



International Journal of Midwifery and Nursing Practice

E-ISSN: 2663-0435
P-ISSN: 2663-0427
www.nursingpractice.net
IJMNP 2023; 6(2): 46-50
Received: 03-07-2023
Accepted: 07-08-2023

Mohammed Ahmed Sultan Alwily
Ph.D. Paediatric Nursing,
College of Nursing, University
of Mosul, Mosul, Iraq

Pediatric nurses' knowledge regarding management of low birth weight at neonatal care unit in teaching hospitals

Mohammed Ahmed Sultan Alwily

DOI: <https://doi.org/10.33545/26630427.2023.v6.i2a.145>

Abstract

Objective: Measure the degree of expertise of paediatric nurses in neonate care units of Mosul teaching hospitals in managing low birth weight

The Methodology: A descriptive study design was practical at neonatal care units in Mosul teaching hospitals from 5 /April / 2021 to 31/October/ 2021. The sample included (177) nurses employed in the neonatal care units of five Mosul Teaching Hospitals. The validity was tested using twelve expert panels. The pilot study's dependability was applied from 7-10/ June/ 2021 by use of Cronbach's Alpha (0. 851) using SPSS version 26.

The Result: Most of the sample results were females (21-30) years age-old, who graduated from a College of nursing had less than five years of the general employment period, and not having training courses, and also reading resources related to low birth weight. The paediatric nurses were having appropriated and adequate knowledge level concerning the management of neonates with low birth weight.

The Recommendations: Wide special programs, and training courses, must be designed and also implement in other Nineveh hospitals.

Keywords: Paediatric nurses, knowledge, low birth weight, neonatal care unit

Introduction

All low-birth-weight newborns have a greater infant death rate than additional babies, and birth weight is the most significant consideration in determining the newborn's opportunities of surviving. In 2003, there were approximately 1.8 million deaths of infants worldwide, the majority of which took place in developing nations and about half of which occurred in the newborn's initial year for a lifetime ^[1].

Low birth weight is outlined by the World Health Organization as an infant's birth weight regardless of gestational age, of 2,499 grammes or less; subcategories include very low birth weight (ELBW), which is below 1000 grammes, and very low birth weight (VLBW), which is less than 1500 grammes ^[2].

At delivery the low birth weight remained found to remain an important risk factor for neonates, along with adverse health consequences, a history of physical trauma throughout the pregnancy, complications of pregnancy, cesarean and instrumental deliveries, as well as the mother's history of chronic diabetes, had the ability to prevent low birth weight, and there is a powerful genetic connection between lower birth weight and the onset of paternal diabetes, which is also a significant threat factor for low birth weight ^[3].

The incidence of premature births worldwide is 15 million, and newborns with low birth weight are around 20 million; of these, 96.5% occur in poor nations, making low birth weight the most significant indirect cause of newborn death worldwide. If the best care is not provided to save life, preterm and low birth weight combined have a high birth rate of morbidity and fatality ^[4].

In 2017, there were roughly 7,000 newborn fatalities per day, or about seven thousand deaths per 1,000 live births, which represents nearly 47% of all child mortality. In 2017, there were 2.5 million infant deaths worldwide or an average rate of 18 deaths per 1,000 live births. Neonatal fatalities decreased globally from 5 million in 1990 to 2.5 million in 2017 ^[5].

Nowadays, low birth weight and its impact on neonates, families, and societies have gained attention from policymakers around the world. The knowledge that most low birth weight

Corresponding Author:
Mohammed Ahmed Sultan Alwily
Ph.D. Paediatric Nursing,
College of Nursing, University
of Mosul, Mosul, Iraq

can be prevented generates the "perfect storm" for specialized governments, both public, and private the council of Global Neonatal Nurses unifies neonatal nursing globally to improve medical conditions for this most vulnerable group of individuals via collaboration between businesses, voluntary organizations, and government organizations [6].

The Research Question

What are a knowledge levels of paediatric nurses' concerning the management of low birth weight at care units for neonatal in Mosul teaching hospitals?

The Objectives

1. To assess the knowledge levels of paediatric nurses concerning the management of low birth weight at neonatal care units in Mosul teaching hospitals.
2. To find out the correlation among socio-demographic variable quantity with knowledge levels of paediatric nurses' results.

Methodology

The Design

A descriptive study was done to measure the knowledge of paediatric nurses concerning of low-birth-weight management in the newborn care units of Mosul teaching hospitals. From 5 /April / 2021 to 31/October/ 2021.

The sample of the study

A non-randomly (Purposive) sample remains selected for the present study. The sample contained (177) nurses employed by cutting-edge neonatal care units of five Mosul Teaching Hospitals; General Mosul Teaching Hospital, Al-Salam Teaching Hospital, Ibn Al-Atheer Teaching Hospital, Al-Kanssa'a Teaching Hospital, and Ibn-Sina Teaching Hospital.

Inclusion Criteria

Nurses who are working inside of care units for neonatal, Nurses who agreed and were willing to participate are also ready to fill out the questionnaire of the study. Nurses from both sexes (male and female).

The Study Instrument

The questionnaire remained constructed by the researchers and then given to paediatric nurses to measure knowledge which contains two parts. The first portion focuses on the information regarding demographics including data related to nurses such as gender, age, level of education, service, training course, and reading source, while the second part was related to the management of low birth weight at neonatal care units is mainly based on material pertaining to details gleaned from research in the literature as well as the advice of specialists. This component of the questionnaire is divided into five parts, each including five multiple-choice questions about the knowledge of nurses.

The first section emphasizes arranged the knowledge in general of paediatric nurses regarding the management of low birth weight. The second section focuses on paediatric nurses' knowledge regarding signs and symptoms of low

birth weight. The third section focuses on paediatric nurses' knowledge concerning the complications of low-birth-weight neonates. Fourth section aimed to identify the paediatric nurses' knowledge concerning the prevention of low birth weight. The Fifth section is focused on paediatric nurses' knowledge concerning nursing care management of low birth weight

Scoring of the Instrument

Depending on the Likert scale's quality component, which comprises the following, the predicted level of the nurses' knowledge contains:

- Failure equates to a knowledge score of 0–1.
 - Non-Acceptable (2) knowledge score for the response.
 - Acceptable (3) knowledge score for the solution.
 - Good equals a knowledge score of four.
 - Excellent means a knowledge score of (5) for the answer.
- However, an estimate of all nurses' knowledge consists of the following:
- Failure is equal to a knowledge score of 1 to 5.
 - Non-Acceptable knowledge score (6–10) for the response.
 - Acceptable answer knowledge score: (11–15).
 - Good knowledge score (16–20) for the solution.
 - Excellent equals a knowledge score of 21-2.

Validity

Twelve specialists in various medical and nursing professions evaluated the questionnaire. The expert's comments were rated based on whether they agreed or disagreed with them. Every component and portion of the questionnaire's measures had been modified.

Reliability (Pilot Study)

Prior to beginning the practical portion of the project, a pilot study was conducted between June 7–10, 2021. To evaluate the internal consistency of the questionnaire, it comprised (20) nurses who were randomly chosen from the newborn care unit (this list sample was left out of the original research sample). Using SPSS version 26, the researcher used Cronbach's Alpha to analyze the reliability, findings were 0. 851.

Data Collection

The data remained collected for five designated hospitals in Mosul city, using a questionnaire with structured interviews for nurses of each hospital during the period from 4/ July/ 2021 till 3/ August/ 2021

Data Analysis Methods

In the current research, the statistical package for social science (SPSS), version 26, is used to analyze the data. Descriptive statistical data analysis (frequency and percentages), inferential statistical data analysis (Pearson coefficient correlation "r-test"), independence test (chi-square tests), as well as significance level, are among the statistical techniques used for data investigation and result measurement.

The Results

Table 1: Demographic Characteristics of Paediatric Nurses Sample in the Presents Study

Characteristics	Estimate	Freq.	%
Age	(21-30)	132	74.6

	(31-40)	33	18.6
	(41-50)	12	6.8
Gender	Male	60	33.9
	Female	117	66.1
Level of Education	Junior Stage	27	15.3
	Institute Stage	60	33.9
	Graduate Stage	87	49.2
	Master Stage	3	1.7
General Employment Period	(1-5)	119	67.2
	(6-10)	41	23.2
	(11-15)	11	6.2
	(16-20)	6	3.4
Training Course	No	108	61.0
	Yes	69	39.0
Total		177	100.0

Freq. = Frequency, %= percentage

Table 2: Statistical Differences Result for Knowledge of Paediatric Nurses' Concerning Low-birth-weight Neonates

Nurses' knowledge	Estimate	Freq.	%
Knowledge of paediatric nurses concerning low-birth-weight neonates in general	Fail	39	22.0
	Not Acceptable	54	30.5
	Acceptable	81	45.8
	Good	3	1.7
Nurses' knowledge concerning the signs and symptoms of low-birth-weight neonates	Fail	48	27.1
	Not Acceptable	111	62.7
	Acceptable	15	8.5
Knowledge of paediatric nurses concerning neonates' complications of low-birth-weight	Good	3	1.7
	Fail	18	10.2
	Not Acceptable	54	30.5
	Acceptable	96	54.2
Nurses' knowledge regarding the prevention of low birth weight	Good	9	5.1
	Fail	90	50.8
	Not Acceptable	31	17.5
	Acceptable	36	20.3
Nurses' knowledge of nursing management for low-birth-weight neonates	Good	20	11.3
	Fail	9	5.1
	Not Acceptable	36	20.3
Total		132	74.6
Total		177	100.0

Freq. = Frequency, %= percentage

Table 3: Statistical Result for Total Nurses' Knowledge Regarding Low-Birth-Weight Neonates

Nurses' knowledge	Freq.	%	X ²	P value	Sig.
Fail	12	6.8	60.644a	0.000	HS
Not Acceptable	71	40.1			
Acceptable	94	53.1			
Good	0	0.0			
Excellent	0	0.0			
Total	177	100.0			

Freq. = Frequency, %= percentage, X²= Chi-Square, Sig=Significance, HS=High Significance

Table 4: Statistical correlation of demographic characteristics results with nurses' knowledge regarding low-birth-weight neonates

Nurses Knowledge	Age	Gender	Level of Education	General employments	Training Course
Knowledge of paediatric nurses concerning low-birth-weight neonates in general	0.198	0.004	0.220	0.444	0.860
Nurses' knowledge concerning the signs and symptoms of low-birth-weight neonates	0.860	0.586	0.627	0.353	0.141
Knowledge of paediatric nurses concerning neonates' complications of low-birth-weight	0.001	0.666	0.044	0.229	0.669
Nurses' knowledge regarding the prevention of low birth weight	0.028	0.759	0.008	0.127	0.284
Nurses' knowledge of nursing management for low-birth-weight neonates	0.592	0.932	0.879	0.901	0.404
Total nurses' knowledge regarding low-birth-weight neonates	0.048	0.112	0.028	0.742	1.000

Correlation is significant at equal or less than 0.05 level

The Discussion

Demographic characteristics of nurses sample at the present study 74.6% (132) of the sample at age (21-30) years old. 66.1% (117) of the sample was female gender. 49.2% (87) of the sample graduated from the college of nursing, and 67.2% (119) sample had one to five years in overall employment period, lastly, 61.0% (108) of the sample had not taken any training course related to low-birth-weight management inside care units for neonatal as shown in Table (1). These results agree with Washeel, O. et.al., (2021) who explain in their study that the mainstream nurses 32(64%) inside the NICU remained below the age of 30 years, though the gender of paediatric nurses 39(78%) inside neonate unit is female, It might be because of hospital strategies that encourage women to feel like regular mothers. Among the nurses participating in this survey 24 (48%) have 1-5 years of professional experience, and the majority have diploma degrees at the educational level of 29 (58%)^[7].

Statistical Result for knowledge of paediatric nurses concerning Low birth weight Neonates, that knowledge level, in general, was 45.8% (81) of the study sample at an acceptable level, the knowledge level concerning signs and symptoms of neonates with low-birth-weight was 62.7% (111) of the study sample at a not-acceptable level of knowledge, the nurses' knowledge concerning the complications neonates with low-birth-weight was 54.2% (96) of the study sample at an acceptable level of knowledge, the knowledge of paediatric nurses concerning the prevention of low birth weight was 50.8% (90) of the study sample at a fail level of knowledge, lastly, knowledge of paediatric nurses for nursing management for low-birth-weight neonates was 74.6% (132) of the study sample at an acceptable level of knowledge as shown in the table (2). These results agree with Khalil, A. *et al.*, (2021) who explain in according to their study on the nurses' knowledge of preterm infants and developmentally supportive care, 71.1% of the nurses were found to have an adequate amount of knowledge, while the remaining nurses (28.9%) had unsatisfactory levels of knowledge on the subject. However, a majority of the nurses who were subjected to the study (87.2%, 82.8%) had an inadequate understanding of care kangaroo and massage, while the remaining 12.8% and 17.2%, respectively, had sufficient expertise in the identical area^[8].

The statistical differences result for total nurses' knowledge regarding low-birth-weight neonates that 53.1% (94) of the sample at an acceptable level of knowledge with Chi-Square (60.644), and extremely significant at p.value (0.000) as shown in table (3). These results agree with Rajwinder, K. (2013) who explains in according to her research, the majority of the participant sample, 38.3% of nurses, had average level knowledge on caring for low-birth-weight babies, while 26.7% showed knowledge that was below an average, 18.3% had excellent knowledge, 13.3% had terrible knowledge, and just 03.3% had exceptional level knowledge^[9].

The statistical correlation of demographic characteristics results with nurses' knowledge regarding low-birth-weight neonates, there remained a non-significant correlation among age with all parts of knowledge levels for nurses concerning neonates with low-birth-weight except the nurses' knowledge regarding the complications at p value (0.001), and total nurses' knowledge at p. value (0.048).

There remained a non-significant correlation among gender with all parts of knowledge levels for nurses concerning neonates with low birth weight except knowledge levels for paediatric nurses in general at p. value (0.044). There remained a significant correlation among educational level only with knowledge levels for paediatric nurses concerning complications at p. value (0.044), knowledge of paediatric nurses concerning the prevention at p value (0.008), and total knowledge for paediatric nurses at p value (0.028). There remained a non-significant correlation among the general employment period and training course with all knowledge parts paediatric nurses concerning neonates with low-birth-weight shown in table (4). These results disagree with Al-Wily, M. A. S., & Aziz, A. R. (2020) they detail the statistical correlations between the sample's demographic factors and the outcomes of the knowledge test for nurses in their research. Except for the pre-test with the length of time spent working in the present hospital, there are no significant correlations between the nurses' knowledge scores and other demographic data, and there are no significant correlations with any other demographic variables at the p value 0.05 level^[10].

The Conclusion

The study's findings lead the researchers to the following conclusions:

1. The characteristics of the study sample, the most common of the sample was female at age twenty-one to thirty years old, graduated from a college of nursing, and had less than five years in general employments period, but had not taken any training course related to neonatal with low birth weight management.
2. The total number of nurses at neonatal care units in Mosul teaching hospitals have appropriated and adequate knowledge regarding the management of neonates with low-birth-weight.
3. There remained a non-significant correlation among most of the demographic characteristics results with total nurses' knowledge except the age and educational level of the nurses' sample there was a significant correlation at p value at equal or less than 0.05 level

The Recommendations

1. Improve future programmers and initiatives targeted at comprehending, helping, and supporting infants with low birth weight by the Ministry of Health or Nineveh Health Directorate
2. Special programs, workshops, and training courses for all nurses in Mosul teaching hospital regarding low-birth-weight neonates between children to enhance the nurses' knowledge and management.
3. Another study concerning neonatal management with low birth weight neonates for all paediatric nurses also enhances future nurses' knowledge.

Ethical Approval

The approval getting first from the University of Mosul/ Collegiate Committee for Medical Research Ethics at the code: CCMRE-Nu-21-48, then the ethical committee of Nineveh Health Directorate after that the approval of the Teaching Hospitals in Mosul City.

Conflicts of Interest

Nobody professed.

Funding

There is not any financing available for this research.

Acknowledgment

The University of Mosul in Iraq's / College of Nursing provided some funding for this study. We appreciate all of the contributing samples as well as our knowledgeable colleagues.

Authors' Contributions

Mohammed Ahmed Sultan Alwily is in charge of authoring the whole book. The last draught of the work was reviewed and approved by both writers.

Reference

1. Devi WA. Low Birth Weight Baby. Journal for Research, 2016, 2(4).
2. Watkins WJ, Kotecha SJ, Kotecha S. All-cause mortality of low birthweight infants in infancy, childhood, and adolescence: population study of England and Wales. PLoS medicine. 2016;13(5):e1002018
3. Köstlin-Gille N, Härtel C, Haug C, Göpel W, Zemlin M, Müller A, *et al.* Epidemiology of early and late onset neonatal sepsis in very low birthweight infants: data from the German Neonatal Network. The Paediatric infectious disease Journal. 2021;40(3):255-259.
4. Taha Z, Ali Hassan A, Wikkeling-Scott L, Papandreou D. Factors associated with preterm birth and low birth weight in Abu Dhabi, the United Arab Emirates. International journal of environmental research and public health. 2020;17(4):1382.
5. Seid SS, Ibro SA, Ahmed AA, Olani Akuma A, Reta EY, Haso TK, *et al.* Causes and factors associated with neonatal mortality in neonatal intensive care unit (NICU) of Jimma University medical center, Jimma, south West Ethiopia. Paediatric health, medicine and therapeutics; c2019. p. 39-48.
6. Perera F. Pollution from fossil-fuel combustion is the leading environmental threat to global paediatric health and equity: Solutions exist. International journal of environmental research and public health. 2018;15(1):16.
7. Washeel OF, Aneed SH, Bachi DM, Kadhim ST. Neonate Apnea Nursing Care in Neonatal Intensive Care Unit. Indian Journal of Forensic Medicine & Toxicology. 2021;15(3):5003-5010.
8. Khalil A, Abd Elsalam Mohamed N, Rezk Mohamed N, Abd El Motaleb Mousa AS. Nurses' Knowledge and Practice Regarding Developmental Supportive Care for Preterm and Low Birth Weight Infants. Port Said Scientific Journal of Nursing. 2021;8(2):190-203.
9. Rajwinder K. Staff Nurses (Nicu) Knowledge Regarding Care of Low-Birth-Weight Baby IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320-1959. p-ISSN: 2320-1940. 2013;3:01-04.
10. Al-Wily MAS, Aziz AR. Effectiveness of instructional

program for nurses' knowledge regarding oxygen administration methods at paediatric teaching hospitals in Mosul city. Med. Leg. Update. 2020;20(3):1519-1525.

How to Cite This Article

Alwily MAS. Pediatric nurses' knowledge regarding management of low birth weight at neonatal care unit in teaching hospitals. International Journal of Midwifery and Nursing Practice. 2023;6(2):46-50

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.