

Assessment of mother's Knowledge, practices and believes toward home management of Neonatal jaundice in two pediatric teaching hospitals

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Abstract:

Background: Neonatal jaundice (NNJ) is one of the most common diseases globally. It is believed that delays in detection and improper treatment of neonatal jaundice can be responsible for neonatal morbidity and mortality. Knowledge and health seeking behavior of mothers play an important role in the course of this health condition.

Objectives: To study mother's knowledge and her health seeking behavior toward home management of neonatal jaundice.

Methods: A cross sectional study of non-probability convenience sample of 200 mothers of neonates with neonatal jaundice who were admitted to Children Welfare Teaching Hospital and Ibn Al-Baladi Maternal and Child Hospital during the period from 1st of July to 1st of October, 2018. Data were obtained by the researcher through direct interview of the mothers and completed the structural questionnaire. Data were analyzed by SPSS through measuring frequencies, percentage, T test and chi square test.

Results: The study found that high percentage of mother's were primary school graduates (38.5%), were unemployed (90%), continue the breastfeeding for NNJ (94.5%). Only (34.0%) of mothers knew the cause, (71.5%) correctly identified neonatal jaundice, (80%) exposed the child to florescent-light, (69%) use yellow beads, (69.5%) avoid using yellow color for baby clothes and (69.0%) avoid using yellow color for baby tools. There were significant association between mothers' knowledge and mothers' age ($p=0.005$), education ($p=0.029$) and residency area ($p=0.010$), and between mothers' practice and occupation ($p=0.039$) and residency area ($p=0.030$), and between mothers' believes and education ($p=0.001$) and occupation ($p=0.031$).

Conclusions: There are gaps in mothers' knowledge and health seeking behavior regarding neonatal jaundice as there are Fair to poor level for majority of the knowledge items, Slightly good level of mother's practices and High percentage of mothers still believed in the traditional methods regarding home management of neonatal jaundice. The suboptimal and inadequate knowledge of the mothers for majority of items was significantly associated with age and educational level of mothers. There was significant correlation of mothers' seeking behaviors with occupation and educational level.

Keywords: Neonatal Jaundice, Knowledge, Practices, Believes of the Mothers.

Introduction:

The neonatal period is the first 28 days of life, when the neonate is at maximum risk. (1) Neonatal jaundice (NNJ) is one of the most common and important condition during the neonatal period. (2) It is estimated to be present in about 60% of the full term and 80% of preterm infants. (3)

NNJ is yellowish discoloration of the skin and sclera of newborns due to increased level of bilirubin in the

body. (4) Neonatal jaundice can be seen in cases of maternal - fetal blood type incompatibility. (5) But sometimes jaundice can indicate underlying disease such as liver disease or serious metabolic abnormalities and this is termed as 'pathological jaundice' which may cause irreversible brain damage and need urgent intervention to prevent this permanent irreversible organ damage. (6,7) This can lead to complications such as bilirubin encephalopathy and even death. Interventions to stop progression of neonatal jaundice will reduce the morbidity and mortality associated with this condition (8, 9). These complications undoubtedly

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pose severe handicap in the affected individuals and causes severe psychosocial stress in their families and care-givers (10). Many mothers and their newborns leave the hospital within 48 hours of the baby's birth.(11) And many of others deliver at home assisted by traditional birth attendants, the ability of mothers to recognize neonatal jaundice early; becomes important so as to seek for therapy early.(3) Short post-natal hospital stay and early discharge results in bilirubin levels peaking at home rather than in the hospital, thus shifting the primary responsibility for early detection and seeking medical attention to the mothers. Therefore parents play a very important role in final results of jaundice and it is important that mothers should have correct knowledge of how to recognize newborn jaundice as well as how to respond appropriately .(12) The best home treatment for jaundice is frequent feedings, whether breast feeding or bottle feeding. Feeding the baby frequently (about 8 to 12 times a day) will provide the baby with the fluids needed to get rid of the extra bilirubin. Some mothers who breast feed their babies are concerned that they will need to stop breast feeding if their babies develop jaundice (11). Studies in Iran haven't indicated that many complications in neonates are due to lack of attention, self-treatment, use of inappropriate medicine and lack of confidence on new medications (13) Deficient knowledge of mothers' about NNJ will likely result in unhealthy infant practices, risky delays, mismanagement and complications for the affected child .(14) The response of mothers about jaundice in their babies depend on the mothers' knowledge what jaundice is and what innate risk it could cause complication if not appropriately treated in their newborns .(15) Lack of enough information or wrong information and believes passed along the years to mothers may possibly explain delayed seeking medical advice immediately .(16) There are many studies were done in Nigeria, Iran , and other countries including Iraq , and Recently in Baghdad , Holy Karbala in 2016 .

Our aim was to study the knowledge, believes and practices of mothers towards management of neonatal jaundice in Children Welfare Teaching Hospital and Ibn Al-Baladi Maternal and Child Hospital.

Subjects and Methods:

This Cross Sectional, descriptive study involved Non-probability Convenience Sample of 200 Mothers of neonates with neonatal jaundice who were admitted to Children Welfare Teaching Hospital and Ibn Al-Baladi Maternal and Child Hospital during the period from 1st of July to 1st of October, 2018.

Data were obtained by the researchers who directly interviewed the mothers and completed the structured interviewing form which was developed for this study. Data were collected during the period from 1st of July to 1st of October 2018 and gathered from these two Hospitals. The verbal agreements for the participation in the study were obtained and the

interview was carried out individually. The interviewing form consists of four parts:

Part 1: The mothers' demographical data including age, educational level, socioeconomic status, residential area and occupation of mothers.

Part 2: Knowledge of mother's contents: How mothers identify the NNJ, Some danger signs of NNJ, Some possible causes of NNJ, Effective hospital treatment toward NNJ and Complications of severe NNJ. Each one has own branches.

Part 3: Mothers' practices regarding NNJ. Some statements of practices of mothers which are: Expose the child to sunlight, Expose the child to the florescent light, Bath the child well and Continue breastfeeding for child.

Parts 4: Believes of mothers' content: Status of health seeking behavior of mothers for hospitalization and management of NNJ. Some statements of Mothers' believes which are: Do you used Bead yellow in mummy restrain?, Do you put the ring on mummy restrain?, Do you avoid the baby to wear yellow cloths?, Do you use necklace with seven of garlic?, Do you avoid to eat bananas?, Do you used lentils of dull in a piece of cloth to swaddle clothes on mummy restrain?, Do you avoid to eat pomegranates?, Do you avoid using yellow color of tools and supplies in baby room?, Do you use herbal medicine to treat the baby? Knowledge consist 6 main items to asses mother's knowledge about various aspects of neonatal jaundice. Each question with suggested answer or answers. A correct answer received one mark, while incorrect answer or don't know scored zero (17). About the knowledge of neonatal jaundice, if the mother gets 75% and above in the data form of knowledge, she will be considered good level. If the mother gets between 75% and 50% in the data form of knowledge, she will be considered fair level. If the mother gets below 50% in the data form of knowledge, she will be considered poor level. Regarding the practices, a two – point rating scale issued 0 for incorrect answer, 1 for correct answer. About believes, if the mother gets 75% and above in the data form of believes, she was considered poor level. If the mother gets between 75% and 50% in the data form of believes , she will be considered poor to fair level of knowing regarding the believes . If the mother gets below 50% in the data form of knowledge, she was considered poor level (17).

The monthly income of families was classified into low income (less than 500,000 IQD), moderate income (500,000-1,000,000 IQD) and high income (more than 1,000,000 IQD) according to Iraq community medicine previous studies.

Statistical Analysis:

Statistical Package for Social Sciences software (SPSS, 25) was used to analyze the data. Data were analyzed through the measurement of frequencies, percentage and T - Test and chi - Square , the test used to determine the statistically significant relation of mother's knowledge practice and believes to their demographic characteristic sat ($P \leq 0.05$) with confidence intervals 95%.

Results:

The age of mothers was classified into four categories: less than 20 years, between 20 and 30 years, between 31 and 40 years and greater than 40 years. There were 65(32.5%) mothers at age less than 20 years, 87(43.5%) mothers at age between 20 and 30 years, 38(19%) mothers at age between 31 and 40 years and 10(5%) mothers at age greater than 40 years. The educational level of 27(13.5%) mothers were illiterate, 9(4.5%) of mothers were read and write, 77(38.5%) mothers were primary school, 64(32%) mothers were intermediate and secondary and 23(11.5%) mothers were institute and college graduates. There were 180 (90%) unemployed (housewife), 10 (5%) were employed in teaching field and 10 (5%) were employed in other fields. The residency of mothers was urban in 158(79%) and Rural in 42 (21 %). The residency status of 150 mothers (75%) was property, while 50 (25%) was leasehold. The monthly income of 101 (50.5%) families was low followed by moderate in 72 (36%) families and high in 27 (13.5%) families.

Knowledge of mothers: The study showed that 143 (71.5%) mothers defined the neonatal jaundice as “checking and detection the color changes of newborn: yellowish coloration of skin including palm and sole and sclera and monitoring the urine and stool” followed by 52 (26%) mothers defined as “checking and detection yellowish coloration of skin and sclera only” and 5 (2.5%) mothers defined as “checking and detection yellowish coloration of sclera only” (Table 1)

Table 1: Frequency of how mothers identify neonatal jaundice

How mothers identify neonatal jaundice	Frequency n	Percent %	Cumulative Percent
Checking and detection yellowish coloration of sclera only	5	2.5	2.5
Checking ad detection yellowish coloration of skin and sclera only	52	26.0	28.5
Checking and detection the color changes of newborn : yellowish coloration of skin including palm and sole , sclera and monitoring the urine and stool	143	71.5	100.0
Total	200	100.0	

The knowledge of mothers about danger signs of neonatal jaundice showed that “Refused to feed” is the most dangerous sign that mothers knew about neonatal jaundice in 115 (26.2%) followed by fever in 96 (21.9 %) and Seizure in 74 (16.9%). (Figure 1)

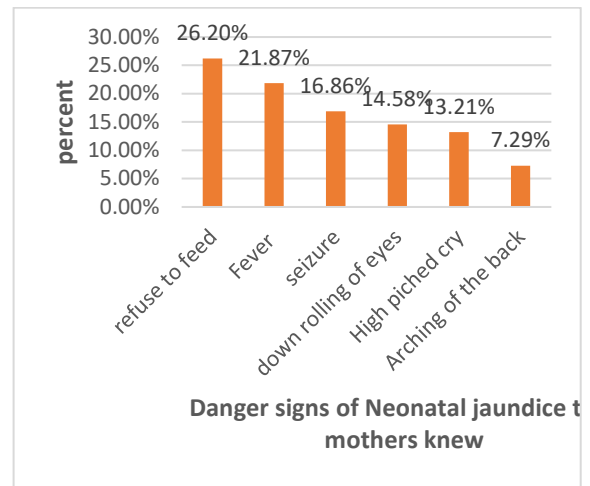


Figure 1: Bar chart showed the danger signs of neonatal jaundice that mothers knew

The mothers didn't know the causes of neonatal jaundice in 132 (66%) while 68 (34%) knew the causes. (Figure 2)

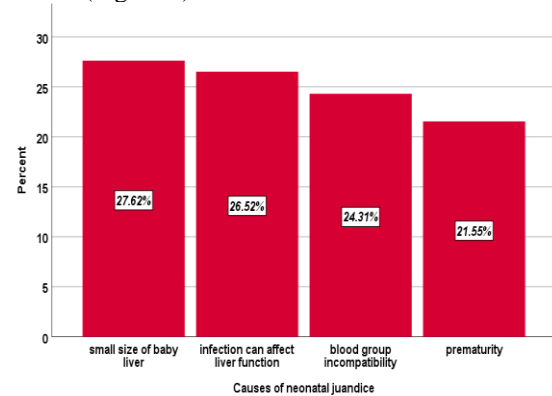


Figure 2: Bar chart showed the causes of neonatal jaundice that was known by mothers

The knowledge of mothers about effective treatments for neonatal jaundice showed that 131(65.5%) mothers considered the effective treatment are both Phototherapy and Exchange transfusion while 69 (34.5%) of mothers considered the effective treatment is only phototherapy and no one considered the exchange transfusion as effective treatment. The complications of severe neonatal jaundice that was known by mothers demonstrated in Table 2.

Table 2: Frequency of complications that was known by mothers

Complications	Responses		Percentage of Cases
	N	%	
Neonatal death	46	25.55%	23.0%
Mental retardation	47	26.11%	23.5%
Brain injury	50	27.78%	25.0%
Seizure in future	37	20.56%	18.5%
Total	180	100.0%	

Practice of mothers: The practice of “Continue breastfeeding for child” is practiced in 189 (40%) mothers if her child had a neonatal jaundice followed by “Expose the child to florescent-light” if her child had a neonatal jaundice in 169 (35.8%) mothers,

“Bath the child well” in 76 (16.1%) mothers and “Expose the child to sunlight” if her child had a neonatal jaundice in 38(8.1%) mothers (Figure 3).

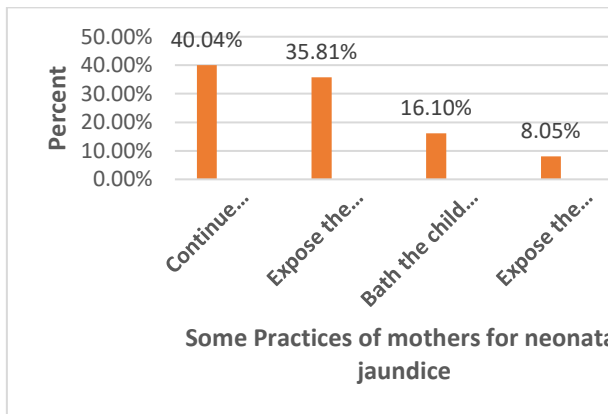


Figure 3: Bar chart showed some practices of mothers for neonatal jaundice

Believes of Mothers: The health seeking behavior of mothers for status of hospitalization of NNJ:

The knowledge of mothers about status of hospitalization of neonatal jaundice showed that there were 96 (48%) mothers considered “go to the hospital immediately” followed by 88 (44%) mothers considered “wait for a few days” and 16 (8%) mothers considered “go to sage”. **Regarding status of the health seeking behavior of mothers for management of NNJ:** 144 (72%) of mothers believed in traditional methods, while 56 (28%) seeking medical care. The believes of mothers about neonatal jaundice included 138 (18.8%) women believed “Avoid using yellow color for baby clothes” while only 7(0.7%) mothers believed “Use lentils in a piece of clothes”. (Table 3)

Table 3: Frequency of some believes of mothers about neonatal jaundice

Believes	Responses		Percentage of Cases
	N	%	
Avoid eating banana	17	2.3%	8.5%
Avoid eating pomegranates	17	2.3%	8.5%
Avoid using yellow color for tools	138	18.7%	69.0%
Avoid using yellow color for baby clothes	139	18.8%	69.5%
Use herbal medicine to treat the baby	42	5.7%	21.0%
Use necklace with seven of garlic	130	17.6%	65.0%
Use bead yellow in mummy restrain	138	18.7%	69.0%
Use ring in mummy restrain	110	14.9%	55.0%
Use lentils in a piece of clothes	7	0.9%	3.5%
Total	738	100.0%	

Association between mother's Knowledge, Practices and Believes with their demographic characteristics: There were significant association between mothers` knowledge and mothers` age

(p=0.005), education (p=0.029) and residency area (p=0.010) and between mothers` practice and occupation (p=0.039) and residency area (p=0.030), Also between mothers' believes and education (p=0.001) and occupation (p=0.031). (Table 4)

Table 4: Association between mother's knowledge, practices and believes with their demographic and socioeconomic characteristics

	Knowledge	Practice	Believes
Age	0.005*	0.521	0.213
Educational level	0.029*	0.179	0.001*
Occupation	0.322	0.039*	0.031*
Income	0.705	0.271	0.494
Residency area	0.010*	0.030*	0.445
Residence Status	0.882	0.975	0.284

*statistically significant

Discussion

Demographic characteristics of mothers showed that most of mother's age were between 20-30 years (43.5%). Our results agreed with Matloob IE study in Iraq (51.7%) (17), and study in Holy Karbala, Iraq (39%) (18), and study in Badulla, Sri Lanka (35.7%) (3), but lower that study done in Erbil, Iraq (81.5%) (19). for the educational level of mothers, the highest percentage were (38.5%) primary school graduates. Our results agree with Erbil study, Iraq (41%) (19), but differs from Matloob IE study, Iraq (73%) (17), and Kufa, Iraq (20) (18%), which found high percent for mothers who can read and write only then primary school level. These finding may related to early women`s marriage in Iraq is usually with younger age (around age 12 years old) which is the age for completing primary school and also this reflect why the high participation for mothers at age less than 20 years, and mothers at age between 20 and 30 years and the participation become low while increasing mothers` age when the mothers stop giving birth since they had births previously , or with increasing women age will decrease the opportunity to become married and then they will not giving births at all . For the occupation of the mothers, the highest percentage were unemployed (90%). Our results disagree with Matloob IE study, Iraq (54.3%) (17), but agrees with Erbil (19), Holy Karbala (18) and Kufa, Iraq (20) (83.1%, 80.0%, 83%) respectively. This high finding because of most mothers didn`t finish their studying because of young age of marriage or maybe in some areas in Iraq especially in rural areas, the parents refuse to let her daughters to complete her studying or even to get a job. For the residency of mothers, the highest percentage were in urban areas (79.0%). Our results agree with Matloob IE study, Iraq (17), Erbil (19), Kufa (20) and India (21) (88.4%, 65%, 60%, 70.85%) respectively. The majority of participant mothers were from urban areas since many mothers who lived in rural areas didn`t visit hospitals or many hospitals were located in urban area that made them too far for rural mothers. For the Socioeconomic status of mothers, about half of mothers were of low

income (50.5%). our results agree with study in Holy Karbala (60%) (18), this because the majority of mothers are unemployed and their husbands also are unemployed owing to the Iraqi governmental assignments are off and they may work in simple careers. This study reveals that participants have some knowledge on various aspects of neonatal jaundice. However there are still many misconceptions on neonatal jaundice. This study showed fair level of knowledge as (71.5 %) correctly identified neonatal jaundice as checking and detecting the color changes of newborns: "yellowish coloration of skin including palm and sole, sclera and dark urine and stool", this result is better than previous study done in Kufa, Iraq (20) which indicates that the mothers get awareness toward the symptoms of identification of neonatal jaundice in their newborns. When comparing this group with other countries, the results of the current study regarding "yellowish coloration of skin including palm and sole, sclera" are nearly similar to studies in Iran (8, 22), Malaysia (23). Regarding "checking the color of stool and urine", this study agree with Maisels MJ study (11) who found 70% of mothers monitor the color of stool and other studies done by Dehghni F (24) and Faiaz I (25) who found that majority of mothers monitor the color of urine. However this study showed that (2.5%) of mothers checked the yellowish color of sclera only, this result should be considered. these findings may be related to mothers haven't got enough information about the complete identification of jaundice and realization of sequenes of symptoms that the jaundice begin in the sclera initially then gradually diffuse to whole skin, urine color and stool color.

Mothers Knowledge regarding danger signs of neonatal jaundice is fair to poor level. (48.0%, 57.0%) of the mothers were aware about "refused to feed & fever" respectively. This results are slightly higher than Iran study (41.2%) (37%) respectively (8). However, our results are lesser than Lucknow, India study (26) who found (68.7%) of mothers were aware about fever as a danger sign followed by (51.1%) refused to feed. These findings because mothers always notice when their babies become ill and decrease feeding times, also for fever which is easily detected sign by the mothers and they may suspect fever as dangerous sign that could lead to other manifestation. Other danger signs in this study are Seizure, down rolling of eyes, arching of back, the knowledge was least (ordered from higher percentage to lower percentage). So with respect to danger signs, majority of the mothers are unaware. Similar findings were also reported in Iran study (8), Lucknow, India (26) and West Delhi, India (27). This is quite a matter of concern as the awareness of danger signs directly affects the health seeking behavior of the mothers.

Sixty-six percent of mothers didn't know the causes of neonatal jaundice, this result is better than Abo study, Nigeria (28) and India (21) (81.0%, 73.0%) respectively. In this study, (25% & 16.5%) of the mothers knew the neonatal jaundice cause referred to

premature baby liver and prematurity respectively. This results disagree with Egypt study (29), Iran (22), Malaysia (30) and Lucknow, India (26) who found (64.9%, 48%, 47.7% & 50%) that the mothers knew the prematurity as cause respectively. But our result is higher than other studies done in South-Western , Nigeria (7)and Abo , Nigeria (28)(18.5%, 1.1%) respectively. Regard other causes , (24%) of mothers knew that the infection increase the risk of neonatal jaundice, this result is lower than other studies done in Egypt(29) , Iran 2014 (22) , Iran 2008(8) and Lagos, Nigeria (31)who found that (30.9%, 37.0%, 43.2%, 47.0%) respectively that the mothers knew the infection as cause. But higher than other study done in India (26) who found (11.9%) of mothers knew the infection can be as a cause. This study showed that (22%) of mothers knew that blood group incompatibility can cause neonatal jaundice, this finding is better than Lucknow, India (26) and Lagos, Nigeria (31) (1.6%, 11.1%) respectively. while our result is slightly lower than previous Iranian study in 2014 (22) and in 2008 (8), who found (28.5%, 24.5%) respectively. These findings referred to the mothers didn't have enough education to know the causes of jaundice and the higher percentage of causes was for liver problem and this may due to the mothers encountered other liver cases like liver inflammation (hepatitis) for their kindred and heard that liver problems can cause jaundice not only in the older but also in the neonates. Also for the findings of other causes prematurity and blood incompatibility, the mothers may also meet same cases or get some related information from different social - familial meeting, media, TV and other sources. The current study showed that majority of mothers were not aware about the complications of severe neonatal jaundice, and only (23.0% , 23.5% , 25% , 18.5%) of mothers aware to the complications of severe neonatal jaundice which are Neonatal death , Mental retardation , Brain injury , seizure in future. However this result differs from Indian study (21), Abo Nigeria (28), Saudi Arabia (32) and North-Eastern, Nigeria (33) who found (63.42%, 54.7%, 47.3%, and 37.8%) respectively. Some of our results are nearly similar to study in Egypt (29) and all our results are higher than Lucknow, India (26) and Saudi Arabia studies (32). However in Malaysia studies (23, 30) about three-fourth of mothers are aware to the complications of severe neonatal jaundice. These findings showed how the mothers didn't have an optimal idea regarding the complications of neonatal jaundice and the high percentage of mothers' knew about complications as brain injury because it is known in our society that severe form jaundice can affect the brain but they didn't know the effects in more details and this reflect inappropriate education of the mothers. Concerning the mothers knowledge about optimal treatment for neonatal jaundice, (65.5%) considered the effective treatment are both Phototherapy and Exchange transfusion , in contrast to other studies in Iran (8) , Malaysia (30) India (21) who found (48.0% , 43.9% , 2.85%) respectively. This finding because of the

mothers may get this information when arrived to hospital and heard the doctors' explanations regarding the treatment, and may encountered same cases need these therapies or may know that during other meetings of sharing ideas. This study showed that (34%) of mother knew phototherapy as the only therapy, which disagree with other studies in India (21), Iran in 2008 (8), Iran in 2014 (22) and Malaysia (30) (12.0%, 38.5%, 69.5%, 93.9%) respectively. This finding because of the mothers may think that phototherapy is like fluorescent light mechanism but in a modified manner that may enhanced recovery and the yellowish discoloration relieved, or the mothers may think neonatal jaundice is not a dangerous or serious disease that require blood exchange or may be afraid from other diseases which were transmitted through blood so they select only phototherapy option. This study showed no one of mothers considered the exchange transfusion only as effective treatment of neonatal jaundice, while study done in Iran (8) found (2.75%). Regarding this finding, if the mothers don't know the phototherapy as a treatment option they almost don't know the blood exchange, too. So they will not select this option alone, they select the "both" option. The present study showed that (19.0%) of mother's expose the child to the sunlight, this result is slightly higher than studies in Saudi Arabia (32) , Kufa (20) , Malaysia (30) Iran (8) (13.6%, 10.0%, 11.2%, 2.3%). But our result is lower than studies in Erbil, Iraq (19) and Abo, Nigeria (28) (44.6%, 64.0%) respectively. This study also showed (80.0%) of mothers exposed the child to florescent light, our result is higher than other studies in Kufa, Iraq (20), Erbil , Iraq (19) , Iran (8) and Saudi Arabia (32) (66.5%, 59.2%, 21.3%, 1.6%) respectively. These findings because the mothers may think that the florescent light is available in the baby room along the day and they may think is close to phototherapy mechanism in hospital or they heard this behavior from other family members. This study showed (94.5%) of mothers continue breast feeding to jaundiced child, this result agree with Kufa study, Iraq (20) (90.0%). This finding because the mothers may think when the baby feed more milk then the jaundice will disappear and exit with stool and urine or maybe they heard this information in their previous babies. this study showed (38%) of the mothers bath the child, this result agree with other studies in Erbil , Iraq(19) and Kufa, Iraq (20) who found (40.0%, 43.5%) respectively. This finding because the mothers may think that when they increase bathing the baby, the yellowish discoloration will decrease. This study showed (48%) of mothers considered " go to the hospital immediately", this result is lower than study in India (21) (86.0%), but higher than Nigeria study (28) (14%). This finding because these mothers may observe previous experience with complication of neonatal jaundice or may face previous baby had neonatal jaundice before and saw the bad effects if they became late or they want to be in save side and seek the doctors' consultation early.

Forty-four percent (44%) of our mothers considered "wait for a few days", our result is lower than Lagos study, Nigeria (31) (56%). Similar finding also observed in sagamu, South-Nigeria study (34) who found that mothers with both good and poor knowledge had delayed at least 48h before seeking care at hospital. This finding may due to the mothers try to wait for few days that they think the jaundice will disappear during these days and if persist then they go to hospital, or may be some other factors that prohibit the arriving to hospital like cost of hospitalization, the distance between family house and the hospital, or they may seek traditional method that they believed in to treat the neonatal jaundice. This study showed that (72 %) of the mothers believed in traditional methods , this result agrees with studies like Matloob IE in Iraq (17) and Holy Karbala , Iraq (18) who found (78.4%, 78.0%) respectively, but lower than Kufa study, Iraq (20) (100%). These findings because the mothers have insufficient awareness and education about neonatal jaundice, mothers can be influenced by customs, traditions and cultural behaviors of their country through family influencing decision, they may be afraid from hospitalization, cost of hospitalization, the distance between family house and the hospital, mothers may think neonatal jaundice is not a dangerous disease that required treatment so they dealing with these believed traditional methods. This study showed that (69.5%) of the mothers believed in "avoid using yellow color in baby clothes", this result is similar to Erbil study (19) who found (72.3%) of mothers believed. While study in Kufa (20) (100%). This study showed (69.0%) of mothers believed by "avoid using yellow color for tools" while in Kufa study (20) found (90%). Regarding the "using bead yellow in mummy restrain" this study showed (69.0%) while other study in Kufa (20) found (100%). Regarding the "using ring in mummy restrain" this study showed (55.0%), this result is different from previous studies in Erbil (19) and Kufa (20) who found (62.3%, 100%) respectively. This study showed (65.0%) of mothers believed by "using necklace with seven garlic", this result is lower than Kufa study (20) who found (76.5%). This study showed (21.0%) of mothers believed by "using herbal medicine to treat their NNJ baby", our result is similar to other study in Erbil (19) who found (20.0%), but higher than other studies in Nigeria (28) and Saudi Arabia (32) who found (0.6%, 4.4%) respectively. Concerning to food consumption, this study showed (8.5%) of mothers believed in "avoid eating banana & pomegranate", this result is much lower than other study in Kufa (20) who found (68.0%, 47.5%) respectively. Finally, this study showed the least percentage of mothers' believes for "use lentil in a piece of clothes" while in other study in Kufa found (81.5%) (20). There is a significant association between mother's knowledge and their age, ($p=0.005$), this finding is similar to other study in Iran (8), Holy Karbala (18), and Egypt (29). There is significant association between mother's knowledge

and their educational level ($P=0.029$), this finding is similar to Matloob IE in Iraq (17), Iran (8), Holy Karbala (18) and Egypt (29). There is no association between mother's knowledge and their occupation ($p=0.322$), this finding is similar to other study done in Iran (8), Holy Karbala (18), India (21) and Egypt (29). There is no association between mother's knowledge and their Income ($p=0.705$), this finding is similar to other study in Iran (8), Holy Karbala (18), India (21) and Egypt (29). There is significant association between mother's knowledge and their Residential area ($p=0.010$), this finding is similar to study in India (21). There is no association between mother's practices and their age ($p=0.521$), this finding disagree with Kufa study, Iraq (20). There is no association between mother's practices and their education ($p=0.179$), this finding disagree with Kufa study, Iraq (20). There is significant association between mother's practices and their education ($p=0.039$), this finding disagree with Kufa study, Iraq (20). There is a significant association between mother's practices and their income ($=0.030$), this finding disagree with Kufa study, Iraq (20). There is no association between mother's age and believes ($p=0.213$). This results disagree with Matloob IE in Iraq (17). There is a significant association between mother's believes and level of education ($p=0.001$), this results agree with Matloob IE in Iraq (17) and Iran (8). There is a significant association between mother's believes with occupation ($p=0.031$), this results agree with Matloob IE in Iraq (17). There is no significant association between mothers residential area with believes ($p=0.445$). This results disagree with other study in Kufa (20). **The Strength of this Study** including the complete approach (knowledge, practices and believes of mothers toward NNJ) which interpreted as multiple objectives were achieved by this study.

Limitations of this study were the small sample size due to short period of the data collection, and collected from mothers in hospital, so the study didn't represent the population, also lack of many information related to demographic characteristics such as sources of mother's information, prevention methods of neonatal jaundice which was known by mothers and others.

Conclusions:

There are gaps in mothers' knowledge and health seeking behavior regarding neonatal jaundice as there are Fair to poor level for majority of the knowledge items, Slightly good level of mother's practices and High percentage of mothers still believed in the traditional methods regarding home management of neonatal jaundice. The suboptimal and inadequate knowledge of the mothers for majority of items was significantly associated with age and educational level of mothers. There was significant correlation of mothers' seeking behaviors with occupation and educational level.

Recommendations: we recommends that Education of the mothers should be routinely offered during

antenatal visits and postnatally. Targeted public enlightenment program and education should be done to improve the level of awareness and attitude on infant health and newborn jaundice. Training courses for all staff that work in pediatrics wards in relation to mother's health education towards child care in general and especially about children with jaundice. The mass media should be encouraged to play important role to disseminate more information on neonatal jaundice.

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تقييم معرفة الأم وممارساتها وتعتقدا تجاه التدبير المنزلي لليرقان الوليدي في مستشفيات تعليميين للأطفال ، بغداد

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نبذة مختصرة

خلفية: اليرقان الوليدي (NNJ) هو واحد من أكثر الأمراض شيوعاً على مستوى العالم. يُعتقد أن التأخير في الكشف عن اليرقان الوليدي وعلاجه غير المناسب يمكن أن يكونا مسؤولين عن مرضة ووفيات الولدان. تلعب المعرفة والسلوك الساعي إلى البحث عن الأمهات دوراً مهماً في هذه الحالة الصحية.

الهدف: دراسة أهمية معرفة آثار معرفة الأم وسلوكها الصحي الذي يسعى إلى علاج اليرقان الوليدي.

الطرق: دراسة مقطعية لعينة راحة غير مرجحة تضم 200 أم من حديثي الولادة المصابين باليرقان الوليدي الذين تم ادخالهم في مستشفى حماية الأطفال التعليمي ، المدينة الطبية ومستشفى ابن البلدي للأم والطفل ، بغداد ، خلال الفترة من 1 يوليو حتى 1 أكتوبر 2018. تم الحصول على البيانات من قبل الباحثين عن طريق مقابلة مباشرة للأمهات واستكمال الاستبيان الهيكلي. تم تحليل البيانات بواسطة SPSS من خلال قياس الترددات والنسبة المئوية واختبار T واختبار مربع كاي.

النتائج: وجدت الدراسة أن نسبة عالية من الأمهات كانوا خريجي المدارس الابتدائية (38.5%) ، وكانوا عاطلين عن العمل (90%) ، ومواصلة الرضاعة الطبيعية لل (94.5% NNJ). (34.0%) فقط من الأمهات يعرفن السبب ، (71.5%) حددن بشكل صحيح اليرقان الوليدي ، (80%) عرّضن الطفل للضوء الفلوري ، (69%) استخدم الخرزات الصفراء ، (69.5%) تجنب استخدام اللون الأصفر لملايس الطفل و (69.0%) تجنب استخدام اللون الأصفر لأدوات الطفل. كان هناك ارتباط كبير بين معرفة الأمهات وعمر الأمهات (ع = 0.005) ، والتعليم (ع = 0.029) ومنطقة الإقامة (ع = 0.010). كان هناك ارتباط كبير بين ممارسات الأمهات والمهنة (ع = 0.039) ومنطقة الإقامة (ع = 0.030). كان هناك ارتباط كبير بين معتقدات الأمهات والتعليم (ع = 0.001) والمهنة (ع = 0.031).

الاستنتاجات: كانت نسبة عالية من الأمهات من خريجي المدارس الابتدائية ، كانوا عاطلين عن العمل ، يواصلون الرضاعة الطبيعية في NNJ ، لم يعرفوا أسباب اليرقان الوليدي ، واليرقان الوليدي الذي تم تحديده بشكل صحيح ، وتعرض الطفل لضوء الفلورسنت ، واستخدام الخرز الأصفر ، وتجنب استخدام اللون الأصفر لملايس الأطفال وتجنب استخدام اللون الأصفر لأدوات الطفل. هناك علاقة بين المستوى التعليمي للأم ومعتقداتهم ومعتقداتهم. هناك ارتباط بين المناطق السكنية للأم مع ممارساتها.

الكلمات المفتاحية: اليرقان الوليدي ، المعرفة ، الممارسات ، معتقدات الأمهات.