

Awareness of Health Workers in Premature Units At Kirkuk City Hospitals Concerning Neonatal Jaundice

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Abstract

Objective: this study aimed to assess the awareness of the health workers in premature units regarding neonatal jaundice at Kirkuk city hospitals, as well as to find out the socio demographic characteristics of the study sample

Methodology: A descriptive study was carried out at premature units of Azadi Teaching Hospital, Kirkuk General Hospital and Pediatric Hospital of Kirkuk city, for a period from the 1st February and up to the 15th of May, 2019 and to achieve the objectives of the study. A non-probability (purposive) sample of (62) health workers working at premature unit were recruited. Developed questionnaire was constructed for the purpose of the study which consisted of two parts: the demographic characteristics; awareness part (knowledge and practices). The data were collected through the use of self-administered technique. They were analyzed through the application of descriptive statistical analysis (Frequency, Percentage % and mean score) data analysis.

Results: The findings of the study indicated that (45.2%) of the staff were from pediatric hospital. (40.3%) were graduated from Nursing Institute, (43.5%) had experience from 1<5 years and (74.2%) had participated in a training course mostly inside the country. The total grand mean score for the staff awareness (knowledge and practices) were adequate (1.73).

Conclusions and Recommendations: Assessment for the study sample awareness was adequate. Educational programs should be designed to increase the health workers awareness working at pediatric departments regarding management of neonatal jaundice especially those with less than 5 years' experience.

Keywords: Neonatal jaundice, hyperbilirubinemia, health workers, Kirkuk.

Introduction

Neonatal jaundice (NNJ) is the yellowish shading of the skin and sclera of babies because of expanded degree of bilirubin in the body. It is the most widely recognized neonatal issue requiring clinical assessment and the executives everywhere on over the world. Neonatal jaundice consider one of the most well-known discernible physical signs during neonatal period. ⁽¹⁾

The most cases of neonatal jaundice are physiological jaundice, which occurs in 36 hours after birth, and the baby usually in good condition and the total serum bilirubin will not be too high 12mg/dl in a

full term baby. ⁽²⁾

Physiological jaundice in newborn can be due to, massive erythrocyte destruction, decrease in conjugation rate and poor transformation of bilirubin. ⁽³⁾

The other type of neonatal jaundice is the pathological jaundice which occurs in the first 24 hours after birth and there will be rapid elevated of total serum bilirubin 5mg/dl/day. ⁽⁴⁾ The main causes for pathological jaundice, direct bilirubin is sepsis, congenital infections and liver diseases such as hepatitis and biliary atresia, while the indirect bilirubin is hemolytic disease and hypothyroidism. ⁽¹⁾

The early identification of newborns who are at a greater risk of enhancing severe neonatal hyperbilirubinemia is of paramount importance to preventing damage of brain. ⁽⁵⁾ In any case, bilirubin is venomous to synapses. In the event that infant be experiencing intense jaundice, there's a hazard of passing bilirubin to cerebrum, this condition is called extreme bilirubin encephalopathy.

Neonatal jaundice (NNJ) influences up to 84% of term infants and is the most inescapable reason for emergency clinic readmission in the neonatal stage. ⁽⁷⁾ In child, jaundice will in general create as a result of two factors, the breakdown of fetal hemoglobin and the moderately youthful hepatic metabolic way ways which can't form thus emission of bilirubin is as fast as a grown-up, this explanation an aggregation of bilirubin in the blood prompting the indication of jaundice. ⁽⁸⁾

The known risk factors for the occurrence of infant jaundice incorporate an ABO or Rh factor contradiction among mother and infant, a newborn child of a diabetic mother, premature liver functioning, Glucose 6 Phosphate dehydrogenase deficiencies and incorrect latch of newborn to breast during breastfeeding. ⁽⁹⁾

According to a report by Global Burden of Disease GBD in 2016, insufficiency of offices for fast, routine bilirubin assurance or imperfect irradiance ($<8-10 \mu\text{W}/\text{cm}^2/\text{nm}$) from ineffectively kept up phototherapy apparatuses are levels of deferral for powerful mediation that bring about higher midpoints of avoidable and conceivably destructive trade bonding likewise bilirubin instigated mortality in creating nations. It likewise watches home conveyances do assume a part in late location and treatment of neonatal jaundice. ⁽¹⁰⁾ It is known United Nations Children's Fund (UNICEF) intents to decrease in death rates occurring at neonatal age, Global Burden of Disease (GBD) indicates that first trial to estimate the burden of severe NNJ assessed to influence 481,000 late-preterm and term children yearly, with 114, 000 biting the dust and $>63, 000$ getting by with moderate or extreme long-haul neurologic weaknesses. ^(10, 11) That's why we need to further research and interventions to put the alarming problem under monitoring.

This investigation was directed to distinguish the information and practices of the nursing staff who are

working in the premature unit in three hospitals in Kirkuk city regarding the neonatal jaundice.

Methodology

Design and setting of the Study: An engaging report was done from February, 1st, 2019 to May, 15th, 2019 so as to accomplish the targets of the current examination. The examination was directed in untimely units of three medical clinics (Pediatric Hospital, Azadi Teaching Hospital and Kirkuk General Hospital) in Kirkuk city.

Test of the examination: Non - Probability inspecting approach (purposive example) comprises of 62 health workers working at premature units of the three hospitals.

Inclusion Criteria: Only health workers who were working at premature units of the three hospitals.

Instrument Construction: For the purpose of the present study, a questionnaire format was constructed to assess the health workers awareness (knowledge and practices) regarding neonatal jaundice. The poll design depended on the audit of writing and related past investigations. Formal consent was obtained from the nursing staff who agreed to participate in the study, the questionnaire was self-administer and took 10-15 minutes to be complete. The investigation instrument included three sections, which was comprised of the accompanying factors: The investigation instrument included three sections, which was comprised of the accompanying factors:

1. Part One/Socio-segment qualities: which includes: Type of hospital, Sex, Educational level, marital status, residence, Socio-economic status, years of experience in premature unit, participation in a training course, period of the training course and the place of the training.

2. Part Two/ Assessment of awareness (knowledge part): Include 15 items regarding knowledge of the sample. It has been consist of two scales as two (2) for "Yes" and one (1) for "No".

3. Part Three/ Assessment of awareness (practice part): Include 7 items regarding practices of the study sample.

Legitimacy of the examination scale: To guarantee the legitimacy of the scale, technique and system were proposed to be done during the investigation. Nine specialists of various fortes identified with the field of the current investigation were picked to survey face and substance legitimacy. They were approached to audit the scale design for lucidity and ampleness so as to accomplish the current examination goals. Certain changes were utilized dependent on the specialists' proposals and recommendations.

Pilot study: The pilot study was completed for the period from February, 15th, 2019 to February, 30th, 2019. A pilot study was conducted before starting actual data collection, time need to complete each questionnaire and self-administered ranged approximately (10-15) minutes. Selected 4 staff from pediatric Hospital, 3 from Azadi Teaching hospital and 3 staff from Kirkuk general hospital. The sample of the pilot study were excluded from original sample of the study. The purpose from the pilot study was to recognize the obstructions that might be experienced during information assortment, gauge the time required for information assortment and to make certain of the precision of the scales.

Strategy for Data Collection: Data were gathered through self-administered technique, The examiner had exhibited targets and the centrality of examination and the advantage of the investigation to the member. Verbal consent obtained from premature unit nursing staff. Each nurse spends approximately (10-15min) to respond to the questionnaire.

Period of Information Collection: Data assortment has been directed during a time of two months stretching out from February 15th, 2019 to April 15th, 2019.

Statistical analysis: Data were analyzed in several steps. First, descriptive statistics, which includes frequency and percentages, and Mean score. Data were arranged, composed and went into the PC record; Statistical Package for Social Science (SPSS) (20 rendition) is utilized for information examination at (P. esteem ≤ 0.05). Information were analyzed through the application of two approaches:

Descriptive statistical data analysis: This approach is employed through:

- Frequency distribution
- Percentage (%)
- $$\% \equiv \frac{\text{Frequencies}}{\text{sample size}} \times 100$$
- Mean of Scores

This calculation is applied for the assurance of thing's centrality of the evaluation apparatus comparative with every angle. Cut-off points are used for this determination low-significant, moderate significant, and highly significant.

$$M . S = \frac{f_1 \times \text{score}_1}{n_1} + \frac{f_2 \times \text{score}_2}{n_2}$$

It is computed as follows:

M.S = Mean of score

f = Frequency

n = Number of cases

So the cutoff point was calculated according to the following formula

$$\text{Cut of point} = \frac{1+2}{2} + \frac{3}{2} = 1.5$$

A mean of score of (1- less than 1.5) was considerate inadequate and from (1.5 - 2) was considerate adequate

Rating and scoring of the scale: The mindfulness (information and practices) poll things were appraised and scored to things as, (2) for Yes, and (1) for No. Data of the study were ordinal according to two levels scale of (Yes, No) which were scored as (2, 1) for each level respectively.

Ethical approval: Ethical approval were obtained from Kirkuk Directorate of Health as well as from the moral council in the school of nursing, Kirkuk University.

Results

The present study sample were distributed to the three hospitals as follows, (45.2%) of them were from Pediatric Hospital, (32.3%) were from Kirkuk General

Hospital, while (22.6%) of the participants were from Azadi Teaching Hospital. (figure 1)

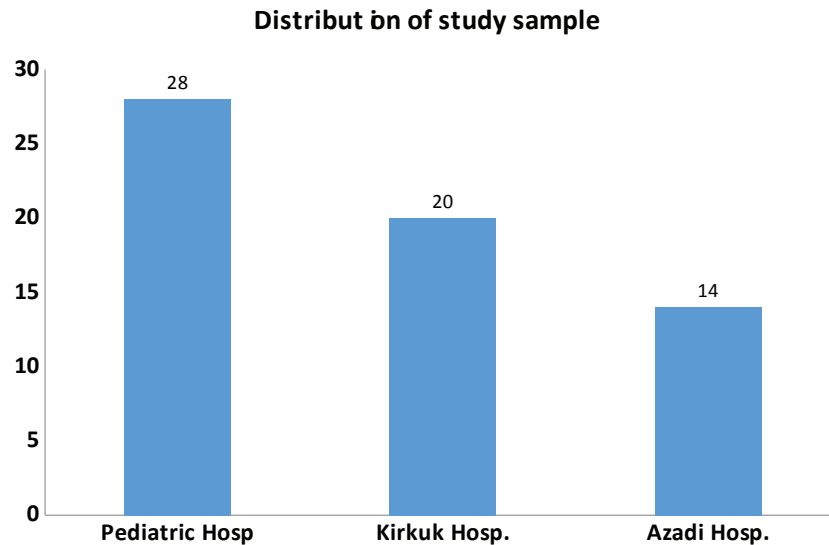


Figure 1: Distribution of the study sample

Regarding to sex, (79%) of the participants were female, while only (21%) were male, according to the educational level (40.3%) of the participants were graduated from nursing institute, while (11.3%) of them had graduated from nursing college.

According to marital status, (50%) of study sample were married, while (6.5%) were divorced and widow. While to residence, (82.3%) were from urban and (17.7%) were from rural. socio –economic status, (58.1%) had barely sufficient economic status and (27.4%) had sufficient economic status.

Regarding to years of experience in pre mature unit (43.5%) of participants had (1<5) years' experience, while (1.6%) of them had (15<10) years of experience, while according to participation in a training course (74.2%) of them answered yes, while (25,8%) answered No, and those who participate in a training course less than one week were (46.8%), while (24.2%) had from (1week-<11month) training course, and (71%) of these training courses were inside Iraq.

Table 1: Shows the knowledge of the study sample regarding neonatal jaundice

NO.	Knowledge part	YES		NO		MS	S
		f	%	f	%		
1	Jaundice is increasing of bilirubin in the Blood	61	98.4	1	1.6	1.9	Adequate
2	Bilirubin is pigmentation consist due to breaki ng of RBC	55	88.7	7	11.3	1.8	Adequate
3	Neonatal jaundice is common in neonate and disappear without complication	39	62.9	23	37.1	1.6	Adequate
4	There are 2 types of jaundice, physiological and pathological	55	88.7	7	11.3	1.8	Adequate
5	Neonatal jaundice occurs mostly in first week of life	55	88.7	7	11.3	1.8	Adequate
6	Neonatal jaundice occurs between 3rd and 4th day in full term babies	49	79.0	13	21.0	1.7	Adequate

7	physiological jaundice occurs due to increase in Unconjugated bilirubin	39	62.9	23	37.1	1.6	Adequate
8	Pathologic jaundice appears due to increase destruction of RBC	53	85.5	9	14.5	1.8	Adequate
9	Neonatal jaundice appears due to Rh Incompatibility	43	69.4	19	30.6	1.6	Adequate
10	G6PD can be one cause of Neonatal jaundice	44	71.0	18	29.0	1.7	Adequate
11	Blood diseases can be a cause for Neonatal jaundice	46	74.2	16	25.8	1.7	Adequate
12	Birth defects and infection can be a cause for Neonatal jaundice	47	75.8	15	24.2	1.7	Adequate
13	Increasing of bilirubin can cause Kernicterus	42	67.7	20	32.3	1.6	Adequate
14	Severe jaundice can cause convulsion	51	82.3	11	17.7	1.8	Adequate
15	Severe jaundice can be fatal	48	77.4	14	22.6	1.7	Adequate
GMS	1.72						

Table (1) shows the general knowledge of the study sample regarding neonatal jaundice. The result found adequate knowledge for the nursing staff regarding neonatal jaundice and the grand mean score for knowledge part was (1.72).

Table 3: shows the practice of the study sample regarding neonatal jaundice

NO.		YES		NO		MS	S
		f	%	f	%		
1	Most of neonatal jaundice does not need treatment	27	43.5	35	56.5	1.4	Inadequate
2	Follow the baby without admission	26	41.9	36	58.1	1.4	Inadequate
3	Total serum bilirubin test to find bilirubin level	56	90.3	6	9.7	1.9	Adequate
4	Increase breast feeding or find displaced milk	56	90.3	6	9.7	1.9	Adequate
5	Phototherapy for treatment	57	91.9	5	8.1	1.9	Adequate
6	Severe jaundice need blood Exchange	57	91.9	5	8.1	1.9	Adequate
7	Giving some medication such as Phenobarbital to decrease bilirubin	50	80.6	12	19.4	1.8	Adequate
GMS	1.74						

Table (2) shows the participants practice regarding neonatal jaundice. The result found adequate practice of the nursing staff regarding neonatal jaundice, except in item (1) which was “Most of N jaundice does not need

treatment” and item (2) which was “Follow the baby without admission” were inadequate (MS: 1.4). The total grand mean score for the practice part was (1.74).

Table 3: shows the total grand mean score for the study sample awareness

Assessment	GSM
Knowledge	1.72
Practice	1.74
Total	1.73

While table 3 shows the total GMS for the study sample knowledge and practices, the result found that the knowledge and practices of our study sample were adequate.

Discussion

The finding of the current examination showed that most of the investigation test (79.0%) was female. The current study is in agreement with a study by Khudhair S, (2016) ⁽¹²⁾ of effectiveness of health educational program upon nurses practices toward care of newborn regarding neonatal jaundice, which found that the majority of the study sample were female, and this can be explained as the majority of females had cozy toward care baby so they like to work in pediatric medical clinics. Moreover, most of the sample graduated from the institute of nursing. Our result was in agreement with a study by Khudhair S, (2016) ⁽¹²⁾ who referenced that the majority of the investigation test were moved on from the clinical foundation in his examination about adequacy an instructive program upon medical attendants rehearses toward care of infant with respect to neonatal jaundice. In the current investigation around two third of health workers live in metropolitan zone and half of the nurses were married, while (37.1%) of them were single. The results were in the same line with Ahmed et al (2017) ⁽¹³⁾ who observed that most of them were married. Comparable to the attendants' long stretches of encounters in the neonatal emergency unit more noteworthy level of them had 1<5 years' understanding and accounted (43.5%) while only (1.6%), (6.5%) of them had experience from 15 to more than 20 years. Regarding to participation in a training courses, around three quarters of the sample have involved in a training

course of being less than one-week period the majority (46.8%) and most of the training courses was inside the country. This finding is upheld by Watson(2011)(14) who referenced that all members the length of administration extended from 1 to 5 years. The result by Khudhair S, (2016) ⁽¹¹⁾ also is disagree with the current study as the medical attendants' long stretches of encounters in the neonatal emergency unit more prominent level of them had 12-16 years' understanding and accounted (36.7%) and (40.0%) of them had over 17 years of encounters in nursing. The attendant assumes fundamental function to guarantee the norm of care for all babies so as to restrain intense bilirubin encephalopathy and kernicterus and the medical caretakers should fill in as a crew to guarantee that all newborn children are screened for of danger raised bilirubin levels (hyperbilirubinemia) preceding clearing from the emergency clinic. Awhonn S.et.al. (2009) ⁽¹⁵⁾. As regard to the knowledge of the health workers in premature unit of the three hospitals, the current study found that the assessment for the participant's knowledge regarding neonatal jaundice was adequate knowledge for all items with grand mean score (1:72). This result was in agreement with the result of Adebami, (2015) ⁽¹⁶⁾ who found that there was significantly better understanding of neonatal jaundice causes such as blood group incompatibility, G6PD deficiency, low birth weight and infection among optional medical services laborers than essential consideration laborers (p < 0.007). Similarly, secondary health care workers were

better informed on appropriate approach to management of neonatal jaundice like the need for referral, laboratory tests to determine the causes and severity, possible treatment options like phototherapy and /or exchange blood transfusion when severe ($p=0.000$). Regarding the health workers practices in premature unit of three hospitals, the result showed that the participants practice were adequate, except in item (1) which was “Most of neonatal jaundice does not need treatment” and item (2) which was “Follow the baby without admission” were inadequate (MS: 1.4) respectively. The total grand mean score for the practice part was (1.74). A study by Abai G. et al.(2011) ⁽¹⁷⁾ has found that intercessions taken assisted with advancing the information and practice of prescribed measures to unveil neonatal jaundice early. More grounded accentuation must be put on utilizing the new revealing strategies and new nursing sheets. Offices of vehicles for all bustling maternal and kid wellbeing centers for home nursing consideration is enthusiastically suggested.

Conclusions and Recommendations: Assessment for the study sample awareness was adequate. Educational programs should be designed to increase the health workers awareness working at pediatric departments regarding management of neonatal jaundice especially those with less than 5 years’ experience.

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

Conflict of Interest: The authors declare that they have no conflict of interest.

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