and practices.
   (c) Documents emanating from national and international conferences, as well as from large scale 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 volume, sixteen (16) papers scale through the eye of the needle of the Editor-in Chief. The title of the papers in this edition are: Knowledge and utilization of oral rehydration therapy in the treatment of diarrhoea among under-five mothers in Lagos, Nigeria; **Prevalence and risk factors of neonatal jaundice in special care baby unit of Ahmadu Bello University Teaching Hospital Zaria, Nigeria;** Factors influencing teamwork performance among health workers in University College Hospital, Ibadan; Perceived effects of Aphrodisiac on women of Kaura ward, in Zaria city of Kaduna State, Nigeria; Umbilical cord care practices and management outcome among mothers in selected primary health centres in Mushin Local Government Area, Lagos State, Nigeria; Assessment of knowledge of sickle cell anaemia among primary health care workers in Zaria city, Kaduna State, Nigeria; Utilisation of postnatal care services among women of childbearing age in Primary Health Care Centres in Niger State, Nigeria; School Health: an analysis of boarding school clinic facilities in Kano State, Nigeria; **Perception of women towards teaching of sexuality education in secondary schools in Ibadan, Oyo State, Nigeria;** Effect of two assessment strategies on physiotherapist students competence in Cardiff University United Kingdom; Family Health a "Sine Qua Non" to effective maternal and child health care; Application of trans-theoretical model of health promotion and approaches to health promotion in tackling alcohol abuse;Cervical cancer screening among women: a tool for prevention of Cancer; Effect of training programme for school health nurses on adolescents decision-making on reproductive health in Ijebu Ode Local Government Area of Ogun State, Nigeria and Knowledge of nursing process and attitude of undergraduate nursing students towards its utilization in a Tertiary Health Institution, Edo-State, Nigeria. Knowledge of Psychological Distress and Post Partum Bues among Pregnant Women in Wesley Guild Hospital, Ilesa Osun State, Nigeria.

EDITORIAL DESK

Welcome to LAUTECH Journal of Nursing!

LAUTECH Journal of Nursing focuses 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 peered reviewed by seasoned scholar. Forty-nine authors have contributed in one way or the other to this sixth edition of the journal.

In this regard, the journal welcomes articles from individuals and corporate organisations for the seventh 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 250 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.

vi. **Article from newspaper**

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

vii. **Encyclopaedia article**

Bergmann, P.G. 1993. Relativity. The new encyclopaedia Britannica. Chicago: EncyclopaediaBritannica, 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, Telemedicinne: 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 $25.00.

(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 #20,000.00 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, **Florence O. Adeyemo**, Department of Community Health Nursing, Faculty of Nursing Sciences, College of Health Sciences, Osogbo, Osun State, Ladoke Akintola University of Technology, Ogbomoso and copy the Editor, LAUTECH Journal of Nursing (LJN) using the following email addresses: doctoradeyemo@yahoo.comor 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

ABAZIE O. H.
Department of Nursing Science, College of Medicine, University of Lagos, Idi-Araba, Lagos.
Tel: 08034568662
E-mail: ogenaban@yahoo.com

ABUBAKAR, Isa
Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: 08032916542
E-mail: abubakar.isa09@gmail.com

ADDAKANO B.
Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: 08036786694
E-mail: addanice@yahoo.co.uk

ADEDOYIN, O. Adeoye
School of Nursing, Osogbo,
Osun State, Nigeria.
Tel: 07063780818
E-mail: doydoy4@gmail.com

ADENIRAN Dorcas Adekemi
Department of Maternal and Child,
Faculty of Nursing Sciences,
College of Health Sciences, Osogbo.
Ladoke Akintola University of Technology, Ogbomoso
Tel: 08055851092
Email Address:kadeniran99 @gmail.com

AHMAD Rufa'I Abubakar
Department of Nursing Science,
University of Ilorin
Tel: 08162800885
E-mail: arabubakar.nur@buuk.edu.ng

AHMED Suberu,   Department of Nursing Science,
Bayero University Kano, Nigeria.
Tel: 08069178254
E-mail: ayemy1074@gmail.com

ALAPA Martha Echewunne Department of Nursing Science,
Faculty of Health Sciences,
National Open University of Nigeria, Abuja, Nigeria
Tel: +2348028397934
E-mail: Silasalapa2005@gmail.com

ANYEBE, E. E.   Department of Nursing Science,
Bayero University Kano, Nigeria.
Tel: 08036422771
E-mail: ejembianyebe_Hlk34483551@gmail.com
Hlk34483551

ARUNACHALLAM Savasthian School of Nursing,
University of Western Cape, South Africa
Tel: +27822023206
E-mail: sarunachallam@uwc.ac.za

ASHIRU Muhammed   Department of Nursing Science,
University of Ilorin
Tel: 07031261214
E-mail: ashirum44 @gmail.com

ATAYI Samuel Godwin Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: +2348065190951
E-mail: godwinatayis@gmail.com

BAYERO, Amina.   Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: 07035587283
E-mail: bayeromina180@gmail.com

BALARABE R.

Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: 08036436229
E-mail: hamdanrahma@gmail.com

CHIEMERIGO A. ONYENEHO

Department of Nursing,
Faculty of Clinical Sciences,
College of Medicine, University of Ibadan,
Ibadan, Nigeria.
Tel: 08067242852
E-mail: chiemerigoanne@gmail.com

CHINWEUBA A.

Department of Nursing Sciences,
University of Nigeria, Enugu Campus
Tel: 08032162180
E-mail: anthonia.chinweuba@gmail.com

EZE, C N

Department of Nursing Services,
Alex Ekwueme Federal Teaching Hospital, Abakaliki
Tel: 08036004816
E-mail: mama4noble@gmail.com

ELUSOJI Christiana Irolo

Department of Nursing Science,
School of Basic Medical Sciences,
University of Benin Benin City.
Tel: 08181448735
E-mail: celusoji@gmail.com

EKRAKENE T.

Department of Biological Sciences,
Faculty of Science,
Benson Idahosa University, Benin City.
Tel: 08037756878
E-mail: tekrakene@biu.edu.ng

FADAIRO O. J.

Department of Nursing Science,
College of Medicine,
University of Lagos, Idi-Araba, Lagos.
Tel: 0807344035
E-mail: yemifad26@gmail.com

GARBA, S. N.

Department of Nursing Science,
Bayero University Kano, Nigeria.
Tel: sngarba.nur@buk.edu.ng
E-mail: 08033667081

GBADEBO D. D.

Department of Nursing Science,
College of Medicine,
University of Lagos, Idi-Araba, Lagos
Tel: 08036546500
E-mail: dooshima.gbahabo@gmail.com

GOMMAA H.

Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: 08096535406
E-mail: h_gommaa@yahoo.com

IBRAHIM M.

Department of Nursing Sciences,
College of Health Science,
Federal University Birnin Kebbi, Nigeria.
Tel: +2348132318085, +2348065240548
E-mail: musagusau@gmail.com,

IBRAHIM, A. H.

Department of Nursing Science,
Bayero University Kano, Nigeria.
Tel: 08035570017
E-mail: ahibrahim02@gmail.com

IBIDOKUN C. J.

Department of Nursing Services,
University of Benin Teaching Hospital Benin City.

INIOMOR Mary

Department of Nursing Science,
School of Basic Medical Sciences,
University of Benin, Benin City
Tel: 08033744274

E-mail: maryinimor@yahoo.com

JIBRIL, U. N.

Department of Nursing Science,
Bayero University Kano, Nigeria.
Tel: 08065482455
E-mail: umaribna@gmail.com

JOSEPH-SHEHU Elizabeth M.   Department of Nursing Science,
Faculty of Health Sciences,
National Open University of Nigeria,
Abuja, Nigeria
Tel: 07034487611
E-mail: ejoseph-shehu@noun.edu.ng

LUKONG, C. S.   Department of Surgery,
Usmanu Danfodio University Teaching Hospital,
Sokoto Nigeria.
Tel: +2348035873582
E-mail: lukongchris@gmail.com

LAWALI Yakubu.   Department of Nursing Sciences,
Faculty of Allied Health Sciences,
Ahmadu Bello University Zaria, Nigeria.
Tel: 08033234374
E-mail:lawaliyakubu@yahoo.com

MAKINDE Olufemi Yinyinola   Department of Maternal and Child,
Faculty of Nursing Sciences,
College of Health Sciences, Osogbo.
Ladoke Akintola University of Technology,
Ogbomoso
Tel: 08060053753
E-mail: omakinde3@gmail.com

MFUH Anita Yafeh   Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: 0803282 9978
E-mail: lukonganita@yahoo.com

OBI Ihuoma A.   Department of Nursing Sciences,
Ebonyi State University, Abakaliki.
Tel: 08035980988
E-mail: ladyihuomaobi@*gmail.com*

OHAERI BEATRICE M

Department of Nursing,
Faculty of Clinical Sciences,
College of Medicine,
University of Ibadan, Ibadan, Nigeria
Tel: 08161352904, 09098124097
E-mail: bmkohaeri@yahoo.co.uk

OJETOLA, Oluwabukola Oluyemisi

Department of Clinical Nursing,
University College Hospital, Ibadan.
Tel: tolabukky1974@gmail.com
E-mail: tolabukky1974@gmail.com.

OLAWALE Olufunke Rhoda

Department of Maternal and Child,
Faculty of Nursing Sciences,
College of Health Sciences, Osogbo.
Ladoke Akintola University of Technology,
Ogbomoso.

OLAJIDE Adetunmise Oluseyi

Department of maternal and Child,
Faculty of Nursing Sciences,
College of Health Sciences, Osogbo.
Ladoke Akintola University of Technology, Ogbomoso
Tel: 0807287328
E-mail: adetunmisolajide @gmail.com

OGUNMODEDE,
Eunice Oluwakemi

Department of Nursing Services
Bowen University Teaching Hospital,
Ogbomoso, Nigeria
Tel: 08066504603
E-mail: euniceogunmodede@gmail.com

OGUNYEWO Oluwatoyin A.

Department of Nursing Science,
University of Jos.
Tel: 07067676471, 08076872596
E-mail: vicyommie@gmail.com

OKAFOR Fedelis. U

Department of Nursing Science,
School of Basic Medical Sciences,
University of Benin Benin City.
Tel: 08037442403
E-mail: uchendifidelis2001@yahoo.com

OMOROGBE C. E.   Department of Nursing Science,
School of Basic Medical Sciences,
University of Benin Benin City.
Tel: 08062304948
E-mail: omorogbechrisite@yahoo.com

OMOROGBE Favour   Faculty of Agriculture and Agricultural Technology,
Benson Idahosa University, Benin City.
Tel: 08059661705
E-mail: fomorogbe@biu.edu.ng

OWOLABI BEATRICE O.   Wesley Guild Hospital,
Ilesha, Osun State, Nigeria
Tel: 08038585963
E-mail: owolabibeatrice@yahoo.com

SALEH, G. N.   Department of Nursing Sciences,
Faculty of Allied Health Sciences
Ahmadu Bello University Zaria, Nigeria.
Tel: 08033667081
Email: salenga2004@gmail.com

SALE U. K.   Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.

**SOWUNMI,
Christianah Olanrewaju**   Department of maternal and Child,
School of Nursing, Babcock University,
Ilisan-Remo, Ogun State.
Tel: 07050916896
E-mail: lanresowunmi@hotmail.com

SALIHU, A. K.   Department of Nursing Science,
Bayero University Kano, Nigeria.
Tel: 08061307902
E-mail: kombooo2012@gmail.com

SALIHU, A. A.
Department of Nursing Science,
Bayero University Kano, Nigeria.
Tel: sngarba.nur@buk.edu.ng
E-mail: 08033667081

SALEH NgaskiGarba,
Department of Nursing Science,
University of Ilorin
Tel: 08033667081
E-mail: salenga2004@gmail.com

TUKUR B. M.
Department of Nursing Sciences,
Faculty of Allied Health Sciences,
Ahmadu Bello University Zaria, Nigeria.
Tel: 08065612550
E-mail: tukurbm@gmail.com

UMAR Yunusa,
Department of Nursing Science,
University of Ilorin
Tel: 08038199802
E-mail: uyunusa.nur@buk.edu.ng

UMAR Lawal Bello,
Department of Nursing Science,
University of Ilorin
Tel: 08033628115
Email: ulbello.nur@buuk.edu.ng

UTHMAN R.
Department of Nursing Science,
Faculty of Allied Health Sciences,
College of Health Sciences,
Ahmadu Bello University, Zaria, Nigeria.
Tel: 07036000770
E-mail: yaruwayya@gmail.com

YALWA, Tasiu.
Department of Nursing Sciences,
College of Health Science,
Federal University Birnin Kebbi, Nigeria.
Tel: 08065240548
E-mail: tasiuyalwa01@gmail.com

TABLE OF CONTENTS

xvii

PREVALENCE AND RISK FACTORS OF NEONATAL JAUNDICE IN SPECIAL CARE BABY UNIT OF AHMADU BELLO UNIVERSITY TEACHING HOSPITAL ZARIA, NIGERIA.

Mfuh Anita Yafeh, C.S. Lukong, Sale U.K., Samuel Godwin Atayi

ABSTRACT

Neonatal jaundice is a very common condition worldwide occurring in up to 60% of term and 80% of preterm new-born in the first week of life. Its incidence varies with geography. It is a leading cause of hospitalization in the first week of life worldwide. If inappropriately managed, it may result in significant bilirubin-induced mortality and disability. This study seeks to determine the prevalence and risk factors of neonatal jaundice in Special Care Baby Unit of Ahmadu Bello University Teaching Hospital Zaria, Nigeria. An ex-post facto survey design was adopted for this study. The instrument used were in-depth interview and secondary data obtain from medical department of the hospital. Nurses in the Special Care Baby Unit responded to the interview. Data obtained show that 480 neonates are diagnosed with jaundice out of 1470 neonates admitted with the highest prevalence in 2017. Male neonates (64%) suffer jaundice more than females. Physiological jaundice is the most prevalent type of jaundice. The major treatment rendered is drugs/phototherapy (65%). The result of the interview of the qualitative study revealed that the risk factors responsible for the increase are poor breastfeeding practice by mothers, sepsis, and ABO incompatibility among others. It is recommended that mothers be educated on the causes of neonatal jaundice, early breastfeeding practice and early recognition of signs of jaundice and present to the hospital on time since most of the women in the area of study deliver at home and usually present with the babies late to the hospital. There is also need for a bigger and well established, organized and functional unit (SCBU) in the hospital that can cater for the increased number of neonates suffering from jaundice. More qualified health personnel should be employed in the unit to cater for the large number of neonates diagnosed with jaundice.

Keywords: Neonatal jaundice; Prevalence; Risk factor.

INTRODUCTION

Every year approximately 10.8 million children under the age of five years die worldwide and 38% of these mortalities are said to occur in the first month of life. Global estimates suggest that approximately 3.6 million deaths occur in the neonatal period (Olusanya, 2009). Global estimates also reveal that every year, roughly 1.1 million babies would develop severe hyperbilirubinemia and the vast majority resides in sub-Saharan Africa and South Asia (Bhutani, Zipursky, Blencowe, Khanna, Sgro and Ebbesen (2014). Available evidence also shows that severe hyperbilirubinemia, with or without bilirubin encephalopathy, is associated with substantial mortality and long-term morbidities in low- and middle-income countries (LMICs) (Olusanya, Ogunlesi and Slusher, 2014). Neonatal jaundice is a result of the increased breakdown of red blood cells and/or decreased hepatic excretion of bilirubin. For the majority of these infants, hyperbilirubinemia is a natural transition that resolves within the first week of

life with maturing of the liver (Saki, Hemmati and Inaloo, 2009).

It occurs worldwide up to 60% of terms and 80% of preterm newborns in the first week of life (Slusher, Schole and Paul 2011). Neonatal jaundice is characterized by clinical signs including yellow discoloration of the skin and sclera resulting from high serum levels of bilirubin. It is one of the important contributors to neonatal morbidity and mortality which has remained very high in Sub Saharan African, Asia, and Latin America (Ezechukwu, Ajayi and Emeka, 2010). Neonatal jaundice is a leading cause of hospitalization in the first week of life worldwide. If inappropriately managed, it may result in significant bilirubin-induced mortality and disability (Olusanya, 2016). It is a common physiological occurrence in newborn. According to Asyraf, Hassan, Ammar and

Halim (2016), there are two different types that are physiological and pathological jaundice. Physiological jaundice appears between 24 to 72 hours of age, peaks by 4 to 5 days in the term and 7th day in preterm neonates, and then disappears by 10 to 14 days of life. Pathological, also known as non-physiological jaundice appears in the first 24 hours and serum bilirubin rises beyond 5 mg/dL per day. The peak level might be greater than the expected normal range. Unconjugated hyperbilirubinaemia is the most common form of jaundice encountered by family physicians (Porter and Dennis, 2012). Hyperbilirubinemia is a primary concern associated with jaundice due to the connection between increased levels of unconjugated bilirubin and neurotoxic effects causing long-term sequelae including cerebral palsy, hearing loss and kernicterus (Beachy, 2010). It must be carefully monitored, as excessively elevated levels of bilirubin that go untreated for too long, can lead to permanent brain damage (kernicterus). This condition requires medical attention and hospital readmission in newborn.

The presence of neonatal jaundice frequently results in diagnostic evaluation. Statisticians and social scientists have analyzed the cultural and behavioral aspect of the epidemic as well as its impact on families, communities and the nation (Hansen et al, 2013). Even though extreme is rare in developed countries, it is still quite high in developing countries often resulting in kernicterus with its medical, economic and social burden on the patient`s family and society at large (Wang, Chang, and Hang 2014). Unlike the developed countries where feto-maternal blood group incompatibilities are the main causes of severe neonatal jaundice, it is mostly prematurity, glucose 6 phosphate dehydrogenase (G6PD) deficiency, infective causes as well as effects of negative traditional and social practices that constitute the etiology in developing countries (Oladokun, 2009). Jaundice among Nigerian preterm infants in Special Care Baby Unit has been examined and it is found that the major cause of jaundice is prematurity (Dawodu, 2009). Severe neonatal jaundice has modifiable risk factor especially in developing countries (Sarici and Martell,, 2014). Notably, the risk of developing neonatal jaundice is increased in low birth weight, premature and small for dates, breast-fed babies, and previous sibling with neonatal jaundice requiring phototherapy, visible jaundice in the first 24 hours, infants of mothers who have diabetes, male infants, East Asians and populations living at high altitudes.

Phototherapy is a simple treatment for neonatal hyperbilirubinemia which has been well documented and leads to greatly reduced exchange transfusion rates (Amar and Sinduja, 2018). It does not damage a baby's skin but very effective in the treatment of severe jaundice and has proves to be useful for all cases of chronic conjugated neonatal jaundice (Olusanya, 2015). Exchange transfusion (EBT) is a potentially life-saving procedure

that is done to counteract the effects of serious jaundice or changes in the blood due to diseases such as sickle cell anaemia (Arianna, 2017). In Nigeria and other developing countries EBT is still widely used in the management of severe neonatal jaundice. Observations have shown that in Nigeria, more than 5% of neonates admitted into a new born unit have EBT done (Owa and Ogunlesi,2009). The Sustainable Development Goal four is to reduce under- five child mortality by two thirds by 2015. With the current focus on inclusiveness for persons with disability under the Sustainable Development Goals (SDGs), it is essential to tackle Severe Neonatal Jaundice as one key component of optimizing neuro-developmental outcome (WHO, 2013). Bhutani (2014) opines that at least 481 000 term/near-term neonates are affected by Severe Neonatal Jaundice /hyperbilirubinaemia each year, with 114 000 dying and an additional 63 000 surviving with kernicterus. Available evidence also shows that severe hyperbilirubinemia, with or without bilirubin

Encephalopathy is associated with substantial mortality and long-term morbidities in low- and middle-income countries (Olusanya, 2016). However, these alarming estimates are based on limited data determined by mathematical modeling as true population-based data are limited and difficult to find. Therefore, the incidence of SNJ and thus its contribution to global neonatal morbidity and mortality presently remain unclear and possibly significantly underestimated. Institutional neonatal care started in Nigeria in the late 60s and use of incubators was introduced and Special Care Baby Units (SCBU) is set up. In the context of SCBU, there are still deficiencies as monitoring care is hampered by lack of equipment, such as infant monitors, pulse oximeters, arterial blood gas monitoring, epileptic power supply, and unstable supply of oxygen. Just as babies are dying so are their mothers (Lawn, 2005). Despite the integration of an effective antenatal, intra natal and post-

natal care in Ahmadu Bello University Teaching Hospital, the prevalence and incidence of neonatal jaundice are on an increase (Sarici, 2009). Many parents and patient relatives perceive that neonatal jaundice is a difficult, tasking, time consuming and challenging neonatal disease, since it may affect the brain and lead to permanent disability to their children. Also, phototherapy and exchange blood transfusion may demand a lot of financial resources from the parents. Some neonates die as a result of neonatal jaundice, thus increasing the infant's mortality rate. There is therefore the need for the researchers to investigate the prevalence and risk factors of neonatal jaundice in Special Care Baby Unit (SCBU) Ahmadu Bello University Teaching Hospital Zaria from January 2015 – December 2017 and the nurse`s perspective.

OBJECTIVES OF THE STUDY

1. To identify the number of neonates diagnosed with neonatal jaundice in Special Care Baby Unit, Ahmadu Bello University Teaching Hospital Zaria, from January 2014 – December 2017.

2. To determine the sex distribution of neonatal jaundice recorded at Special Care Baby Unit, Ahmadu Bello University Teaching Hospital Zaria, from January 2014 – December 2017.

3. To identify possible risk factors for the development of neonatal jaundice

4. To identify the treatment modalities of neonatal jaundice in Special Care Baby Unit, Ahmadu Bello University Teaching Hospital Zaria, from January 2014 – December 2017

5 To identify the type of neonatal jaundice mostly prevalent at Special Care Baby Unit, Ahmadu Bello University Teaching Hospital Zaria from January 2014 – December 2017

RESEARCH METHODOLOGY

Research Design: A mixed research design comparing the ex- post facto and qualitative methods were adopted for this study.

Research Setting: The study area is the Special Care Baby Unit of Ahmadu Bello University Teaching Hospital Zaria, located along the Funtua road about five Kilometers away from the Ahmadu Bello University Zaria main Campus Samaru. As an institute of health, Ahmadu Bello University Teaching Hospital was established in 1967 under the ABU Zaria law commanding Act enacted by the former Northern Nigerian Government. The Federal Government took over the affairs of all Teaching Hospitals in the country in 1976 with ABUTH Zaria not an exception which is later regulated under the control of the Federal Ministry of Health. The hospital provides a variety of tertiary health care services to meet the health care need of people from the region and the country at large. ABUTH Zaria as a health care institution comprises of various departments and staff with different specialties, in which pediatrics department is one of such departments with the Special Care Baby Unit (SCBU). This institution serves as a referral hospital for cases of neonatal jaundice in Zaria and its surrounding.

Population of the study: The study population comprises of all cases of neonatal jaundice admitted into the Special Care Baby Unit, ABUTH Zaria, from January 2014 to December 2017.

Instrument for data collection: Secondary data was obtained from the medical record department of the hospital and six nurses working in the Special Care Baby Unit.

Method of data Analysis: The data for the quantitative component is analyzed using the Statistical Package for Social Sciences Version 24. Descriptive statistics was done and results presented in frequency distribution tables with simple percentage. .For the qualitative component, themes and categories were examined across the whole data-set. A set of codes and code definitions were developed. A variety of themes and patterns emerged through this multi-phase coding process. After these separate analyses were done, the findings were synergized in order to identify areas of convergence and divergence between the data generated from quantitative and the qualitative component. This helped in complementing each other and by so doing enriches the research.

Ethical approval: was got from the Research Ethics Committee of Ahmadu Bello University, Zaria, Nigeria. The informants were briefed in detail about the research and allowed to decide on whether to participate or not in the study. This ensured the right of self-determination and autonomy. Verbal consent was given. This study caused no physical or psychological harm to the subjects and they were not exploited in any way.

The respondents were treated with respect relative to their rights to privacy and confidentiality observed through anonymity. Anonymity of participants were constantly maintained by not using their name tag or personal information. Participation was voluntary and participants were assured of confidentiality as there were no penalties for refusal to participate.

RESULTS

Table 1 revealed that 33.8% of mothers age are within 15-19years, while 20.8% are within 20-24years, 25% are within 25-29years and 20.4% are within 30years and above. The study showed that 65% are Muslims while 35% are Christians. Also, 45.2% of the respondents are Hausas, 2.5% Igbos, 16.3% Yorubas while 36% represent other tribes. The study revealed that 37.9% are employed while 62.9% are not. This study therefore conclude that the majority of the respondents age are between 15-19years. This denotes that the prevalence of neonatal jaundice are more among neonate of young mothers. This study also showed that majority of respondents are Muslims by religion, Hausa by tribe and unemployed by occupation.

Table 1: Socio-demographic data of mothers

Age (Years)	Frequency	Percentage
15-19	162	33.8%
20-24	100	20.8%
25-29	120	25.0%
30 and above	98	20.4%
Religion		
Islam	312	65%
Christianity	168	35%
Others	-	-%
Tribe		
Hausa	217	45.2%
Igbo	12	2.5%
Yoruba	78	16.3%
Others	173	36%
Occupation		
Employed	182	37.9%
Unemployed	298	62.1%

Table 2 revealed the annual distribution of neonatesl jaundice. The table shows that in 2014, 250 neonates were admitted and 17% had jaundice, in 2015, 323 neonates were admitted and 22% had jaundice. In 2016, 412 neonates were admitted and 28% had jaundice and 2017, 485 neonatal were admitted and 23% had jaundice. This study therefore observed that out of 1470 neonates who were admitted during the period of study, 485 are diagnosed with jaundice. And the highest year with neonatal jaundice is 2017 (33%).

Table 2: Annual Distribution of neonatal jaundice

Years	Admitted neonates	Neonates with jaundiced	Percentage
2014	250	82	17%
2015	323	106	22%
2016	412	134	28%
2017	485	158	33%
Total	1470	480	100%

Table 3 shows that the distribution of neonatal jaundice by sex are as follows: in 2014, 63% of male and 37% of female had jaundice. In 2015, 71% of male and 29% of female had jaundice. In 2016, 65% of male and 35% of female had jaundice while in 2017, 58% of male and 42% of female had jaundice. This study observed that male neonates (64%) suffer more from neonatal jaundice throughout the period of study.

Table 3: Sex distribution of neonatal jaundice

Sex	2014		2015		2016		2017		TOTAL	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Male	52	63%	75	71%	87	65%	92	58%	306	64%
Female	30	37%	31	29%	47	35%	66	42%	174	36%
Total	82	100	106	100	134	100	158	100	480	100

Table 4 observe that the treatment modalities used for the treatment of neonatal jaundice are 65% for drugs /photo-therapy and 35% for drug/exchange blood transfusion. This study, therefore report that the most effective drugs used for the treatment of neonatal jaundice are drugs/photo-therapy (65%).

Table 4: Type of treatments that are effective on neonatal jaundice

	Treatment modalities	Frequency	Percentage (%)
1	Drugs /phototherapy	312	65%
2	Drug/Exchange blood transfusion	168	35%
	Total	480	100%

Table 5 revealed that, 68% of neonates with neonatal jaundice had Physiological jaundice while 32% had Pathological jaundice. This study therefore conclude that the most common type of neonatal jaundice seen in SCBU ABUTH is physiological jaundice.

Table 5: Type of neonatal jaundice

	Types of jaundice	Frequency	Percentage (%)
1.	Physiological NNJ	326	68%
2.	Pathological NNJ	154	32%
	Total	480	100

DISCUSSION

This study examines the prevalence and risk factors of neonatal jaundice in Special Care Baby Unit of Ahmadu Bello University Teaching Hospital Zaria, Nigeria. The demographic characteristics of this study shows that the majority of the respondents age are between 15-19years. This denotes that the prevalence of neonatal jaundice are more among neonate of young mothers. This study also showed that majority of respondents are Muslims by religion, Hausa by tribe and unemployed by occupation.

This study observed that out of 1470 neonates who were admitted during the period of study, 485 are diagnosed with jaundice. And the highest year with neonatal jaundice is 2017 (33%). The qualitative results from majority of the interviewee stated that; *"Despite the increasing number of cases we admit in our unit, special consideration has not been given to ensure that more staff are employed in our unit"*. The study is similar to that conducted by Onyearugha, Onyire and Ugboma (2011) in Federal Medical Centre, Abakaliki, Nigeria, which revealed that neonatal hyperbilirubinemia accounted for 35% of all SCBU admissions. This study is not in agreement with the study conducted by Maisels (2009) on prevalence of neonatal jaundice whose finding showed that approximately 65% of newborn infants developed clinically evident jaundice in the first week of life. The result also confirmed the report of Ipek and Bozayakut, (2008) that neonatal Jaundice ranges between 10 to 35% of neonatal admissions and it is among the leading causes of neonatal morbidity in previous reports in Nigeria and other parts of the world.

This study revealed that male neonates (64%) suffer more from neonatal jaundice throughout the period of study. This study support the observation of Hamid (2015) that risk of developing insignificant neonatal jaundice is higher in male infants and the prevalence of hyperbilirubinemia in male neonates is about two times than female neonates. Our study is in line with the study done by Chime, Egenede and Arute (2011) on the prevalence of neonatal jaundice and the findings showed that 89 of 272 neonates developed neonatal hyperbilirubinemia, 21% were males and 12% were females. Luzzatto (1972) also reported that the male preponderance has the incidence of G-6-PD deficiency in the population which is 20% in male and female homozygous 3-4%.

Our study revealed that the most common type of neonatal jaundice seen in SCBU ABUTH is physiological jaundice. Our study concur with that of Olusanya (2016) who reported physiological jaundice as a common occurrence in new born and the study of Asyraf, Hassan, Ammar and Halim (2016) who revealed that physiological jaundice appears to be more common than pathological jaundice.

Our study report that the most effective drugs used for the treatment of neonatal jaundice are drugs/photo-therapy. Our study supports Amar and Sinduja, (2018) who revealed that phototherapy is documented as a simple treatment for neonatal hyperbilirubinemia and leads to greatly reduced exchange transfusion rates. Our study is at variance with Arianna, (2017) who reported that exchange transfusion (EBT) is a potentially life-saving procedure that is done to counteract the effects of serious jaundice or changes in the blood due to diseases such as sickle cell anaemia and still widely used in the management of severe neonatal jaundice. Also, our study is also not in line with Owa and Ogunlesi, (2009) who observed that EBT is commonly used in Nigeria for more than 5% of neonates admitted into a new born unit.

The qualitative result on possible risk factors for neonatal jaundice from the in-depth interviews as revealed by majority of the nurses is that; *Most of the women do not like practicing exclusive breastfeeding. The women have the believe that the breast milk cannot sustain their babies with the required nutrients*

needed for growth. Others are of the believe that breast milk only can cause jaundice to their babies. There is the existence of Breast milk jaundice. Breast milk jaundice (BMJ) is a type of <u>neonatal jaundice</u> associated with breastfeeding that is characterized by indirect hyperbilirubinemia in an otherwise healthy breastfed newborn that develops after the first 4-7 days of life, persists longer than physiologic jaundice, and has no other identifiable cause.

Breast milk jaundice should be differentiated from breastfeeding jaundice, which manifests in the first 3 days of life, peaks by 5-15 days of life, disappears by week 3 of life, and is caused by insufficient production or intake of breast milk (Prashant, 2017). It should be noted that, adequate amounts of breast milk increase a baby's bowel movements, which help secrete the buildup of bilirubin. Breastfeeding jaundice can occur when a newborn does not get a good start on breastfeeding, has an improper latch, or is supplemented with other substitutes which interfere with breastfeeding. Breastfeeding jaundice often will resolve itself with increased feedings and help from a lactation consultant to make sure the baby is taking in adequate amounts.

Jaundice occurs in **50-70% of all new-born**, so there is really no way to prevent it from occurring. But there are ways to prevent it from becoming serious and reaching a level that requires additional interventions. This include; initiate the breastfeeding relationship as soon as possible after birth. Studies show that the breastfeeding relationship has fewer challenges and a higher rate of success when it is initiated in the first hours after birth. The two types of jaundice may occur in new-born who are breastfed. But both types are usually harmless. Majority of the nurses also stated that; *Most of the women in the area of study do not go to the hospital for antenatal care nor deliver in the hospital. There is therefore, lack the necessary knowledge to effectively take care of themselves and their babies. The act of delivering at home encompasses the use of poor cultural practices which predisposes the babies to infection. Some of these poor cultural practices include; the application of cow dung to the umbilical cord of the baby to dry quickly, using dirty knives and blades to cut the umbilical cord, among others. These usually predisposes the neonates to infection.* The study by Onyearugha, Onyire and Ugboma (2011) also revealed that significantly more of the mothers of out born babies were not booked and majority of the babies developed septicaemia. Lack of booking by pregnant women in Nigeria and indeed developing counties in general is rife (Udo et al., 2008; Ezechukwu et al., 2004). Expectant women, unfortunately often patronize unorthodox places including Traditional Birth Attendants and churches for purposes of pregnancy supervision and delivery. Often, the attendants and employees in these settings are at best inadequately trained for the purpose and practice in unhygienic environment ultimately resulting in septicaemia in the new-born. Early booking, effective and regular attendance to antenatal care, optimum maternal nutrition and delivery in appropriate health care facility can help to curb the incidence of prematurity and septicaemia thereby reducing the incidence of severe Neonatal Jaundice in the community (Welbeck, Biritwum and Mensah, 2003). There is therefore the need to discourage these bad cultural practices among the women to prevent sepsis in the neonates.

The use of "Lele" is a tradition in the area by women to mask the hands including the fingers, legs and toes of the new born baby for decoration. This usually results into delay of recognition of the signs of jaundice. The women therefore present with their babies to the hospital late with little or nothing to be done by the health personnel and this usually contribute to the increased number of mortalities among the neonates.

Another common causes of neonatal jaundice as iterated by the nurses is; ABO incompatibility. Most of the nurses stated that: *ABO incompatibility has been found to be a common cause of neonatal jaundice among the babies. Thus, the need for women to be screened during antenatal care and effective management instituted for the babies during delivery.*

Our study observed that the most effective treatment used was drugs and phototherapy. This result is similar to a study conducted by Azubuike (2013) in the Eastern part of Nigeria who stated that the treatment usually should start with Phenobarbitone (3mg/kg body weight per day orally, given in two divided doses) or with standard phototherapy. Exchange Blood Transfusion must be performed if unconjugated bilirubin level is 20mg/dl or above in normal full-term babies or above 15mg/dl in low birth weight babies especially if there was asphyxia and acidosis at birth. This study does not support Olusanya (2009) who revealed that mothers of new-born babies with significant bilirubinaemia took herbal drugs in Lagos, Southern Nigeria. A majority of the cases admitted to the Central Hospital were those with anticipated complications of pregnancy or labour as many of the pregnant mothers seek alternative sources of care, such as traditional birth attendants, for delivery services.

Results from the nurses also showed that; *There is usually an increased number of neonates for admission which surpasses the number of nurses to cater for them. Thus, a poor nurse: patient ratio. The equipment is usually not sufficient to cater for all the babies admitted.*

Our study showed that, the commonest type of neonatal jaundice seen in SCBU ABUTH was physiological jaundice. This is not surprising as the most common cause of neonatal jaundice is a physiological rise in unconjugated bilirubin, which results from haemolysis of feta- haemoglobin and an immature hepatic metabolism of.

CONCLUSION

The study found that, physiological jaundice was the commonest form of jaundice among the neonates during the period of study. The incidence of jaundice increased as the years passed by. Low attendance of mothers at antenatal care, poor delivery practices and certain cultural practices, late presentation of babies in the hospital among others seem to contribute to the increased number of cases presented in the hospital. Chemotherapy and phototherapy were the major forms of treatment for the babies.

REFERENCES

Amar, T. and Sinduja, S. (2018). Side Effects of Phototherapy in Neonatal Hyperbilirubinemia Acta Scientific Paediatrics Volume 1 Issue 5 December 2018

Arianna, B.(2017). Exchange Transfusion for Jaundiced Newborns in the United State https://embryo.asu.edu/pages/exchange-transfusion-jaundiced-newborns-nited-states Published: 2017-03-30

Azubuike, A.U, Ugwu, R.O. (2013). Perception of neonatal jaundice among women attending Children out patient and immunization clinics in Port Harcourt. Nigerian Journal of Clinical Practice, 12(2): 187-191

Beachy, B., (2010). Neonatal jaundice in Zaria, Nigeria. *West African. Journal of Medicine., 14(1):1523.*

Bhutani, V.K., Zipursky, A., Blencowe, H., Khanna, R., Sgro, M., Ebbesen, F. (2013). Neonatal hyperbilirubinemia and Rhesus disease of the newborn: Incidence and impairment estimates for 2010 at regional and global levels. Pediatr Res 2013;74Suppl1:86-100.