Knowledge regarding neonatal jaundice among a sample of mothers attending some Primary Health Care centers /Baghdad

Maral F Thabit (FICMS, FM)[1]

Abstract

Background: Neonatal jaundice is most common condition requiring medical evaluation in a newborn and it is yellowish discoloration of the white part of the eyes and skin in a newborn baby due to high bilirubin levels.

Objective: To assess the knowledge regarding neonatal jaundice in a sample of mothers attending some Primary Health Care centers, Baghdad.

Patients and Methods: A cross-sectional study was conducted including 265 mothers attending some primary health care centers in Baghdad during November and December 2016. They were subjected to previously structured questionnaire covering many aspects of neonatal jaundice distributed in 3 main domains and the mother's responses were gathered and then statistically analysed by frequency, percentages and percent score for each question responses and domain and the overall knowledge mean score.

Results: Family and relatives were the main source of information 39.7% and the results revealed that the mean percent score for knowledge responses was 74% for definition of jaundice, 68% for complications of jaundice and 71% for ways of treatment.The mean overall percent score for knowledge was 71%.

Conclusion: Good mean overall knowledge level regarding neonatal jaundice among study group.

Keywords: Mothers ,Neonatal jaundice ,Knowledge

Corresponding Author: maral.fthabit@yahoo.com

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[1] Institute of Medical Technology-Baghdad - Iraq.

Introduction

Neonatal jaundice referred to as neonatal hyperbilirubineia and physiological jaundice of the newborn is a yellow discoloration of the skin and the white part (the sclera) of the eyes[1] Neonatal jaundice is one of the most common and important conditions during the neonatal period [2, 3]. Neonatal jaundice is still a leading cause of preventable brain damage, physical and mental handicap, and early death among infants in many communities [3] It is also a significant cause of neonatal morbidity world-wide and is estimated to be present in 60% of term neonates and 80% of preterm babies[1,4].

Physiologic jaundice in newborns most commonly occurs because their livers are not mature enough to remove bilirubin from the blood[5]. Bilirubin formed when the body breaks down old red blood cells. A normal increase in red blood cell breakdown and the fact that their immature livers are not efficient at removing bilirubin from the bloodstream [5], this type of bilirubin is called unconjugated or indirect bilirubin [6].This form of bilirubin is not easily removed from the baby's body. The baby's liver changes this unconjugated bilirubin into conjugated or direct bilirubin, which is easier to excrete [6]. The liver of a newborn baby is immature, so the job of conjugating and removing bilirubin is not done completely well, this causes elevation of bilirubin [5] when jaundice is due to these factors alone, it is termed physiologic jaundice. Neonatal jaundice can be seen in cases of maternal-fetal blood type incompatibility. The mother's body will actually produce antibodies that attack the fetus's blood cells[6]. Nowadays, newborns are discharged early from hospitals, therefore mothers play an important role to recognize jaundice and control it properly [7]. Aim of study to assess level of knowledge of mothers regarding neonatal jaundice attending some primary health care centers, Baghdad.

Patients and Methods

A cross sectional descriptive study included (265) mothers attending some primary health care centers, Baghdad during November and December 2016.

They were selected randomly by simple random sampling technique and invited to participate after clarifying the purpose behind the study, assuring high confidentiality and willing participants gave verbal consents and they completed a comprehensive previously prepared self-structured questionnaire in designated areas of health centers.

The questionnaire consists of socio-demographic characteristics and different questions covering the knowledge regarding neonatal jaundice.

Statistical analysis

Statistical analysis was done by(frequency and percentages) for each question responses and a score of [3] was given for each yes answer , [2] for answering don't know and [1]for answering (No). The percent score for mothers' responses in each specific item was calculated according to the following equation: Total scores for all participants in the item X 100 / maximum possible score for all participants in the same item. Where total scores for all participants in the item= [(No. of no x 1) + (No. of don't know x 2) + (No. of yes x 3)]. And maximum possible scores for all participants in the same item=[No. of total mothers x 3], based on Triple Likert Scale and also overall percent score was calculated for each domain (mean percent score for all responses for each domain) and after approximation, the percent score categorized as students who had score less than 60% considered as poor, 60% to 69% as fair, while those with 70% to 79% were considered as good and 80% to89% as very good[8].

Results

The total number of included mothers was (265). The highest percentage 43.8% in the age group 20-29years ,34.7% were house wives , 34.7% with secondary level of education , 69.4% delivered by normal vaginal delivery ,38.8% had positive previous babies with history of neonatal jaundice and 36.2% of mothers stated that skin in the site for jaundice detection as shown in Table (1).

Table (1): Distribution of mothers regarding socio-demographic characteristics and jaundice related characteristics (N=265).

Socio-tomographic and jaundice related characteristics	No.	%
Age of mothers(years)		
< 20	47	17.8
20-29	116	43.8
30-39	83	31.3
≥ 40	19	7.1
Mothers occupations		
Manual worker	46	17.3
Officer	88	33.2
House-wives	92	34.7
Private work	39	14.8
Education of mothers		
Can read and write	46	17.3
Primary	88	33.2
Secondary	92	34.7
College and more	39	14.8
Type of delivery of the last baby		
Normal vaginal delivery	184	69.4
Cesarean section	69	26
Others	12	4.6
Any previous history of neonatal jaundice		
Yes	103	38.8
No	162	61.2
Site for jaundice detection		
Skin	96	36.2
Eye	85	32.1
Face	78	29.5
Palms and feet	6	23.8

The main source of information regarding neonatal jaundice was family /relatives 39.7%, followed by health workers 30.6% as shown in Table (2).

Table (2): Distribution of mothers regarding source of information regarding neonatal jaundice (N=265).

Source of information	No	%
Health workers	81	30.6
TV/Radio	38	14.4
Family /relatives	105	39.7
Internet	43	16.3
Others	17	6.5

The correct knowledge responses of mothers regarding definition of neonatal jaundice was highest 66.7% and 57.7% with percent score 85%,78% regarding appearance of jaundice in the first day needs immediate medical consultation and jaundice is the yellowish coloration of face and eye of the newborn .The overall percent score for this domain was 74% as shown in Table (3).

Table (3): Knowledge of mothers regarding definition of neonatal jaundice (N=265).

Definition of neonatal jaundice	Yes		No		Don't know		Percent score
	No	%	No	%	No	%	
Jaundice is yellowish coloration of face and eyes of the newborn	153	57.7	61	23	51	19.3	78
It is a common problem in the newly born babies	86	32.4	42	15.9	137	51.7	72
Appearance of jaundice in the first day needs immediate medical consultation	177	66.7	35	13.3	53	20	85
It is normal to continue neonatal jaundice for 8 week	54	20.3	102	38.5	109	41.2	61
Jaundice necessitate many tests for mothers and neonatal	89	33.6	22	8.3	154	58.1	75

*Overall percent score = 74

The knowledge responses of mothers regarding complications of neonatal jaundice were disappointing. The highest correct percentage of responses 46.4% with percent score 76% regarding death followed by brain damage 42.2% with percent score 69%while the lowest percentage of correct responses 27.2% with percent score 61%for deafness .The overall percent score for this domain was 68% as shown in Table (4).

Table (4): Knowledge of mothers regarding complications of neonatal jaundice (N=265).

Complications of neonatal jaundice	Yes		No		Don't know		Percent score
	No	%	No	%	No	%	
Brain damage	112	42.2	91	34.4	62	23.4	69
Convulsions	97	36.6	86	32.4	82	31	68
Mental retardation	78	29.4	90	34	97	36.6	65
Deafness	72	27.2	116	43.8	77	29	61
Physical retardation	96	36.2	104	39.2	65	24.6	66
Death	123	46.4	48	18.2	94	35.4	76

*Overall percent score = 68

Knowledge responses regarding treatment of neonatal jaundice was highly correct regarding immediate doctor visit 68.3%with percent score 84% and exposure of the baby to fluorescent light 63% with percent score 81% although it was wrong perception , the lowest percentage of correct responses was 14% with percent score 61% regarding frequent wash of the baby . Overall percent score for this domain was 71% as shown in the Table (5).

Table (5): Knowledge of mothers regarding treatment of neonatal jaundice (N=265).

Treatment of neonatal jaundice	Yes		No		Don't know		Percent score
	No	%	No	%	No	%	
Immediate doctor visit	181	68.3	46	17.3	38	14.4	84
Exposure of the baby to sun	122	46	59	22.3	84	31.7	75
Continuation of breast feeding	75	28.3	68	25.7	122	46	68
Spontaneous recovery	96	36.2	141	53.3	28	10.5	61
Frequent wash of the baby	37	14	80	30.2	148	55.8	61
Exposure of the baby to fluorescent light	167	63	56	21.2	42	15.8	81
Photo therapy	98	37	66	25	101	38.2	70.7
Blood exchange in severe cases	87	32.8	68	25.7	110	41.5	69

*Overall percent score is 71%

The mean overall percent score for all three domains was 71%.

Discussion

Neonatal jaundice is one of the most common disorders world-wide. In time and proper management to reduce serious neurological complications depends on mother's knowledge and beliefs about neonatal jaundice. The highest percentage 43,8% of mothers were in the age group 20-29 years which is in agreement with the findings of a study done by(10) in a selected village of Puducherry (42%) , while it was lower 35.9% by a study [11)] in Provisional General hospital , Badulla [10,11]. It was surprisingly found that only 34.7% f the included mothers were only house wives, while it was much lower (79.5%, 83.05%) in Iran[9,12] and 73.2% of [11] in Badulla [9,11,12].

Regarding educational level , 34.7% of mothers were with secondary level of education compared to 12% of secondary education by [13] in Nigeria , while 48% of respondents of (10) educated up to primary level , and 13.5% of [9] in Iran had high school education [9,10,13].

The proportion of mothers with positive previous history of neonatal jaundice 38.8% , while the findings of [9,12] were 23% , 72.88% in Iran and 55.7% in Nigeria[13][9,12,13] The site of jaundice detection as stated by the included mothers were 36.2% for skin , 32.1% in eyes , 29.5% in face , 23.8% in palms and feet while the results of(14) in Malaysia skin 95.4% , eye 90.9%, palms and feet 56.2%[14]. The main source of information regarding neonatal jaundice was family /relatives 39.7% , followed by health workers 30.6% , while the results of [13] mothers in Gwaza local government area of Borno state,Nigeria was family 33.0% , friends 59.4% and medical personnel 5.7% ,while the findings of [9] revealed that two thirds of participants indicated antenatal clinic as a main source of information[9,13]. The knowledge responses of the included samples regarding the correct definition of jaundice which is the yellowish coloration of face and eyes of the newborn 57.7% which is lower than 90% by a previous study in Iraq [9] also 66.7% of the mothers stated that appearance of jaundice in the first day needs immediate medical consultation, this is because hyperbilirubinemia in the first 24 hours often result due to hemolytic disorder of the newborn [15,16] [9,15,16]. In the current study, 20.3% of mothers had misconception that is normal to continue jaundice for 8 weeks, while more than 60% of mothers of [9] affirmed jaundice lasting more than 2 weeks is not abnormal and 75% were not aware that neonatal jaundice of early onset was abnormal and needed urgent treatment [9]. The health implications of neonatal jaundice related to neurological effects of unconjugated hyperbilirubinemia as severely affected babies develop brain damage with attendant morbidity and or even mortality [4] and in this study 46.4% , 42.2% ,29.4% and 27.2% answered correctly regarding death , brain damage , mental retardation and deafness respectively.

The findings of a study[14] in Malaysia 66.2% of mothers stated death ,42.9% deafness , 51.3% mental retardation while the findings of another Malaysian study [17]) 71.7% and 69.7% of mothers answered that severe jaundice could result in death and brain damage [14,17]. A large population of [11] in Provincial general hospital, Badulla had stated5.4% for mental handicap .6.5% for neonatal death [11].

Treatment options as claimed by the mothers in the current study was highly correct 63.4% , 37% and 46% for phototherapy ,exchange blood transfusion and exposure of the newborn to sun which are lower than the findings of in selected village of Puducherry 93.9% ,45.5% for phototherapy, exchange blood transfusion[10] ,while Harrison et al [18] revealed that 36% of postpartum mothers

were in favor of using sun light to treat neonatal jaundice [10,18]. In Badulla[11] , 44% of mothers were aware of phototherapy as a standard treatment of neonatal jaundice , 14.1% were aware for exchange transfusion as a treatment for jaundice . A study conducted by [3] in Nigeria had also justified phototherapy and exchange transfusion remain the standard treatment of neonatal jaundice [11, 3].

Conclusions

The overall mean percent score of knowledge of the mothers regarding neonatal jaundice was good. It was good for definition and treatment, fair for complications of neonatal jaundice.

Recommendations

1-The study could serve as a stimulant for further researches with larger sample size.

2-There is continuous need for a targeted education and awareness program for mothers belonging to different health centers.

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