

Knowledge, attitude and behaviour of mothers on neonatal jaundice

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Abstract

Objective: To determine knowledge, attitude, and behaviour of mothers about neonatal jaundice.

Methods: In this cross-sectional study, 400 cases who delivered at Ali-Ebne Abitaleb Hospital in Zahedan-Iran during April and May 2006 were interviewed to complete 21-point questionnaires. The first data was analyzed descriptively then analytically by χ^2 , Pearson correlation, and independent t-test using SPSS 11 software.

Results: The mean age of mothers was 26.8 ± 6.5 years. The mean of knowledge score was 7.25 ± 2.1 out of 13.5. Although knowledge of mothers about diagnostic methods was acceptable, it was not sufficient about causes, complications, harmful symptoms and prevention of the disease. The mean of attitude score was 18.5 ± 3.7 out of 25. The mean of behaviour score was 6.8 ± 2.3 out of 10.5. Knowledge had a significant association with history of neonatal jaundice ($P=0.033$), mother's age ($P<0.001$), and child's birth rank ($P=0.001$). There was also a significant association between mother's attitude and their educational level ($P<0.001$). Results showed a direct correlation between knowledge, attitude and behaviour ($P<0.001$).

Conclusion: Increasing mothers' knowledge about jaundice of neonates can be the first step to enhance healthy behaviours; through education programmes during pregnancy (JPMA 58:671; 2008).

Introduction

The neonatal period is the first 28 days of life, when the neonate is at maximum risk.¹ Neonatal morbidity and mortality is still high in African, Asian, Latin American, and, developing countries of which one of the most important contributing factors is jaundice. It presents in 60% of term neonates and 80% of preterm.^{1,2}

The maximum risk of hyperbilirubinemia is Kernicterus because of accumulation of unconjugated bilirubin in serum.¹ According to a study, Kernicterus causes at least 10% of mortality and 70% of morbidity.³ However, correct use of phototherapy and blood exchange to control serum bilirubin level, can prevent complications.⁴

Nowadays, because of early discharge of mothers and neonates from hospitals, responsibility of mothers about recognising jaundice has increased. Parents, therefore, play an important role in the final results of neonatal jaundice (NNJ). On the other hand, there is a close association between neonatal bilirubin level and incidence of neurological complications. An exposure to levels higher than 20mg/dl even in less than 6 hours, results in neurological disorders in 2.3% cases. In 6-12 hours interval and for exposure more than 12 hours, the risk will be 18.7%

and 26%, respectively. This shows the importance of time in management of the disease.⁵

Some studies in Iran have 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.⁶ In addition, other beliefs as fluorescent, mannite, manna, hock, willow, rhamnus, tomato juice or avoiding some foods as dates and raisin are prevalent. However, none of these has an acceptable effect.⁷

Understanding the importance of the role of mothers in neonates' life, the study was designed to evaluate mother's knowledge, attitude and behaviour on neonatal jaundice.

Methods

A cross-sectional study, was done on 400 mothers, who delivered at Ali-Ebne Abitaleb hospital in Zahedan-Iran during April and May 2006. They were interviewed on the first or second day of delivery.

A questionnaire was developed which included demographic data as age, education level, order of neonate, and history of jaundice in previous children. Nine close-ended questions aimed to assess knowledge of mothers

regarding way of diagnosis, causes, treatment, complications, and recognition of NNJ (totally 13.5 scores), seven questions determined the mothers' behaviour (in total 25 scores) and five questions their attitude (total 10.5 scores). Its content validity was assessed by professionals.

The Medical Ethics Committee of Zahedan University of Medical Sciences confirmed ethical consideration of this study. The aim of the study was explained to the mothers. If they were willing to participate in the study, consent was obtained and a trained interviewer completed the questionnaire. The data was analyzed descriptively, then analytically by χ^2 , Pearson Correlation and independent t-test using SPSS version 13 software.

Results

The mean age of mothers was 29.98 ± 6.5 years, 44% were less than 26 years, 47% 26-35, and 9% more than 35. About 24% were illiterate, 20.9% had academic education, and others had elementary or high school education. About 64% of neonates were first or second birth rank.

One hundred and forty nine (37.3%) respondents knew all symptoms of jaundice, while nine (2.3%) knew none of them (Table 1).

Three hundred and thirty four (83.5%) mothers had some kind of information about colour of urine during jaundice. Seven (1.8%) were aware of six dangerous symptoms mentioned in table 1 and 144 (36%) were not aware of the signs at all.

Twenty five (6.3%) respondents knew all three causes of jaundice as mentioned in Table 1, while 164 (41%) mothers knew none of the causes.

Knowledge of mothers about complications of severe jaundice, effective treatment, the best way of diagnosis, prevention during pregnancy is shown in Table 1.

Three hundred and eighty seven (96.8%) mothers knew that jaundice was curable. Mothers' behaviours when encountering jaundice are demonstrated in Table 1.

Three hundred and one (75.2%) mothers thought that they had to follow a special diet or take medicinal herbs to prevent jaundice.

Agreement for admission to hospital, if necessary, was 87.2%, treatment with phototherapy 25%, blood exchange 64.3% and blood sampling 90.3%.

Of total knowledge scores of 13.5, the mean of was 7.25 ± 2.1 with range of 1.5 to 12.58.

Table 2 shows mothers' attitude about neonatal jaundice. The mean attitude score was 18.5 ± 3.7 out of 25 scores, and the mean practice score was 6.8 ± 2.3 out

Table 1: Knowledge and behaviour of mothers about neonatal jaundice.

Knowledge	No (%)
Symptom of jaundice	
Sclera	362 (90.8)
Palm and sole of foot	167 (41.9)
Neonates skin	298 (74.8)
Dangerous symptoms of jaundice	
Refusal of feed	165 (41.2)
High-pitched crying	71 (17.7)
Arching of the back	21 (5.2)
Down-turning of the eye	72 (18)
Fever	148 (37)
Seizure	95 (23.7)
Causes of neonatal jaundice	
Blood group difference between mother and neonate	98 (24.5)
Infection in blood	173 (43.2)
Prematurity	74 (18.5)
Complications of severe jaundice	
Neonatal death	178 (44.5)
Brain injury	139 (34.7)
Retardation	119 (29.7)
Seizure in future	158 (39.5)
Effective treatments	
Blood exchange	11 (2.75)
Phototherapy	154 (38.5)
Both	192 (48)
None of them	43 (10.75)
The best way of diagnosis	
Urine analysis	87 (21.8)
Blood analysis	238 (59.5)
Appearance	58 (14.5)
No information	17 (4.3)
Prevention during pregnancy	
Consuming special foods	50 (12.5)
Not consuming fat foods	201 (50.2)
Not consuming warm native foods	195 (48.7)
Herbal medicine	50 (12.5)
Behaviour	No (%)
First action while jaundice	
Using medicinal herbs	56 (14)
Fluorescent using at home	85 (21.3)
Using sunlight	9 (2.3)
Referring to physician	209 (52.3)
Referring to traditional healers	40 (10)
Nothing	1 (0.3)
Using medicinal herbs	
Mannite	213 (53.2)
Manna	168 (42)
Hock	64 (16)
Willow	46 (11.5)
Rhamnus, Tomato water	17 (4.2)

of 10.5 scores.

Mothers' knowledge and some associated factors are mentioned in Table 3. These factors had no association with mothers' attitude and behavior.

Mother's attitude score had a significant association with their educational level ($P < 0.001$); however,

Table 2: Mothers' attitude about neonatal jaundice.

Attitude	Completely agree		Agree		Not important		Disagree		Completely Disagree	
	N	%	N	%	N	%	N	%	N	%
I am worried about development of jaundice to my neonate.	311	77.8	66	16.5	7	1.8	13	3.3	3	0.8
I am worried about blood taking because it may cause anaemia.	53	13.3	118	29.5	38	9.5	79	19.8	112	28
If observing jaundice symptoms, I use home care with medicinal herbs because this disease is not dangerous.	27	6.8	117	29.3	34	8.5	91	22.8	131	32.8
If observing jaundice symptoms, I do not use medicinal herbs because it may be harmful for my neonate.	86	21.5	89	22.3	46	11.5	139	34.8	40	10
Because I am afraid to hospitalize my neonate, I do not consult a physician if jaundice develops.	35	8.8	55	13.8	10	2.5	66	16.5	234	58.5

Table 3: Relationship between knowledge and some variables.

Variables	History of Jaundice	Birth rank	Mother's age	Attitude	Behavior
Knowledge	P<0.032 P<0.05 significant	R=0.160 P=0.001	R=0.306 P<0.001	R=0.169 P=0.001	R=0.327 P<0.001

educational level had no significant association with knowledge and behaviour score.

There was a significant correlation between their attitude and behaviour score (P<0.001).

Discussion

Although knowledge about each symptom were acceptable, but only 37% of them knew all three symptoms. Since knowledge correlates to behaviour, it is anticipated that knowledge increase will affect behaviour positively. A study in Nigeria⁴ on community health workers indicated 75.8% of knowledge about all three symptoms of neonatal jaundice.

Mothers' knowledge about symptoms of danger was not appropriate, somewhat the same as in an Indian study.⁸ This awareness plays an essential role in mothers' behaviour to take an action for treatment that should be stressed upon in an education programme.

Our results showed limited knowledge about causes of jaundice, similar to an Indian study.⁸

Majority of mothers knew the best technique for diagnosis of neonatal jaundice, almost all knew that jaundice is curable, which was higher than the Indian results.⁸ The information about effective treatment although acceptable, but was deficient on blood exchange.

About one fifth of mothers had no information about complications of neonatal jaundice and others had weak knowledge. This could have an influence on perceived severity of jaundice and consequently on the steps taken.

The study demonstrated that majority of mothers believed that their diets during pregnancy could prevent neonatal jaundice. The misconceptions were similar to the Kerman-Iran study⁶ which caused dangerous actions taken behaviour during pregnancy. This calls for educating the pregnant women to prevent harm to the foetus.

About half the number of mothers had a correct attitude towards neonatal jaundice. The other half consumed medicinal herbs as they believed that they were harmless, although their efficacy has not been confirmed by scientific studies.⁹ On the contrary studies have reported that herbs have different functions and can damage health as liver injury, hypertension G6PD deficiency and haemolysis in neonates.¹⁰

Misconceptions on using yellow colour foods as turmeric, puff paste, and tea while breastfeeding, were also prevalent.

Majority of mothers agreed to hospitalize neonates with jaundice. Majority agreed for testing of blood. Most mothers agreed for phototherapy which was a better attitude compared to other studies.^{11,12}

It has been observed that parents often resist blood exchange, but in our study a high percentage of mothers agreed to this form of therapy.

Our results showed a significant correlation between knowledge, attitude and behaviour. This calls for increasing the awareness on all aspects of neonatal jaundice in mothers to prevent irreversible complication to the neonate. Educational programmes should be

organized for the purpose.

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