

Mother's Practices Concerning Care of Low-Birth-Weight Neonates in Rapareen Teaching Hospital for Children in Erbil City

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ABSTRACT

Background and Objectives: Low birth weight is a major contributor to an indirect cause of neonatal mortality. The study's goal was to evaluate mothers' practice regarding low-birth-weight neonate's care.

Methods: This is a quantitative descriptive cross-sectional study. The research was conducted at Erbil's Rapareen Teaching Hospital for Children. Non-probability (purposive) sample of 245 mothers who visited the NICU at RTHC. The questionnaire format was used to collect data during a direct face to face interview. The data collecting period was from January 1st to August 1st, 2022, with interviews lasting roughly 20-30 minutes. Neonates with low birth weights who were admitted to the hospital were included. Formal and ethical authorization was obtained prior to data collection. Validity is determined by a panel of 15 experts in the field. Person correlation was used to determine and quantify internal consistency reliability, which was 0.81. The pilot trial included 15 mothers. The connection between variables was determined using inferential statistical analysis (Chi-square). A P-value is regarded statistically significant if it ≤ 0.05 .

Results: The study results reveal, housewives outnumbered mothers aged between 27 to 33years old. Completed secondary school. We had a middle-class income and lived in the city. Normal vaginal delivery was used to birth the babies. In public hospitals, neonates aged 1 to 5 days were born, with females being the majority. Most women examine the umbilical cord for symptoms of infection. Moreover, half of those interviewed did not apply ointment to their skin. Furthermore, the study found a statistically significant association between socio-demographic characteristics such as the mother's age at marriage, mode of delivery, antenatal care, house ownership, the mother's occupation, socioeconomic status, and the mothers' practices, with p-values of 0.002, 0.004, 0.012, 0.033, 0.007, and 0.034, respectively.

Conclusion: The outcome of the study revealed that most of mothers had good practices for age, low income, infection, and house ownership, which are the primary causes of low birth weight newborns in Erbil. Improving mothers' practices will lead to improved maternal care for LBW and reduction in LBW in Erbil.

Keywords: Mothers; Intensive Care Units; Low Birth Weight; Umbilical Cord; Occupations.

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INTRODUCTION

Low birth weight is the delivery of a live infant weighing less than 2500g, according to the World Health Organization (WHO). There are two levels of low birth weight: very low and extremely low [1]. Around the world, 18 million LBW infants are born each year. Ethiopia had a 28.3% prevalence of LBW infants in sub-Saharan Africa, while Zimbabwe had 199 per 1,000 live births. About 5 to 6 million children in Nigeria are impacted by LBW each year [2]. Every year, it causes between 60% and 80% of all neonatal deaths [3]. Low birth weight babies are more susceptible to morbidity, stunted growth, impaired cognitive development, and continued underweight and stunted weight throughout infancy. Girls are more likely to develop into women with short stature and an underdeveloped pelvis, which increases the risk of obstetric complications during childhood [4]. Health conditions like infections, high blood pressure, malaria, and syphilis can all cause LBW [3]. Birth weight (BW) has a direct impact on a child's development and survival and places a financial and social burden on individuals, families, health care systems, and governments [5]. Pulmonary tuberculosis and IUGR share a number of maternal characteristics, risk behaviors, and social determinants in common, such as maternal malnutrition, low body mass index, poverty, black race, close child spacing, low maternal education, subpar antenatal care, substance abuse, and emotional and physical stress are causes to have LBW neonates. Chorioamnionitis, vaginitis, bacteriuria, and systemic or remote site infections like sepsis and periodontal disease are additional factors that contribute to LBW neonates [6]. Respiratory failure, hypoxia, and intra-ventricular hemorrhage cause the immediate sequel of LBW [7]. The cardiovascular, nervous, and metabolic systems are all involved in the complex

process of producing heat [9]. Infants who are underweight are more at risk for complications like cerebral palsy, mental retardation, respiratory diseases, sudden infant death syndrome, and physical and neurological disabilities [9]. Increased breastfeeding and weight gain may result from parental caregiving for LBW [10]. Increased breastfeeding and weight gain may result from parental caregiving for LBW [11]. Nowadays all mothers who give birth at hospital received instruction on good hygiene and how to keep the baby warm [13]. Breast milk is sufficiently rich in vitamins, minerals, protein, carbohydrates, and lipids to support adequate growth and development of LBW neonates, and it has the advantages of bioavailability and economic viability [14]. Kangaroo Mother Care, a special approach to caring for LBW infants, entails keeping the infant close to the mother while solely breastfeeding [15].

METHODS

A quantitative; cross-sectional descriptive study was used for conducting this study. The study was carried out at Rapareen Teaching Hospital for Children (RTHC) in Erbil city. It has been established in 2005. The inpatient department includes the Emergency, Surgery unit, medical unit, and Neonatal Intensive Care Unit (NICU). This study was conducted in Rapareen teaching hospital for children in /Erbil and the time interval was between 1st of Jan to 1st of Aug. 2022. Non-probability purposive of 245 mothers who attended NICU at RTHC were selected. Data was gathered through direct interview by using the questionnaire format which was prepared by the investigator after rich interview of related. According to nonofficial census of RTHC there were, 630 cases associated with the LBW and admitted to NICU in 9 months (11). Non-probability of 245 causes, after the calculation of the sample size

by substitution the numbers into the Yamane formula as follow:

n=sample size

N= population size

e=level of precision or sample errors = 0.05

Were recruited to the study. All mothers with their LBW neonates LBW neonates who admitted to hospital. LBW aged between first day to one month and admitted to the hospital with their mother. Mothers those are free of medical and psychological problems. Mothers who agreed to participate in the study. Before data collection, formal permission was obtained from Hawler Medical University Collage of Nursing and RTHCH for conducting the study. Ethical approval was obtained from the scientific and ethical committee number 106 in 7 / 10/ 2021 , and finally the verbal permission was taken from the mothers before starting interview. The tool was not consisting of personal information such as personal phone number, address, personal information, and the researcher promised to keep the data for confidentiality and anonymity. The tool of data collection consisted of two parts: Part one: this part consists of three sections: Section one consisted of items that related to the socio-demographical characteristics of the mothers. Second section was to assess the mothers' obstetrical history. Section three was to assess the biographic information of LBW. Second part was to assessment the mother's practice regarding LBW baby: This part consisted of 14 related questions. Three Likert scales include: good 3, fair 2, and poor 3. The scores were rating between 1-10 for poor practices, 11-20 fair practices, and 21-28 good practices. Data was gathered through the direct interview (face to face) by using the questionnaire format which was prepared by the investigator. Validity of the study instrument was determined initially through the panel of 15 experts of different specialties. Internal

consistency reliability was determined and measured through applying Person correlation(r), and this was 0.81, and indicated that the scales were adequately reliable the practice. Pilot study was conducted on 15 mothers. The data was analyzed through using SPSS software for statistical analysis Version 25, for calculating descriptive statistical analysis (frequency and percentage). Inferential statistical analysis (Chi-square) and (Fisher's Exact Test) used to determine the association between variables. The P-value considered statistically significant if it's ≤ 0.05 .

RESULT

The study shows that the highest percentage 35.1% of the mothers aged between 27-33 years old, most 75.5% were housewives. One quarter (24.5%) of the mothers graduated from secondary school. The majority 97.6% were Muslim. Regarding the mother's socioeconomic status, the current study shows that the highest percentages 91.8% of them were in middle economic live level. Finally, regarding the mother's residential areas 60% were living in Urban. Concerning mothers' obstetrical history table 1, shows, that more than one-third 40.4 % of the mothers had a normal vaginal delivery. The highest percentages 44.1% were married at the age of 20-26 years. Regarding biographical characteristics of LBW table 2 Regarding mothers' antenatal care 57.1% of mothers apply ointment to their LBW umbilical. One-third 35.9% of neonates aged were between 1-5 days, and a half 51.8% were close relatives. Meanwhile, females represented the highest percentage 58.8%. Regarding the place of delivery, the study found that more than half 63.3% of the babies were born in public hospitals and only one quarter 27.8% of the babies were breastfeeding.

Table 1: Assessment of Socio-Demographic Characteristics of the Mothers (n= 245)

	Variables	F. (%)
Age/years old	Less than 20	30(12.2)
	20-26	75(30.6)
	27-33	86(35.1)
	34-40	42(17.2)
	More than 40	12 (4.9)
Occupation	Housewife	185 (75.5)
	Public employee	44(18)
	Private employee	12(4.9)
	Student	2 (0.8)
	Self-employee	2 (0.8)
Level of education	Illiterate	58 (23.7)
	Can read and write	21(8.6)
	Primary school	36(14.7)
	Secondary school	60(24.5)
	Diploma institute	34(13.9)
	High degree	36 (14.7)
The religions	Muslim	239(97.6)
	Christian	3(1.2)
	Yazidi	3(1.2)
Socio-economic status	Low	2(0.8)
	Middle	225(91.8)
	High	18 (7.3)
Residential areas	Urban	147(60)
	Rural	64(26.1)
	Sub-urban	34 (13.9)

Table 2: Mothers' obstetrical history (n=245)

	Mothers' obstetrical history	F. (%)
Mode of delivery	NVD	100(40.4)
	CS	62(25.3)
	NVD with episiotomy	83(34.3)
Age at married/years	Less than 20	105(42.9)
	20-26	108(44.1)
	27-33	21(8.6)
	34-40	11(4.5)
	More than 40	0(0)
Antenatal care	Private facilities	215(87.8)
	Primary health centers	4(1.6)
	Both sector	26(10.6)
Total		245(100)

Table 3: Assessment of Biographical Characteristics of LBW (n= 245)

Biographical Characteristics of LBW		F. (%)
Age of neonate/days	1-5	88(35.9)
	6-10	85(34.7)
	11-15	36(14.7)
	16-20	20(8.2)
	More than 20	16(6.5)
Parents' degree of relatives	Close relative	127(51.8)
	Distance relative	118(48.2)
Gender of neonate	Female	144(58.8)
	Male	101(41.2)
Place of the delivery	Home	8(3.3)
	Public hospital	155(63.3)
	Private hospital	82(33.5)
Gestational age	Full- term	244(99.6)
	Post-term	1(0.4)
	Preterm	1(0)
Type of feeding	Breastfeed	68(27.8)
	Bottle-feeding	58(23.7)
	Both	52(21.2)
	NG tube	63(25.7)
	Nothing per oral	4(1.6)

Table 4 shows the highest percentage 62% of mothers keep temperature between 35-36.5 °C. Meanwhile 49% of them give relaxing massage to their neonates. Almost three quarters 72.2% of mothers feel comfort while breastfeed to LBW. Using a cup or a spoon till the baby can suck effectively is refused by more than half of mothers 59.2%. 81.2% of mothers feed their neonates 6-8 times in 24hrs some of mothers 42.4% pick their LBW when crying while breastfeeding. Three quarter 75.1% of mothers did not put their LBW in quiet and healthy environment during feeding. Wiping the breast nipple when feeding to prevent infection was done by 60.8%. Almost 94.7% of mothers did not give their LBW 15-20ml/kg/day. Most mothers 79.6% clean cord daily. 57.1% of mothers apply

ointment to their LBW umbilical. The majority 82.9% of mothers pay attention to umbilical for signs of infection. More than half of mothers 54.7% did not apply ointment on skin to protect dermatitis. Majority of mothers 89.4% change babies' body's position to keep them from pressure area. Moreover, the study reveals a highly significant and some significance association between socio-demographical characteristics such as the age of the mother at /marriage, Mode of the delivery, Antenatal care, house ownership, Occupation of the mother and Socio-economic status (12). With p – value: 0.002, 0.004, 0.012, 0.033, 0.007 and 0.034 respectively (table 5).

Table 4: Mothers’ Practice Regarding Caring for LBW Neonates (n= 245)

Practices of mothers of LBW	Good	Fair	Poor
Did you.....	F (%)	F (%)	F (%)
Keep the ambient body temperature in the incubator at around 35-36.5 °C	152(62)	87(35.5)	6(2.4)
Give the baby a warm, relaxing massage.	120(49)	16(6.5)	109(44.5)
Breastfeed your neonate and notice it comforting for you and the neonate.	177(72.2)	28(11.4)	40(16.3)
feed neonate using a cup or a spoon until the baby can suck effectively	84(34.3)	16(6.5)	145(59.2)
Feed your neonate 6-8 times within 24 hours.	199(81.2)	41(16.7)	5(2)
Feed your baby and pick him\her up when crying?	59(24.1)	104(42.4)	82(33.5)
Place your baby in a quiet and healthy environment, particularly during feeding.	57(23.3)	4(1.6)	184(75.1)
Wipe the breast nipple before each feeding to prevent infection.	149(60.8)	15(6.1)	81(33.1)
Give 15-20ml/kg/day to your neonate weight < 1kg?	12(4.9)	1(0.4)	232 (94.7)
The clean cord of your neonate daily?	195(79.6)	27(11)	23 (9.4)
Applying any ointment on your neonates' umbilical?	140(57.1)	18(7.3)	87(35.5)
Observe your baby's umbilical for signs of inflammation or any discharge.	203(82.9)	32(13.1)	10(4.1)
Apply any topical skin ointment to reduce dermatitis and the risk of sepsis.	99(40.4)	12(4.9)	134(54.7)
Change the baby's body position by doing a range of motion your baby to prevent pressure area breakdown.	219(89.4)	12(4.9)	14(5.7)

Table 5: Association Between Mothers’ Practices and Socio-Demographical Characteristics Regarding Caring

Mothers’ practices		Good	Fair	Poor	P-value
		F (%)	F (%)	F (%)	
Socio-demographical characteristics					
Age/ years	Less than 20	58(55.2)	47(44.8)	0(0)	0.002
	20-26	59(54.6)	49(45.4)	0(0)	
	27-33	11(52.4)	8(38.1)	2(9.5)	
	34-40	5(45.5)	5(45.5)	1(9.1)	
Level of education	Illiterates	34(58.6)	24(41.4)	0(0)	0.706
	Can read and write	13(61.9)	8(38.1)	0(0)	
	Primary school	16(44.4)	19(52.8)	1(2.8)	
	Secondary school	30(50)	29(48.3)	1(1.7)	
	Diploma institute	17(50)	17(50)	0(0)	
	High degree	23(63.9)	12(33.3)	1(2.8)	
Mode of the delivery	NVD	21(14.7)	107(74.8)	15(10.5)	0.004
	CS	29(33.3)	44(50.6)	14(16.1)	
	Episiotomy	2(13.3)	11(73.3)	2(13.3)	
The religion	Muslim	229(95.8)	9(3.8)	1(0.4)	0.992
	Christian	3(100)	0(0)	0(0)	
	Yazidi	3(100)	0(0)	0(0)	
Antenatal care	Private facilities	51(23.7)	141(65.6)	23(10.7)	0.012
	Primary health centers	0(0)	2(50)	2(50)	
	Both sector	1(3.8)	19(73.1)	6(23.1)	

Table 5: Association between Overall Mothers’ Practices and Socio-Demographical Characteristics Regarding Caring for LBW

Mothers’ practices		Good	Fair	Poor	P-value
		F (%)	F (%)	F (%)	
Socio-demographical characteristics					
House ownership	Owned	174(96.1)	7(3.9)	0(0)	0.033
	Partially owned	20(90.9)	1(4.5)	1(4.5)	
	Rent	41(97.6)	1(2.4)	0(0)	
Occupation of the mother	Housewife	72(38.9)	22(11.9)	91(49.2)	0.007
	Public employee	29(65.9)	0(0)	15(34.1)	
	Private employee	6(50)	0(0)	6(50)	
	Student	1(50)	1(50)	0(0)	
	Self-employee	0(0)	0(0)	2(100)	
Socio-economic status	Low	1(50)	1(50)	0(0)	0.034
	Middle	91(40.4)	132(58.7)	2(0.9)	
	High	7(38.9)	11(61.1)	0(0)	

DISCUSSIONS

The results of highest percentage of maternal age 35.1% were between 27-33 years old which is consistent with the findings of ,Talie Asmare (2019) who found that the most age of their participants were between 25 to 32 years old [4], which is similar to the results of study [13] who showed that majority of attendances were in between 23-31 years old, and most 75.5% were housewives also this finding is accepted by another study (14) who confirmed that mostly attendances were house wives. One quarter 24.5% of the mothers graduated from secondary school. at the same time these findings are accepted by another investigation proposed by [15] showed that most of participants have not got high degrees and study secondary schools. The majority of mothers 97.6% were Muslims there is acceptance between our findings and another survey [14].The current study shows that the highest percentages 91.8% of mothers live living middle economic status, in another study unlike our study that have been conducted by Borders AEB [16] Most of participants live in high economic status. Regarding the mother's residential areas the majority 60% were living in Urban, unlike our study the majority of participants in a study done by Abdullah who confirmed that participants were live in rural area [14]. Concerning mothers' obstetrical history current study shows, that around one-third 28.2% of the mothers had a normal vaginal delivery. Unlike our study the majority of mothers delivered their baby through CS [15].The highest percentages 44.1% were married at the age of 20-26 years, these findings are accepted by a study by Schuler and the colleagues[17]almost most of the attendances were get married when their ages were between 20-27 ages. Regarding mothers'

antenatal care the highest percentage of them 87.8% attend privet facilities, At the same time in a study that has been done by Abdullah CS [20] there was accepted the same similarity between age at early stage, attending facilities. One-third 35.9% of neonates aged between 1-5 days, and a half 51.8% were close relatives. Meanwhile, females represented the highest percentage 58.8%. Regarding the place of delivery, the study found that more than half 63.3% of the babies were born in public hospitals and only one quarter 27.8% of the babies were breastfeeding the study result dose not constant with another study that majority of mothers breast feed to their neonates [23].The highest percentage 62%of mothers keep temperature between 35-36.5 °C, the study result is constant with another study which confirm that the mothers kept their baby and tried keep their body temperature normally [19]. Meanwhile 49% of them give relaxing massage to their neonates. Almost three quarter 72.2% of mothers feel comfort while breastfeed to LBW there is acceptance between this finding and another study done by [20]who were did the similar steps that have been done in our study as having relaxing massage. Using a cup or a spoon till the baby can suck effectively refused by more than half of mothers 59.2%.81.2% of mothers feed their neonates 6-8 times in 24hrs,the findings are similar with the findings confirmed the similarity [25].some of mothers 42.4% pick their LBW when crying while breastfeeding. Three quarter 75.1% of mothers did not put their LBW in quiet and healthy environment during feeding. Wiping the breast nipple since feeding to prevent infection implemented by 60.8%. Almost all 94.7% of mothers did not give their LBW 15-20ml/kg/day the results of those findings are similar to the findings that confirmed that LBW babies were give less

than 15 ml/day [5]. Majority of mothers 79.6% clean cord daily. 57.1% of mothers apply ointment to their LBW umbilical, special attention to cleaning of umbilical cord also accepted by another finding in an investigation [21]. The greater part 82.9% of mothers pay attention to umbilical for signs of infection. More than half of mothers 54.7% did not apply ointment to skin to protect dermatitis. Majority of mothers 89.4% change baby's body's position to keep them from pressure area, these findings were also supported by a conducted study [22]. Moreover, the study reveals a significant association between socio-demographical characteristics such as the age of the mother at /marriage, Mode of the delivery, Antenatal care results of those findings are similar to the findings that confirmed in [23]. House ownership, Occupation of the mother and Socio-economic status, so these findings are accepted by another study [24] who confirmed that there were significance association between mode of delivery and house ownership.

CONCLUSION

The outcome of the study revealed that most of the mothers had good practice regarding care of LBW neonates in Erbil city. At the same time Mothers have not got good practice regarding kangaroo mother care. Meanwhile there were significant association between socio-demographical characteristics such as (the age of the mother at /marriage, Mode of the delivery, Antenatal care, house ownership, occupation of the mother and socio-economic status). Meantime there were not any significant association between level of education and religion of participants.

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ETHICAL CONSIDERATION

the study approved by ethical committee/Hawler Medical University-Erbil

CONFLICT OF INTEREST

The author reports no conflict of interests.

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