

KNOWLEDGE AND ATTITUDE OF NURSES ABOUT NEONATAL HYPERBILIRUBINEMIA IN DUHOK GOVERNORATE: CROSS SECTIONAL STUDY

WADYAN JUNDI MIRZA* and AKREM MOHAMMAD ATRUSHI**

*Dept. of pediatric Nursing, College of Nursing, University of Duhok, Kurdistan Region- Iraq

**Dept. of Pediatric, College of Nursing, University of Duhok, Kurdistan Region- Iraq

(Received: October 31, 2019; Accepted for Publication: December 11, 2019)

ABSTRACT

Background and objectives: Neonatal hyperbilirubinemia is the most common medical condition in the neonates. About 60% of term and 80% of preterm infants develop jaundice during 1st week of life. The objectives of the study were to assess knowledge and attitude of nurses toward hyperbilirubinemia, and to find out whether there were any relationships between nurses knowledge and attitude with socio-demographic data.

Subjects and methods: A descriptive, cross sectional study was done all nurses (n=166) working in the neonatal intensive care units and different departments in governmental hospitals in Duhok governorate has been recruited to the study during the period started from 1st May to 1st August 2019.

Results: The study revealed that the majority of nurses had fair knowledge about concepts, definition of phototherapy 98 (59%), causes 78 (47%), Intervention of bilirubin level and steps of management 125 (75.3%), side effects 106 (63.9). While 98.8% of nurses had good knowledge regarding clinical manifestations 164 (98.8%), Investigations 137 (82.5%), complications 78 (47.0%) and Nursing care 159 (95.8%). It also found that there was a significant relationship between demographic data and nurses' knowledge. Moreover, 145 (87.3%) of nurses held neutral attitude toward neonatal hyperbilirubinemia. Finally, the study found a significant relationship between attitude and demographic factors.

Conclusions: The study concludes that nurses working in Neonatal intensive care unit (NICU) and pediatric wards had fair knowledge regarding concepts, causes, steps of management, side effects of phototherapy and good knowledge regarding clinical manifestations, investigations, complications and nursing care. Furthermore, nurses held neutral attitude towards neonatal hyperbilirubinemia.

KEY WORDS: Knowledge, Attitude, Nurses, Neonatal hyperbilirubinemia

Abbreviations:

TSB: Total serum bilirubin

G6PD: Glucose 6-phosphate dehydrogenase deficiency

NICU: Neonatal Intensive Care Unit

Hrs: Hours

BIND: Bilirubin-induced neurologic dysfunction

INTRODUCTION

Hyperbilirubinemia clinically apparent as jaundice, it is a common clinical manifestation that can be Life threatening ((Duan *et al.*, 2006) and is a reason for emergency department visits for neonates (Wolff *et al.*, 2012). It is a commonly encountered problem especially in the first week of life (Begum & Afroze, 2018). It occurs in almost all neonates (Bhutani *et al.*, 2008). Based on the

present evidence, 80% of premature can have clinical symptoms of hyperbilirubinemia (Mojtahedi *et al.*, 2018).

The neonatal period is defined as the time from birth to 28th day of life and is the most critical survival time for children (Pathirana *et al.*, 2016). Around 60% of full term and 80% of preterm neonates in the first week of their lives suffered from hyperbilirubinemia that may need medical attention (Hussein & Aziz, 2016).

When the total serum bilirubin (TSB) reaches above the 95th percentile for age (high risk zone) in the first week of life, it is considered as hyperbilirubinemia (Burke *et al.*, 2009).

Physiological jaundice is the one occurs on the 2nd and 3rd day of life. It is usually harmless and self-limiting so that it usually improves with no need for treatment after reaching the normal bilirubin level (Mojtahedi *et al.*, 2018).

The life span of the erythrocytes is relatively shorter and the capacity for elimination of bilirubin is lower in neonates than in adults (Christensen & Yaish, 2015).

In case of pathological jaundice, bilirubin level rises in the first 24 hours and there is an urgent need for attention to find its cause (Mojtahedi *et al.*, 2018). It can be either due to conjugated or unconjugated hyperbilirubinemia. However, unconjugated hyperbilirubinemia is much more frequent and can lead to brain damage (kernicterus) in severe conditions (Shaked & Peña, 2012).

The main risk factors for pathological jaundice are ABO blood group incompatibilities Bhutani *et al.*, 2013), glucose-6-phosphate-dehydrogenase deficiency (G6PD) (Watchko, 2009), infections (Field *et al.*, 2008), prematurity, male gender, ethnicity, breastfeeding and early hospital discharge (Watchko, 2009; Bhutani *et al.*, 2013).

Nurses need to be vigilant when caring for neonates with jaundice by monitoring the levels of bilirubin, identifying those who are at risk for developing severe hyperbilirubinemia and effectively implementing the treatment when indicated (Watson, 2009).

Therefore, by having adequate knowledge and attitude Nurses can prevent complications and decrease hospitalization needed for neonatal hyperbilirubinemia (Adebami, 2015).

In order to successfully manage hyperbilirubinemia the Nurses need to have adequate knowledge on the early detection, Total serum bilirubin level and early interventions. Nurses should assess accurately the presence and severity of hyperbilirubinemia and help parents how to assess jaundice to prevent complications related to the hyperbilirubinemia such as hearing loss, mortality, harms of hospitalizations, treatment failure, length of stay in hospital (Fayoumi, 2018).

New members nursing staff who provide care for neonates with jaundice in neonatal nurseries

should be well oriented with standardized protocols of nursing care to ensure competent nursing care (Karale *et al.*, 2018).

Aim of the study:

This study aims to assess nurses' knowledge and attitude about neonatal hyperbilirubinemia in Duhok governorate.

SUBJECTS AND METHODS

It is a descriptive, cross sectional study design because it assesses and describes the knowledge and attitudes of Nurses toward neonatal hyperbilirubinemia. Cross sectional because data were collected at the same time. The Study was accomplished in Governmental Hospitals in Duhok area of Kurdistan region (Hevi pediatric teaching hospital, Duhok maternity hospital while caring the patients, Zakho general Hospital, Zakho maternity hospital, Akre general hospital, Akre emergency hospital and Amadiyah general hospital). It is non-probability sampling method used a convenience sample where the sample is taken from target population of this study was all nurses have a contact with phototherapy who were working in (NICU) and paediatric wards in the Duhok governorate hospitals at the time of data collection. The total number of nurses overall hospitals were (188) Nurses. The number of nurses participated in the study were (166) nurses. However, the number of nurses who disagreed to participate in the study were (15) nurses and the number of nurses did not attended due to vacation or unknown reasons were (7) Nurses.

Inclusion criteria: Nurses who were working in neonate and pediatric wards at the time of data collection. Nurses who accepted to participate and were available during data collection on visit were included while the study excluded nurses who refused to participate in the study and who were not available at the time of data collection. The time of data collection was done within a period of three months from 1st May to 1st August 2019 by the researcher himself (12 hour per day, 4hrs at morning, 4hrs at afternoon and 4hrs at night) in order to cover large number of nurses. The total period of the study was (From 6th March to 6th January). The approval has been obtained from the Ethical committee at Directorate of Health of Duhok. After that a written request of agreement was sent to all

hospitals in order to facilitate researcher work. After that, purpose of the study was explained for nurses working in NICU and paediatric wards, oral verbal consent was obtained from nurses who participated; The nurses or participants has right to withdraw or stop the interview. They were assured that all data would be confidential. Also the cover page cleared that all the participation in this study was voluntary and they can withdraw at any time. After getting the permission from General Directorate of Health and the selected hospital administrations in Duhok governorate, the researcher distributed self-construction questionnaire by himself. The participants who agreed to participate and were available during data collection filled in the questionnaire sheet. The filling of the questionnaire took around 30 minutes; the researcher told them that all data will kept for confidentiality and anonymity Since there was

no previously designed questionnaire regarding knowledge and attitude of Nurses about Neonatal hyperbilirubinemia, the researcher formulated a questionnaire that addressed all the study's variables that examined the knowledge and attitude of Nurses working in NICU and paediatric wards. A questionnaire was designed for the present study into three parts: part one is for assessing the socio-demographical characteristics, part two is for assessing the nurses knowldege regarding neonatal hyperbilirubinemia. It divided in to poor/fair/good. The highest score was 30 and lowest was 3, and part three is for finding the attitude of nurses.it used a likert scale. It consisted into positive/Neutral/Negative. So the highest score was 75 and the lowest was 15. The levels of knowledge and attitude were rated according to the cut of point.

Cut of point of knowledge

Items	Poor knowledge	Fair knowledge	Good knowledge
Concepts & definition of phototherapy	10-16	17-23	24-30
Causes	7-11	12-16	17-21
Clinical manifestations	3-4	5-6	7-9
Investigations	4-6	7-9	10-12
Intervention & steps of management	6-9	10-13	14-18
Complications	6-9	10-13	14-18
Side effects	7-11	12-16	17-21
Nursing care	10-16	17-23	24-30

Cut of point of attitude

Items	Negative	Neutral	Positive
Attitude	15-34	35-54	55-75

Validation of the instrument progressed panel of expert, who provided some comments on the tool. The researcher presented the questionnaire to (6) experts who were specialized in nursing and paediatric. Their comments were considered by the researcher and modified the questionnaire accordingly. The reliability was tested using Guttman split-half coefficients to ascertain the reliability and consistency of the survey.

Guttman split-half for the survey instrument was 0.89 respectively, indicating an acceptable level of reliability and consistency. The data were analysed using Statistical Package for Social Sciences (SPSS) software version 23; the purpose of this analysis was to answer the research questions. Descriptive statistics has been conducted to answer all questions. Frequency and Percentage of good/ fair/ poor

were computed, and Inferential was utilized Pearson correlation to answer the questions related to the relationship between knowledge/attitude score of Neonatal hyperbilirubinemia and selected demographic data in Duhok governorate.

RESULTS

The table (1) showed that the respondents consisted of 166 Nurses' working in the governmental hospitals in Duhok city. The Majority of nurses 75 (45.2%) were working in Hevi paediatric teaching hospital. The Majority of the participants were between 20-29 years 108

(65.1%) and more than half 84 (50.6%) were single and 108 (65.1%) were had no children. Most of the participants 105 (63.3%) held institution degree and 13.9% were university nurses. According to the total experience of respondents in the NICU and other departments, the results revealed that 94 (56.6%) of nurses did not have previous experiences in NICU and only 31.3% were <1-3 years of experience, and 39.8% were <1-3 years of experiences in other department. Up to 115 (69.3%) of participants had no previous training about how to deal with Neonatal hyperbilirubinemia and most of them 116 (69.9%) lived in the city.

Table (1): Distribution of socio-demographic data of Participants

Socio-demographic data		Frequency	Percent
Age	20-29	108	65.1
	30-39	36	21.7
	40-More	22	13.3
Residence	Urban	116	69.9
	Rural	50	30.1
Educational level	High school	38	22.9
	Institution	105	63.3
	University	23	13.9
Years of experience in NICU	No experience	94	56.6
	<1-3 Years	52	31.3
	>3-6 Years	11	6.6
	>6-9 Years	2	1.2
	>9-More	7	4.2
Years of experience in other department	No experience	23	13.9
	<1-3 Years	66	39.8
	>3-6 Years	37	22.3
	>6-9 Years	16	9.6
	>9-More	24	14.5
Training course	No	115	69.3
	Yes	51	30.7
Marital status	Single	84	50.6
	Married	82	49.4
If married and have a children	No	108	65.1
	Yes	58	34.9

Table (2): Mean and standard deviation of socio-demographic data

	Age of Nurses'	Years of experience in NICU	Years of experience in other department
Mean	29.11	1.4012	5.1127
Std. Deviation	7.345	3.46452	6.47816

Table (3): Knowledge related to Concepts of hyperbilirubinemia and definition of phototherapy

	Frequency	Percent
Poor Knowledge	3	1.8
Fair Knowledge	98	59.0
Good Knowledge	65	39.2
Total	166	100.0

Table (4): Knowledge related to Causes of hyperbilirubinemia

	Frequency	Percent
Poor Knowledge	27	16.3
Fair Knowledge	78	47.0
Good Knowledge	61	36.7
Total	166	100.0

Table (5): Knowledge regarding clinical manifestations of hyperbilirubinemia

	Frequency	Percent
Poor Knowledge	1	.6
Fair Knowledge	1	.6
Good Knowledge	164	98.8
Total	166	100.0

Table (6): Knowledge related Investigations of hyperbilirubinemia

	Frequency	Percent
Poor Knowledge	2	1.2
Fair Knowledge	27	16.3
Good Knowledge	137	82.5
Total	166	100.0

Table (7): Knowledge related to Intervention of Bilirubin level (phototherapy) and Steps of management

	Frequency	Percent
Poor Knowledge	4	2.4
Fair Knowledge	125	75.3
Good Knowledge	37	22.3
Total	166	100.0

Table (8): Knowledge related to complications of hyperbilirubinemia

	Frequency	Percent
Poor Knowledge	21	12.7
Fair Knowledge	67	40.4
Good Knowledge	78	47.0
Total	166	100.0

Table (9): Knowledge of Nurses related to side effects of phototherapy

	Frequency	Percent
Poor Knowledge	6	3.6
Fair Knowledge	106	63.9
Good Knowledge	54	32.5
Total	166	100.0

Table (10): Knowledge related to nursing care for neonate receiving phototherapy

	Frequency	Percent
Fair Knowledge	7	4.2
Good Knowledge	159	95.8
Total	166	100.0

Table (11): Total attitude of nurses' toward Jaundice

	Frequency	Percent
Negative attitude	0	0
Neutral attitude	145	87.3
Positive attitude	21	12.7
Total	166	100.0

Table (12): Mean score and SD of Knowledge and attitude

Items	Mean	Standard deviation
Concepts of hyperbilirubinemia and definition of phototherapy	22.78	2.706
Causes of hyperbilirubinemia	15.11	3.038
Clinical manifestations of hyperbilirubinemia	8.79	.695
Investigations required for diagnosis of hyperbilirubinemia	10.64	1.592
Intervention of Bilirubin level and steps of management	12.11	1.566
Complications of hyperbilirubinemia	12.89	2.535
Side effects of phototherapy	15.34	1.971
Nursing care for neonate receiving phototherapy	28.51	1.990
Attitude level towards neonatal hyperbilirubinemia	48.58	5.047

Table (13): The relationship between knowledge and socio-demographic data

	Concept & Definition	Causes	Clinical Manifestations	Investigations	Interventions & Steps	
Age of Nurses'	Pearson Correlation	.253**	.029	-.014-	.189	.095
	Sig. (2-tailed)	.001	.708	.855	.015	.225
Residence	Pearson Correlation	-.118-	.049	.029	.031	.002
	Sig. (2-tailed)	.131	.532	.708	.690	.976
Location of hospital	Pearson Correlation	-.030-	.112	.024	-.121-	.066
	Sig. (2-tailed)	.701	.151	.759	.119	.396
Educational level	Pearson Correlation	-.150-	.029	-.002-	-.091-	-.060-
	Sig. (2-tailed)	.054	.711	.976	.245	.445

Years of experience in NICU	Pearson Correlation	.094	.081	.045	.100	.050
	Sig. (2-tailed)	.226	.298	.565	.201	.523
Years of experience in other department	Pearson Correlation	.251**	-.081-	-.015-	.160*	.150
	Sig. (2-tailed)	.001	.299	.849	.039	.053
Training course	Pearson Correlation	-.005-	-.081-	.014	.009	-.024-
	Sig. (2-tailed)	.954	.298	.856	.906	.762
Marital status	Pearson Correlation	.102	.034	.075	.153*	.097
	Sig. (2-tailed)	.192	.661	.339	.049	.212
If married have children	Pearson Correlation	.064	.039	.022	.164*	.068
	Sig. (2-tailed)	.416	.617	.774	.035	.386

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

*Correlation is significant at the 0.05 level (2-tailed)

Table (14): The relationship between knowledge and socio-demographic data (Continued)

		Complication	Side Effects	Nursing Care	Attitude
Age of Nurses'	Pearson Correlation	.325**	-.128-	.128	.016
	Sig. (2-tailed)	.000	.100	.101	.834
Residence	Pearson Correlation	-.091-	-.039-	-.240**	-.117-
	Sig. (2-tailed)	.242	.616	.002	.133
Location of hospital	Pearson Correlation	.020	.265**	.226**	-.201**
	Sig. (2-tailed)	.802	.001	.003	.009
Educational level	Pearson Correlation	-.245**	.200**	-.053-	.063
	Sig. (2-tailed)	.001	.010	.500	.418
Years of experience in NICU	Pearson Correlation	.115	.256**	.195*	.125
	Sig. (2-tailed)	.139	.001	.012	.108
Years of experience in other department	Pearson Correlation	.269**	-.152-	.038	-.020-
	Sig. (2-tailed)	.000	.051	.626	.800
Training course	Pearson Correlation	-.013-	.078	-.051-	.167*
	Sig. (2-tailed)	.870	.316	.511	.031
Marital status	Pearson Correlation	.243**	-.004-	.118	-.023-
	Sig. (2-tailed)	.002	.959	.129	.773
If married have children	Pearson Correlation	.196*	-.016-	.125	-.039-
	Sig. (2-tailed)	.011	.833	.108	.618

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

*Correlation is significant at the 0.05 level (2-tailed)

DISCUSSION

bases on the present study, most of the participants' ages were between 20- 29 years old with mean 29.11 ± 7.345 years. The results were in the same line with (Issa *et al.*, 2018) who stated that; most of the study participants reported having age ranged from 20 - 29 years, The current study finding disagreed with (Alemu *et al.*, 2011) who mentioned that; more than half 47(52.7%) of the nurses were 25 to 34 years old. In the present study most of them live in the city

and more than half were single and did not have children. The current study finding disagreed with (Ahmed & Hani, 2017) who stated that most of them live in the rural and more than third (75.6%) were married and had children.

As regard years of experience, more than half had short experiences in the neonatal intensive care unit with a mean duration of 1.4 ± 3.4 years and 39.8% had experienced less than 1-3 years in other department. The current study finding disagreed with (Fayoumi, 2018) who mentioned that in relation to their years of experience in

neonatal intensive care unit and another department the result reveals that the most of nurses had between 1-5 years of experiences.

In the current study, the highest percentage of the nurses held diploma degree in nursing which disagrees with (Khudhair, 2018) who observed that 48 (48%) of nurses had high school degree and with (Fayoumi, 2018) who stated that high percentage of nurses in the study held bachelor degree in nursing. Furthermore, the study argued that a high percentage of participants did not have previous training course regarding neonatal hyperbilirubinemia. This finding is consistent with (Ashor *et al.*, 2016) who mentioned that more than ninety percent did not have previous attending course but disagrees with (Ahmed & Hani, 2017) who said that high percent of nurses had previous training course related to neonatal hyperbilirubinemia and (Fayoumi, 2018) who observed more than half had previous training course regarding neonatal hyperbilirubinemia.

The present study shows that nurses' knowledge about concepts of hyperbilirubinemia the majority of nurses had fair knowledge about hyperbilirubinemia, for example increased level of bilirubin in the blood. This finding is different from that of Ahmed & Hani (2017) who illustrated that 97.6% define hyperbilirubinemia as increase bilirubin level in the blood; likewise, half of the studied nurses gave correct responses when assessing their level of knowledge. Majority of nurses had good knowledge about definitions of hyperbilirubinemia.

There is also a significant relationship between knowledge and educational level. Most nurses held an institution degree 105 (63.3%). Consequently, it was expected that their knowledge level has to be better compared to those who had high school degree. This may indicate that level of education is another factor that affected nurses' knowledge. Conversely, the results of Fayoumi (2018) stated that educational level did not have any relationship with nurses knowledge.

What is more, the relation between socio-demographic data and nurses' attitude regarding neonatal hyperbilirubinemia reveals that only location of hospital and training course have statistically significant relationships with attitude. This finding is contradicted with Fayoumi (2018) who showed that there was no significant relation between demographic data and nurses' attitude.

The current study showed that, nurses' knowledge about neonatal hyperbilirubinemia generally was fair to good. And also neutral attitude regarding neonatal jaundice.

CONCLUSIONS

According to the results of the study the researcher concluded that most of the nurses have fair level of knowledge toward concepts, causes, and side effects of phototherapy, intervention of bilirubin level (phototherapy) and steps of management. So most nurses have good knowledge regarding clinical manifestations, complications, Investigations required for diagnosis of hyperbilirubinemia, and nursing care for neonate receiving phototherapy. Moreover, demographic factors significantly affect the knowledge and attitude of nurses, and most nurses held neutral attitude toward neonatal hyperbilirubinemia.

REFERENCES

- Adebami OJ (2015). Assessment of knowledge on causes and care of neonatal jaundice at the Nigerian primary and secondary health institutions. *International Journal of Research in Medical Sciences*. 3(10): 2605-2612.
DOI: 10.18203/2320-6012.ijrms20150799
- Ahmed M & Hani M (2017). Assessment of Nurse's Knowledge and Practice Working in District Hospitals at Minia Governorate about Neonatal Hyperbilirubinemia. *IOSR Journal of Nursing and Health Science*. 6(2):09-16.
DOI: 10.9790/1959-0602080916
- Alemu S, Berhe DF, Palani S & Joseph NM (2011). Knowledge, attitude and perception towards jaundice among ayder referral hospital health workers. *International research journal of pharmacy*. 2 (12), 191-195. Available from: <https://pdfs.semanticscholar.org/847c/82ddf9e772c9142ee66852e500877807587f.pdf>
- Ashor GM, Khalifa MI, El-Gendy FM & Younis JR (2016) . Effect of a Designed Nursing Care Protocol on Clinical Outcomes of Neonates with Hyperbilirubinemia. *International Journal of Novel Research in Healthcare and Nursing*. 3(3): pp: (62-76). Available from: www.noveltyjournals.com
- Begum NA & Afroze S (2018). An Overview of Neonatal Unconjugated Hyperbilirubinemia and Its Management. *Bangladesh Journal of*

- Child Health.* 42(1), pp.30-37.
DOI.org/10.3329/bjch.v42i1.37048
- Bhutani VK, Maisels MJ, Stark AR & Buonocore G (2008). Management of jaundice and prevention of severe neonatal hyperbilirubinemia in infants \geq 35 weeks' gestation. *Neonatology.* 94(1): 63-67.
DOI.org/10.1159/000113463
- Bhutani VK, Zipursky A, Blencowe H, Khanna R, Sgro M, Ebbesen F, *et al* (2013). Neonatal hyperbilirubinemia and Rhesus disease of the newborn: incidence and impairment estimates for 2010 at regional and global levels. *Pediatric research.* 74(S1), p.86.
DOI.org/10.1038/pr.2013.208
- Burke BL, Robbins JM, Mac Bird T, Hobbs CA, Nesmith C & Tilford JM (2009). Trends in hospitalizations for neonatal jaundice and kernicterus in the United States 1988–2005. *Pediatrics.* 123(2): 524-532.
- Christensen RD & Yaish HM (2015). Hemolytic disorders causing severe neonatal hyperbilirubinemia. *Clinics in perinatology.* 42(3):515-527.
DOI: 10.1016/j.clp.2015.04.007
- Duan ZJ, Li LL, Ju J, Gao ZH & He GH (2006). Treatment of hyperbilirubinemia with blood purification in China. *World journal of gastroenterology: WJG.* 12(46): 7467.
DOI: 10.3748/wjg.v12.i46.7467
- Fayoumi S (2018). Neonatal Jaundice Knowledge, Attitude and Practice among Nurses Working in Neonatal Intensive Care Units and Pediatric Wards. *Deanship of Graduate Studies Al-Quds University.* 26(18): 1-108.
- Field E, Horst HM, Rubinfeld IS, Copeland CF, Waheed U, Jordan J, *et al* (2008). Hyperbilirubinemia: a risk factor for infection in the surgical intensive care unit. *The American Journal of Surgery.* 195(3): 304-307.
DOI.org/10.1016/j.amjsurg.2007.12.010
- Hussein HS & Aziz AR (2016). Assessment of Mothers' Knowledge and Beliefs toward Care of Neonatal Jaundice in Pediatric Teaching Hospital in Holy Karbala City. *International Journal of Scientific and Research Publications.* 6(9): 2250-3153.
- Issa SS, Madwah KJA & Al Mosawi HS (2018). Evaluation of Nurse's Knowledge in Management of Premature Baby in Neonatal Units. *American Journal of Nursing.* 6(5), pp.291-295.
DOI: 10.12691/ajnr-6-5-10
- Karale MR, Mohite VR, Patil MS, Kadam MS & Karale MB (2018). A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge and Practice Regarding Phototherapy Application among 3 rd year RGNM Nursing Students at School of Nursing, Krishna Hospital, Karad. *International Journal of Health Sciences & Research (www.ijhsr.org).* 8(9): 148-153.
- Khudhair AS (2018). Assessment of Nurses Knowledge Regarding Jaundice in Basra Hospitals. *Int.J.Curr.Microbiol.App.Sci.* 7(09): 2248-2254.
DOI.org/10.20546/ijcmas.2018.709.278
- Mojtahedi SY, Izadi A, Seirafi G, Khedmat L & Tavakolizadeh R (2018) . Risk Factors Associated with Neonatal Jaundice: A Cross-Sectional Study from Iran. *Open access Macedonian journal of medical sciences.* 6(8): 1387.
DOI: 10.3889/oamjms.2018.319
- Pathirana J, Munoz FM, Abbing-Karahagopian V, Bhat N, Harris T, Kapoor A, *et al* (2016). Neonatal death: Case definition & guidelines for data collection, analysis, and presentation of immunization safety data. *Vaccine.* 34(49): 6027-6037.
DOI:10.1016/j.vaccine.2016.03.040
- Shaked O & Peña BM (2012). Evaluation of jaundice caused by unconjugated hyperbilirubinemia in children. *UpToDate.* Waltham, MA: *UpToDate.* Available from: <https://www.uptodate.com/contents/evaluation-of-jaundice-caused-by-unconjugated-hyperbilirubinemia-in-children>.
- Watchko JF (2009). Identification of neonates at risk for hazardous hyperbilirubinemia: emerging clinical insights. *Paediatric Clinics.* 56(3):671-687.
DOI: <https://doi.org/10.1016/j.pcl.2009.04.005>
- Watson RL (2009). Hyperbilirubinemia. *Critical care nursing clinics of North America.* 21(1):97-120. DOI.org/10.1016/j.ccell.2008.11.001
- Wolff M, Schinasi DA, Lavelle J, Boorstein N & Zorc JJ (2012). Management of neonates with hyperbilirubinemia: improving timeliness of care using a clinical pathway. *Pediatrics-English Edition.* 130(6): 1688.
DOI:10.1542/peds.2012-1156

الخلاصة

الخلفية والأهداف: ان فرط بيليروبين الدم عند المولود هو الحالة الطبية الأكثر شيوعاً عند الاطفال حديثي الولادة. يُصاب حوالي ٦٠% من الاطفال الناضجين و ٨٠% من الخدج باليرقان خلال الأسبوع الأول من العمر. تهدف الدراسة الى تقييم المعرفة وموقف الممرضات من فرط بيليروبين الدم وذلك لمعرفة ما إذا كانت هناك أية علاقة بين معرفة الممرضات وموقفهن من البيانات الاجتماعية والديموغرافية.

المواضيع والطرق: أُجريت دراسة وصفية مستعرضة باستخدام عينة ملائمة لجميع الممرضات (ن = ١٦٦) من العاملات اللاتي تعملن في وحدات العناية المركزة لحديثي الولادة والاقسام الأخرى في سبعة مستشفيات حكومية في محافظة دهوك في فترة ثلاثة أشهر ابتداءً من ١ مايس حتى ١ آب ٢٠١٩.

النتائج: كشفت الدراسة أن غالبية الممرضات كانت لديهنّ معرفة مقبولة حول مفاهيم وتعريف العلاج بالضوء ٩٨ (٥٩%) ، والأسباب ٧٨ (٤٧%) ، والتدخل في مستوى البيليروبين وخطوات العلاج ١٢٥ (٧٥,٣%) ، والآثار الجانبية ١٠٦ (٦٣,٩). عليه تبين ان معظم الممرضات كنّ ذا معرفة جيدة فيما يتعلق بالمظاهر السريرية ١٦٤ (٩٨,٨%) ، الفحوصات ١٣٧ (٨٢,٥%) ، المضاعفات ٧٨ (٤٧,٠%) والرعاية التمريضية ١٥٩ (٩٥,٨%).

كما وجد أن هناك علاقة كبيرة بين البيانات الديموغرافية ومعرفة الممرضات. كما وقد وجد أن هناك علاقة كبيرة بين البيانات الديموغرافية ومعرفة الممرضات. علاوة على ذلك ، فإن ١٤٥ (٨٧,٣%) من الممرضات وقفن موقفاً محايداً تجاه فرط بيليروبين الدم عند الاطفال حديثي الولادة. وأخيراً ، وجدت الدراسة وجود علاقة كبيرة بين موقف الممرضات والعوامل الديموغرافية.

الاستنتاجات: خلصت الدراسة إلى أن الممرضات لديهنّ معرفة كافية فيما يتعلق بالمفاهيم والأسباب وخطوات العلاج والآثار الجانبية للعلاج الضوئي ومعرفة جيدة فيما يتعلق بالمظاهر السريرية والتحقيقات والمضاعفات والرعاية التمريضية. علاوة على ذلك، اظهرت الممرضات موقفاً محايداً تجاه فرط بيليروبين الدم عند المولود.