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Original Research Article

Maternal Knowledge and Attitude Regarding Neonatal Jaundice at the University of Lahore Teaching Hospital, Lahore

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Abstract

First 28 days of the life of a newborn is called the neonatal period. It is the critical time period of survival for a newborn. Jaundice is the most common and serious condition which requires immediate medical intervention to stop its progression. The purpose of this study was to assess the maternal knowledge and attitude regarding neonatal jaundice in the University of Lahore Teaching hospital, Lahore. This study aimed to evaluate the maternal knowledge and attitude toward neonatal jaundice in The University of Lahore teaching hospital. A quantitative descriptive cross sectional study was done to identify the maternal attitude and knowledge regarding neonatal jaundice. Mothers were willing to participate and were available during data collection. Mothers participated full time in the study. A quantitative descriptive cross sectional study was done. Mothers who were full time and willing to participate in this study by signing consent were included. Mothers who disagreed to participate were excluded from this study. Sample size of n = 214 mothers were taken by using convenient sampling. Likert scale base self-administered questionnaire was used for collection of data. Data protection of the participants were made sure throughout the study by keeping participants identity confidential. Data were analyzed using software SPSS (statistical package for social science studies) version 21. Maternal knowledge and attitudes were analyzed by frequencies, mean, median and through standard deviation. The findings of the research show that mean age was 2.19±.447 years ranging from less than 19 to 35 above, in which 2.3% (n=5) belonged to the age group of less than 19 years. 76.6% (n=164) of the participants belonged to the age of 20-34years and 21.0% (n=45) participants belonged to the age group more than 35 years. Past experiences of neonatal jaundice were associated with the Knowledge and attitude of mothers. Most mothers have less information regarding neonatal jaundice. Mothers have insufficient knowledge about Neonatal jaundice and its care therefore, mortality ratio is high because mothers are not properly educated. By improving the level of awareness, we can modify attitude and knowledge through educational programs and we can minimize the causes, side effects and other threats towards neonatal jaundice.

Keywords: Knowledge, Attitude, Neonatal jaundice.

INTRODUCTION

First 28 days of the life of a newborn is called the neonatal period. It is the critical time period of survival for a newborn (Coughlin and Coughlin, 2014). About two thirds of neonates developed clinically, apparent indirect

increase in bilirubin level in the baby's blood during few days of life, thus making it the most common medical disorder in the neonates demanding urgent clinical assessment as well as adequate management (Shukla and Agarwal, 2016). Neonatal illness and death remain very high especially in the emergent countries and neonatal jaundice is one of the important correspondents (Khalesi and Rakhshani, 2008). About 10% of breast-feeding babies are still jaundiced at one month or about 60% of term and 80% of preterm newborns. During the first week, neonates suffer from most common and important situations which need medical attention in neonates and it is known as jaundice (Glicken and Lau, 2004). Jaundice is the most common and serious condition which requires immediate medical intervention to stop its progression. In this way, we can prevent newborn from serious complications. Because of early discharge of newborn after delivery, the role of mothers in recognizing jaundice has increased (Shukla and Agarwal, 2016). Possible complications include high level of bilirubin which can result in serious conditions e.g when bilirubin pass through brain cell and cause severe damage, bilirubin accumulate in the grey matter and cause brain dysfunction, cause seizures, impaired coordination of muscle, mental retardation and loss of hearing (Behrman et al., 2005). Jaundice is also known to increase bilirubin in the neonatal blood. Jaundice is discoloration of skin, sclera of an eye, accumulation of bilirubin in the skin and mucous membrane. Jaundice is caused by an increased level of bilirubin in the blood. Bilirubin is a tint which is free after the break-down of recycled red blood cells and carries oxygen. Bilirubin passes through the liver and excreted through the body.

Jaundice is not a sign of fundamental disease, and it is termed as 'physiological jaundice 'that is generally harmless for most newborns. Metabolic abnormalities and liver disease is termed as ' pathological jaundice', which can cause irreversible brain damage. It needs urgent intervention to prevent permanent irreversible organ damage. Chronic morbidity and neonatal mortality can be preventable if jaundice initially diagnosed and effective therapy is started soon (Egube et al., 2013). Diffuse neuronal damage and bilirubin staining of the basal ganglia are due to the accumulation of bilirubin in the grey matter of the brain (Melton and Akinbi, 1999). It involves a particular blood level above which unconjugated bilirubin will be poisonous for an infant and cause serious issues (Parkash and Das, 2005). A previous study had revealed that accumulation of bilirubin in grey matter is incurable and causes 70% illness and 10% deaths between newborns (Egube et al, 2013). There is no cure for accumulation of bilirubin in the grey matter, but it is preventable if jaundice is diagnosed early and effective therapy starts quickly (Melton and Akinbi, 1999). According to clinical experience with accumulation of bilirubin in the grey matter, many babies arrive late in hospitals (Adefuye and Fetuga, 2006). Delay in seeking medical attention is due to lack of awareness or inadequate knowledge about neonatal jaundice (Ogunfowora et al., 2006). What jaundice is and what distinctive risk it could cause depends on mothers knowledge about jaundice (Calado, 2009). Wrong or lack of information and beliefs passed along the years causes delay to seek medical advice (Adebami, 2011). Therefore parents' knowledge has become an important predictor for the final outcome of neonatal jaundice. Considering the vital role of the mother in neonate's life, this study is designed to assess the mother's knowledge and attitude toward neonatal jaundice.

Research question

What are mother's attitudes and knowledge regarding neonatal jaundice?

Significance

The significance of this study is to seek knowledge about neonatal jaundice and this study was useful to mothers.

The study also explored and shared lessons of the management characteristics and encouraging combi-nation of orientation plans. This research was creating awareness on the issue and the influence it has on mothers and neonates.

This study was promoting neonatal health, providing information and supporting preventive programs. It opens the door for other researchers to conduct study on knowledge and attitude regarding neonatal jaundice in other Universities.

Researchers who intend to carry out research that are related in particular to this work would serve as orientation material for the future. A lot of information can be obtained from this work and they can be further improved as well.

Purpose of the study

The key purpose of the study was to evaluate the mothers' information and approaches regarding neonatal jaundice at University of Lahore teaching hospital and identify educational gaps regarding this topic.

Research Objectives

1. To identify the maternal knowledge towards neonatal jaundice.
2. To assess the maternal attitude toward neonatal jaundice.

Study design

This study was conducted to evaluate the understanding and awareness of mothers regarding neonatal jaundice. A quantitative descriptive cross sectional study design was used for this.

Descriptive research describes what exists and may help to reveal new facts and meaning. The descriptive study was aimed to gain more evidence about features within a specific field of studies.

Study Setting

Settings were the more particular places where data collection occurs. Setting of the study was The University of Lahore teaching hospital.

Target population

Target population was the mothers of The University of Lahore teaching hospital.

Sample size

Slovin's sampling formula was used to find the sample size of the study population. The study sample was 214 mothers.

Sampling method

A convenient sampling method was used for this study. It was the stress-free and most convenient method of recruiting the sources of the primary data for research.

Inclusion Criteria

Mothers were willing to participate and were available during data collection. Mothers were full time participating in the study.

Exclusion Criteria

Study omitted who were not available at the time of data collection and mothers who denied participating in the study.

Data Collection Plan

For data collection, plan is one of the key sources. The permission was taken from mothers through consent form. There was given time and a free hand to complete and return it. A self-administered questionnaire was used to collect data from the participants of the study.

Research tool

For neonatal jaundice, a well-structured questionnaire was used with open and close ended questions. Likert scale was implemented to evaluate assertiveness and information of mothers. It comprised of two parts, the first part explain the consent form and demographic data of mothers in which name, Age, place of residence, occupation educational level, delivery mode and birth mode and the other part of the questionnaire explain about the information and attitude of mother related Neonatal jaundice.

Data Analysis

Data analysis was done by SPSS version 21. For data analysis, statistical computer software was used. This study was a descriptive study and all the descriptive statistics were obtained through the SPSS software. Frequencies, percentages, mean, median and standard deviation was implemented in this study.

Ethical consideration

Permission was taken from the Head of Department through permission letter, from Ethical Review Board Committee of The University of Lahore and Head of Department of Lahore School of Nursing for conduct research. Permission was taken from all the members. Participants have to take part in the study or refuse from participation. Participants also have the right to cite names or not. Sufficient information about research was delivered to members. By the Nuremberg Code of Ethics, the rights of participants were protected. Confidentiality was considered by informing participants that this data was used only for research purposes.

Time Framework

This study was taken approximately 4 months from September 2020 to December 2020. Table 1 showed the demographic characteristics of respondents in which age, place of residence, employment level, delivery mode and birth order regarding neonatal jaundice were included. Table 1 shows that 2.3% (n=5) of participants belong to the 19 years age group, 76.6% (n=164) participants belong to the 20-34 years age group, 21.0% (n= 45) of participants belong to more than 35 years of age group. Most observable group was 20-34 years old participants.

Table 1. Demographic Analysis

Question		Frequency (*f*)	Percentage (%)
Age	Less than 19	5	2.3%
	20-34 years	164	76.6%
	More than 35	45	21.0%
	Total	**214**	**100%**
Place of residence	Urban	147	68.7%
	Rural	67	31.3%
	Total	**214**	**100%**
Employment	Unemployment	143	66.8%
	Employed	71	33.2%
	Total	**214**	**100%**
Education level	No schooling	33	15.4%
	Academic education	49	22.9%
	Elementary education	19	8.9%
	High school education	50	23.4%
	University education	63	29.4%
	Total	**214**	**100%**
Delivery mode			
	Natural vaginal delivery	122	57.0%
	Cesarean section	92	43.0%
	Total	**214**	**100%**
Birth order			
	One	78	36.4%
	More than two	136	63.6%
	Total	**214**	**100%**

Table 2. Questions of knowledge on neonatal jaundice

Sr #	Questions	Yes *f*(%age)	No *f*(%age)	Total *f*(%age
1	It is a condition characterized by the yellowish discoloration of the skin of a newborn.	210(98.1%)	4(1.9%)	214 (100%)
2	It is a common problem in newborns.	104(48.6%)	110(51.4%)	214 (100%)
3	Lasting jaundice more than 2 weeks in a newborn is abnormal.	186(86.9%)	28(13.1%)	214 (100%)
4	Appearing jaundice during the first 36 hours is abnormal.	177(82.7%)	37(17.3%)	214 (100%)
5	A reason for neonatal jaundice is breast milking.	63(29.4%)	151(70.6%)	214 (100%)
6	Prematurity is a risk factor for neonatal jaundice.	181(84.6%)	33(15.4%)	214 (100%)
7	A treatment for neonatal jaundice is phototherapy.	157(73.4%)	57(26.6%)	214 (100%)
8	Infection higher the risk of neonatal jaundice.	179(83.6%)	35(16.4%)	214 (100%)
9	Food taken by the breast feeding mothers can cause jaundice in their infants.	64(29.9%)	150(70.1%)	214 (100%)
10	Severe jaundice may cause death in neonates.	165(77.1%)	49(22.9%)	214 (100%)
11	Severe jaundice may cause brain damage in neonates.	168(78.5%)	46(21.5%)	214 (100%)
12	Severe jaundice may cause hearing loss in neonates.	114(53.3%)	100(46.7%)	214 (100%)
13	Jaundiced infants may need to have several blood testing.	190(88.8%)	24(11.2%)	214 (100%)
14	Exposure of a jaundiced infant to the sun will increase the risk of dehydration and worsen the condition.	71(33.2%)	143(66.8%)	214 (100%)
15	Differences between fetal-maternal blood groups higher the risk of neonatal jaundice.	121(56.5%)	93(43.5%)	214 (100%)

68.7% (n=147) of the participants belonged to the urban area and 31.3% (n=67) participants belonged to the rural area. Table 1 above shows that 66.8% (n=143) of participants belong to the unemployment group and 33.4% (n= 71) of participants belonged to the employed group. In the above table 1, 15.4% (n= 33) of participants belonged to the “No schooling group”, 22.09% (n=49) belonged to the “Academic education”, 8.9% (n=19) belonged to “Elementary education group”, 23.4% (n=50) belonged to the “High school education group”, 29.4% (n=63) of participants belonged to the “University education group”. Table 1 shows that 57.0% (n=122) of participants belong to the “Natural vaginal delivery group” and 43.0% (n= 92) of participants belonged to the “Cesarean section group”. 36.4% (n= 78) of participants belonged to those mothers who have only one child and 63.6% (n= 36) of participants belonged to mothers who have two or more children.

The distribution of participants in table 2 above shows that 98.1% (n=210) of the participants were saying “Yes” about jaundice. It is a condition in which newborn skin color appears yellow, while 1.9% (n=4) of participants were saying “No”. Statement shows that the majority of the newborn have jaundice. Table 2 shows that 48.6% (n= 104) of participants were saying “Yes”. It is a common problem in newborn and 51.4% (n=110) of participants were saying “No” that it is not a common problem to newborn, only few newborns get neonatal jaundice. Table 2 shows that the maximum number of participants 86.9% (n= 186) were saying “Yes” that if jaundice last more than two weeks, it is a dreadful situation. On the other hand, 13.1% (n=28) of participants were saying “No” about this condition. According to the majority of the participants, it is a dangerous condition which requires immediate medical attention. In the above table, the majority of the participants 82.7% (n= 177) were saying “Yes”, If jaundice appears within 36 hours, it is abnormal while 17.3% (n= 37) were saying “No”. Majority of the people said that the appearance of jaundice within 36 hours is abnormal. The above data shows that 29.4% (n=63) of the participants said “Yes”, breast milk is the reason of neonatal jaundice while 70.6% (n= 151) of the participants said “No” that breast milk can not be the cause of neonatal jaundice. Majority of the mothers opinion was that breast milk cannot develop jaundice in newborns. The table shows that 84.6% (n=181) of participants said “Yes” but according to the 15.4% (n=33) of the participants, prematurity cannot be the risk factor for the neonatal jaundice.

Figure 1 indicates that 73.4% (n= 157) of participants said “Yes” about phototherapy, it is a treatment for neonatal jaundice. On the other hand, 26.6% (n=57) of participants said “No”, phototherapy cannot be used as a treatment for neonatal jaundice. Table 2 shows that 83.6% (n=179) of the participants said “Yes”, infection can increase the risk of neonatal jaundice. On the other hand, 16.4% (n=35) of participants said “No”, infection cannot increase the risk of neonatal jaundice. According to the majority of mother’s, infection can increase the risk of neonatal jaundice.

Figure 2 shows that 29.9% (n=64) of participants said “Yes”, food taken through breast feeding mothers can be the reason of jaundice in their infants and according to the 70.1% (n=150), respondents said “No”, mothers feed can not be the reason of neonatal jaundice. Table 2 shows that 77.1% (n=165) of participants said “Yes”, severe jaundice can cause death in neonates. 22.9% (n=49) of respondents said “No”, severe jaundice cannot be the cause of death in neonates. Majority of the participants' opinion was that severe jaundice is the cause of death in neonates. Table 2 shows that 78.5% (n=168) of participants response was “Yes”, severe jaundice can be the reason of brain damage in neonates and 21.5% (n=46) of participants response was “No”, severe jaundice cannot cause brain damage in neonates. Majority of participants' opinion was that jaundice can cause brain damage in neonates. Table 2 illustrates 53.3% (n=114) of participants' opinion was “Yes”, severe jaundice can cause hearing loss in neonates while 46.7% (n=100) of participants said “No”, severe jaundice cannot cause hearing loss in neonates. The above table 2 shows that 88.8% (n=190) of respondents said “Yes”, medical personnel have to conduct several blood testing in infants affected by jaundice while 11.2% (n=24) of respondents said “No”, it is not necessary or it can cause blood deficiency (anemia) in infants. Table 2 shows that 33.2% (n=71) of participants said “Yes”, exposure of the sunlight will increase the risk of dehydration in the jaundiced infant and can worsen the condition and 66.8% (n=143) of participants said that exposure of sunlight neither worsen the condition nor increase the risk of dehydration rather it is helpful for newborn to recover from the jaundice. Table 2 shows that 56.5% (n=121) of participants said “Yes”, differences among fetal-maternal blood groups can increase the risk of neonatal jaundice. On the other hand, 43.5% (n=93) of participants said “No”, alterations among maternal-fetal blood groups cannot increase the threat of neonatal jaundice.

The above table 3 shows perceptions of 214 participants regarding attitude toward neonatal jaundice. “I am anxious about the rising of jaundice in my baby”, 67.8% (n=145) of respondents completely agree, 26.6% (n=57) agree, 1.9 (n=4) have no idea, 1.4% (n=3) disagree, 2.3% (n=5) completely disagree with this statement.

Figure 3 demonstrate the perspectives of 214 participants regarding attitude towards “I am anxious about numerous blood testing of my infant because it can develop deficiency of blood 16.4 (n=35), 21.0% (n=45) agree, 16.8% (n=36) no idea, 13.6% (n=29) disagree, 32.2% (n=69) completely disagree with this statement. The above table 3 shows the attitude of 214 participants regarding “if jaundice develop in my infant, I will use traditional treatment because this disease is not

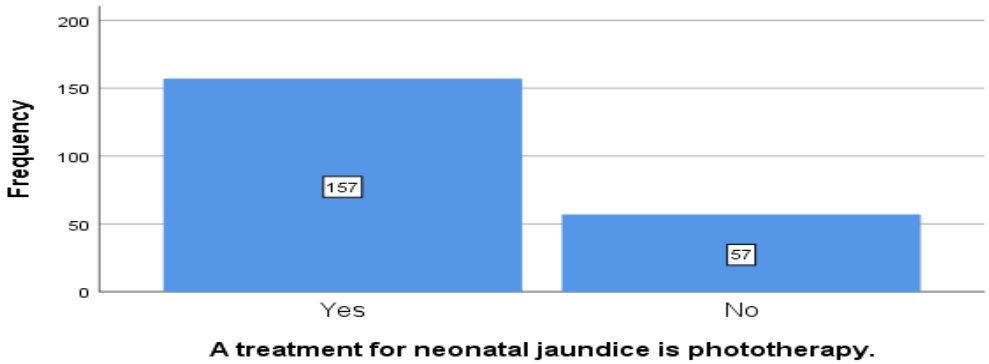

Figure 1. Indicates that 73.4% (n= 157) of participants said "Yes" about phototherapy. On the other hand, 26.6% (n=57) of participants said "No"

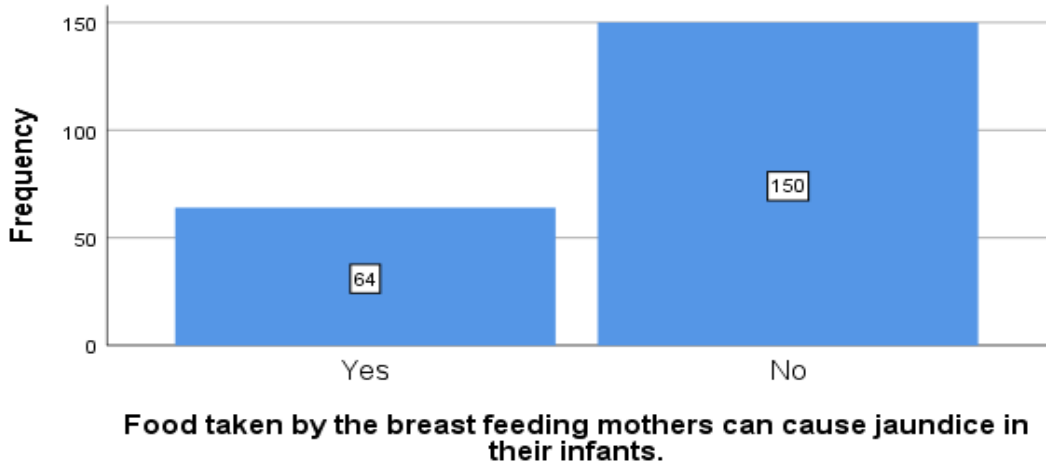

Figure 2. 29.9% (n=64) of participants said "Yes", food taken through breast feeding mothers can be the reason of jaundice. 70.1% (n=150), respondents said "No"

dangerous", 18.7% (n=40) of respondents completely agree, 15.9% (n=34) agree, 8.9% (n=19) have no idea, 14.5% (n=31) agree, 42.1% (n=90) of respondents completely disagree with this statement. Table 3 shows that the attitude of 214 participants regarding "if jaundice progress in my infant, I will never use old-fashioned treatment because it may be unsafe for my child, 59.8% (n=128) of respondents completely agree, 18.2% (n=39) agree, 9.8% (n=21) have no idea, 1.9% (n=4) agree, 10.3% (n=22) of respondents completely disagree with this statement.

Figure 4 shows the attitude of 214 participants regarding "if jaundice progress, since I am frightened to admit my infant in hospital, Iw will not consult a physician" 11.7% (n=25) of respondents completely agree, 7.5% (n=16) agree, 8.9% (n=19) have no idea, 28.5% (n=61) agree, 43.5% (n=93) of respondents completely disagree with this statement. Table 3 shows the attitude of 214 participants regarding "Neonatal jaundice is a serious condition", 50.5% (n=108) of respondents completely agree, 37.9% (n=81) agree, 5.1% (n=11) have no idea, 3.3% (n=7) agree, 3.3% (n=7) of respondents completely disagree with this statement.

Table 3 indicate that the attitude of 214 participants regarding "Through Initial mentioning by physician and receiving appropriate cure, neonatal jaundice is treatable", 62.1% (n=133) of respondents completely agree, 24.8% (n=53) agree, 10.7% (n=23) have no idea, 0.5% (n=1) agree, 1.9% (n=4) respondents completely disagree with this statement.

Descriptive analysis

The descriptive analysis of demographic data, knowledge and attitude shows in table.

Summary of Descriptive Analysis

Demographic Data

Summed scores were used to calculate means range, variance and standard deviation with the purpose of

Table 3. Questions of attitude on neonatal jaundice

Sr#	Questions	Completely agree *f*(%age)	Agree *f*(%age)	No idea *f*(%age)	Disagree *f*(%age)	Strongly Agree *f*(%age)	Total *f*(%age)
1	I am worried about developing jaundice in my infant.	145 (67.8%)	57 (26.6%)	4 (1.9%)	3 (1.4%)	5 (2.3%)	214(100%)
2	I am worried about several blood tests of my infant because it can cause anemia.	35 (16.4%)	45 (21.0%)	36 (16.8%)	29 (13.6%)	69 (32.2%)	214(100%)
3	If jaundice develops in my infant, I will use traditional treatment because this disease is not dangerous.	40 (18.7%)	34 (15.9%)	19 (8.9%)	31 (14.5%)	90 (42.1%)	214(100%)
4	If jaundice develops in my infant, I won't use traditional treatment because it may be harmful for him.	128 (59.8%)	39 18.2%)	21 (9.8%)	4 (1.9%)	22 (10.3%)	214(100%)
5	If jaundice develops, since I am afraid of hospitalizing my infant, I won't consult a physician.	25 (11.7%)	16 (7.5%)	19 (8.9%)	61 (28.5%)	93 (43.5%)	214(100%)
6	Neonatal jaundice is a serious condition.	108 (50.5%)	81 (37.9%)	11 (5.1%)	7 (3.3%)	7 (3.3%)	214(100%)
7	Early referring to a physician and getting proper treatment, neonatal jaundice is curable.	133 (62.1%)	53 (24.8%)	23 (10.7%)	1 (0.5%)	4 (1.9%)	214(100%)

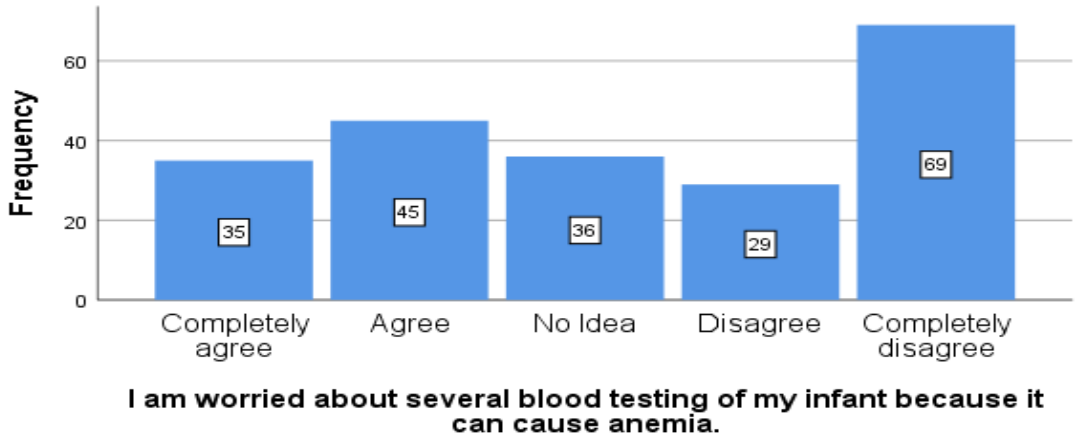

Figure 3. Demonstration of the perspectives of 214 participants regarding attitude towards blood testing

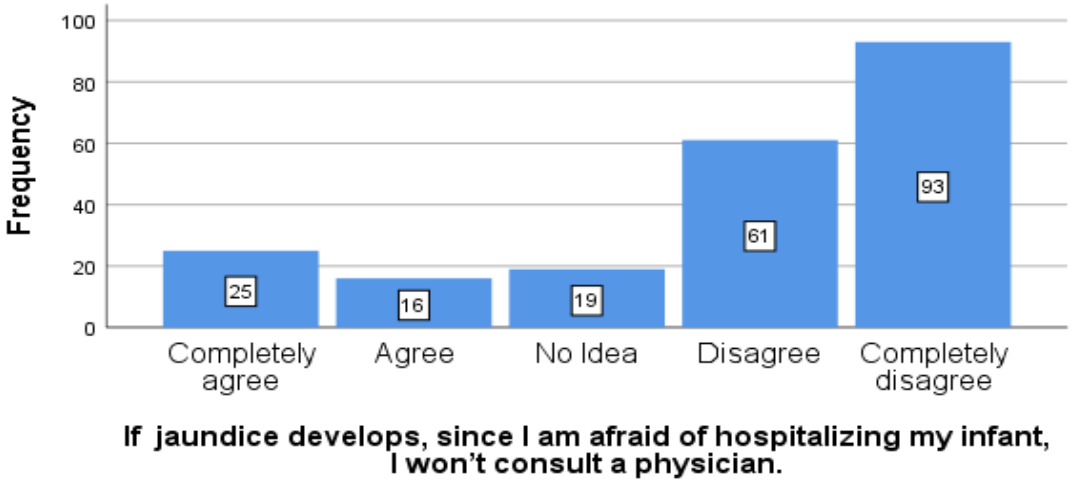

Figure 4. Shows the attitude of 214 participants towards the admitting their infant in hospital

conducting descriptive analysis of demographic data. Samples of 214 participants were used for this analysis and the purpose range of score was 4 as our standard deviation, mean and variance are (SD = 0.640, Mean = 1.865, Variance=0.550).

Knowledge

Summed scores were used to calculate means range, variance and standard deviation with the purpose of conducting descriptive analysis of knowledge. Sample of 214 respondents were used for the analysis. Purpose range of score was 1 as our variance, mean and standard deviation are (Variance =0.169, Mean =1.329, and SD = 0.404).

Attitude

Summed scores were used to calculate means range, variance and standard deviation with the purpose of conducting descriptive analysis of attitude. Sample of 214 participants was used for the analysis. Purpose range of score was 4 as our mean, variance and standard deviation are (Mean =2.441, Variance =1.513 and SD = 1.193).

DISCUSSION

This was a cross sectional study. This study was conducted in The University of Lahore, Lahore School of Nursing. Data was collected through questionnaires from the mothers who visited the university of Lahore teaching hospital. 2.3% of the participants were belonging to the age group less than 19 years , 76.6% participants belongs to the age group of 20 –34years and 21.0% participants belong to the age group of more than 35 years. Similarly, participants lived in urban residence and 68.7% of participants and 31.3% have rural residence. In this study, participants of 66.8% were unemployed and 33.2% were employed. In this cross sectional study, 57.0% of females have natural vaginal delivery while 43.0% females have cesarean section. Furthermore, 15.4% of participants were illiterate, 22.9% belonged to Academic education, 8.9% had elementary education, and 23.4% belonged to the High school education group, 29.4% of participants were qualified with University education. 36.4% were first birth fecund of neonates, and the remaining 63.6% were with second and more.

The questionnaire consisted of two parts. First part contains knowledge of mothers about neonatal jaundice and the second part contains the attitude of mothers about neonatal jaundice. The participants (mothers) responded in a different way to all questions. Most of the mothers (98.1%) have good knowledge about neonatal jaundice and about 4% of others have poor knowledge regarding neonatal jaundice or some even do not know about NNJ. In the city of Dhaka, another study was conducted in tertiary care hospitals which showed that 86% of the respondents listed correct answers to knowledge related questions like. 92% of the participants know about Jaundice in newborn which is yellowish and discoloration of skin while 8% of the members do not know about it, or have poor knowledge regarding this disease (Huq et al., 2017).

48.6% of mothers have no information that jaundice is a common issue in newborn and according to 51.4%, it is a common problem in neonates according to this study. Another study was conducted in Motahari Hospital, Iran which shows that 45.5% of mothers have no information about jaundice which is a common issue in newborn children. Neonatal jaundice was still the leading cause of death in neonates if not treated immediately. In severe cases, it requires immediate medical attention (Rabiyeepoor et al., 2014).

Jaundice preceding more than 2 weeks is abnormal in this study. 86.9% of the participants stated that and 13.1% participants did not know about neonatal jaundice that early onset is anomalous and required immediate attention. People thought that usually neonatal jaundice acts in the first few hours after birth, it will have no influence on the baby if it does not appear after some hours of delivery. Study conducted by Hossain and other members in tertiary care hospital of Dhaka has quite similar findings where 76.7% of participants in relation to this jaundice lasted more than 2 weeks (Huq and Hossain, 2017).

About 70.6% of participants in this study agreed that breast feeding cannot be the cause of jaundice in neonates. On the other hand, 29.4% of respondents replied it can cause illness. A study conducted in Motahari hospital of Iran suggested that in this study, 80% of participants did not agree with the statement that mother feeding can develop jaundice. They believe that it is the premium nutrition for newborn and it is unbelievable that it can be the reason for ailment (Rabiyeepoor et al., 2014).

73.4% of mothers stated that phototherapy is the best treatment for neonatal jaundice while phototherapy is a treatment of neonatal jaundice. 26.6% of mothers have no information about it. According to some mothers, jaundiced babies are kept in a special device, they have no knowledge about phototherapy devices. Some mothers have no information about how to cope with neonatal jaundice. 66.8% of mothers believed that exposure to sunlight is not harmful for jaundiced babies and it neither increases the danger of desiccation nor deteriorates the condition but according to 33.2% of mothers, it can worsen the condition. The study was conducted in Turkey by Aladag and co-researchers. They concluded that jaundice infants under direct sun was based on cultural health beliefs and Turkish mothers

continued this exercise regardless of the fact that healthcare providers educated them the accurate method of exposure to sunlight to their infant (Aladag and Filiz, 2006).

In this study, on the question whether "they consider neonatal jaundice is a serious condition?", 50.5% of respondents completely agree, 37.9% agree, 5.1% have no idea, 3.3% agree, 3.3% of respondents completely disagree with this statement. These results are similar as the findings from the study done in Iran showed that 18.5 % of participants completely agree, 39.5% agree, 27.5% have no idea, 13% disagree, and 1.5% completely disagree (Rabiyeepoor et al., 2014).

In this study, the attitude of participants regarding initial discussion to doctor and getting appropriate management, neonatal jaundice is treatable. 62.1% of respondents completely agree, 24.8% agree, 10.7% have no idea, 0.5% agree, 1.9% respondents completely disagree with this statement, according to the study conducted in Motahari hospital. 80% of the respondents agreed to referring doctors and hospitalizing their neonates as they need if jaundice develops while 3.5% of them were not in agreement with hospitalization of their newborn and 16.5% opinion was that "it is not serious and would be cured at home, there is no need of hospitalization for the babies".

Perceptions of the participants regarding attitude towards "Anemia can develop, i am anxious about a number of blood testing of my baby", 16.4 completely agree, 21.0% agree, 16.8% no idea, 13.6% disagree, 32.2% completely disagree with this statement. In the study conducted in Motahari hospital, 63% of mothers reflect willingness for numerous blood testing of their newborn or discussing it with physicians and allow them to do what was essential as soon as jaundice progresses in a baby. The approach of participants regarding "Neonatal jaundice is curable if referred to physician early and receiving appropriate treatment," 62.1% of respondents completely agree, 24.8% agree, 10.7% have no idea, 0.5% disagree, 1.9% (n=4) respondents completely disagree with this statement. In a study which was conducted in Iran, 32% of participants suspected this dangerous disease was absolutely treatable (Rabiyeepoor et al., 2014).

CONCLUSION

The current study indicates that there was a great need to increase information regarding neonatal jaundice. By improving the level of awareness, we can modify attitude and knowledge through educational programs. We can minimize the causes, side effects and other threats that lead towards NNJ. During organized programs, traditional beliefs and practices should be under consideration. We can educate a large number of mothers through regular antenatal talks and TV programs. Mothers have little knowledge about neonatal jaundice and its care. Therefore, mortality ratio is high because mothers are not properly educated. In the rural areas, women cannot question their reproductive rights, death and illness rate are quiet in elevation between rural mothers. Through necessary measures, we can provide useful information to the rural mothers and rescue number of neonates and mothers.

RECOMMENDATIONS

This study found that mothers have inadequate knowledge and attitude regarding neonatal jaundice. Some mothers do not know about neonatal jaundice or some have poor knowledge. We should conduct antenatal awareness programs for the mothers who visit Gynecology indoor and outdoor departments. By improving the knowledge of mothers, we can minimize the mortality rate of neonates. In this way, we can enhance the quality of care for both mothers and neonates and can develop a healthy society. About the information of neonatal jaundice between mothers, seminars should be conducted. Advance study can be conducted which will cover a number of populations and have a great view with larger sample size.

LIMITATIONS

The sample size was small due to limited resources and information was gathered from just a single setting, therefore this study has too many limitations. Its findings can't be generalized to the whole population.

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