Thi-Qar Medical Journal (TQMJ):Vol.(26),No.(2),2023
Web Site: https://jmed.utq.edu Email: utjmed@utq.edu.iq
ISSN (Print):1992-9218

Indications of Cesarean Section and its Impact on Breastfeeding Initiation, Duration, Method of Feeding and Difficulties in the First 6 Months Postpartum in Rania City

Mahmood Arif Mahmood[1*]

Kaify Jamil Qadir[2]

Gashbin Akram Najib[3]

Dlnya Kamaran Asad[4]

Zhina Salih Abdulls[5]

1* BSc, MSc, and PhD in Pediatric Nursing Science / University of Raparin / College of Nursing / Iraq m.mahmood@uor.edu.krd (correspondence)

2 BSc, MSc, and PhD in Pediatric Nursing Science / Hawler Medical University / College of Nursing / Iraq Kaify.qadir@hmu.edu.krd

3 BSc Nursing / gashbinakram6@gmail.com

4 BSc Nursing / dlnaykamaran673@gmail.com

5 BSc Nursing / zhinasalih09@gmail.com

Abstract

Background: Breastmilk is vital in attaining newborn health and optimum growth and development. Early initiation of breastfeeding which is affected by way of delivery has great importance for both mothers and newborns. The main aim of this study is to assess breastfeeding barriers and difficulties among mothers undergo cesareans section.

Methodology: A cross sectional, descriptive study was conducted among a convenience sample of 100 mothers having 6-24-month age children which were born through cesarean section in Rania city. The data were collected using a questionnaire format with face to face interviewing technique from 15th to 27th December 2021. Validity and reliability of the data collection tool was attained (r.=0.73) and data were analyzed using SPSS.

Results:

More than half of mothers were at the age of 24-35 years old**.** The highest percentage of mothers 42% were at the highest level of education and the majority of them 82% were house wife. Most of the mothers 79% were at barely sufficient monthly income. About half of the cesarean deliveries 47% were emergency. Only 36% of the mother's initiate feeding within first hour and 54% of them practiced exclusive breastfeeding for the first day following delivery. Highest percentage of mothers mentioned pain as a main difficulty for breastfeeding within the first day of life, while insufficient milk was the main difficulty following that period. There were no significant association between breastfeeding history, difficulties of breastfeeding and indications of cesarean section.

Conclusion:

Cesarean delivery adversely affected timely initiation of breast feeding and continuing for the age of six months. Different indications of cesarean delivery had no significant association with the history of breastfeeding and its difficulties.

Keywords: Timely initiation of breastfeeding, Exclusive breastfeeding, Cesarean section, Indications, Postpartum

Introduction

Breast feeding is crucial for neonate and infant health, optimal growth and development. Both World Health Organization (WHO) and the United Nation's International Children's Emergency Fund (UNICEF), proposed that breastfeeding should be initiated within one hour following delivery. In addition to that, they recommend sustaining exclusive breastfeeding for the first six moth of child's life (Organization and UNICEF., 2003, Organization, 2018). Early initiation of breastfeeding is a key to successfully continuing exclusive breastfeeding for the rest of the first six month of life and associated with short and long term health benefits though out child's life. Breastfeeding improves optimum nutrition and lower rates of acute and severe malnutrition, protects the newborn from infection, and lowers infant and under-5 mortality and morbidity.

Evidence from developing nations revealed that infants who started breastfeeding within one hour of birth had much lower overall morbidity, including hospitalization rates, rates of acute illness, lower blood pressure and cholesterol level, lower risk of asthma, type 2 diabetes and obesity prevalence rate. (Smith et al., 2017, Hobbs et al., 2016, Horta et al., 2015). Despite the significant short and long-term benefits of prompt breastfeeding initiation, it is still unacceptable low, particularly in underdeveloped nations. Globally, three out of five newborn babies were not breastfeed on time following delivery (Smith et al., 2017, Getaneh et al., 2021).

Since it is known that breastfeeding offers several long-term advantages for both mothers and babies, understanding how C-section delivery affects breastfeeding initiation and duration is crucial (Hobbs et al., 2016).

Several factors, including mothers' health and emotional responses to the surgery as well as infant behavior and health, might affect how effectively caesarean section patients breastfeed. For instance, a woman's limited movement and sever pain immediately following caesarean delivery, admitting the high risk neonate to neonatal intensive care unit may make it more difficult to provide timely breastfeeding and other essential newborn care. On the other hand, it is proposed that caesarean section may disrupt the hormonal route that promotes "lactogenesis" because of maternal stress or oxytocin secretion reduction, and that this may result in a delay in milk production (Yisma et al., 2019). Subsequently, a higher rate of mothers start formula milk other than breastmilk and their reason is they have no enough milk and their baby still hungry following breastfeeding (Mahmood, 2016).

Methodology

A cross sectional, descriptive study was conducted among a convenient sample of 100 mothers that gave last birth with cesarean section and their child at the age of (6-23 month) in Rania city of Kurdistan Region of Iraq.

The data were collected through utilizing and adopted modified questionnaire with face to face interviewing technique from 15th to 27th December 2021. Before data collection, individual consent was obtained from each participant.

Through a panel of experts from different workplaces and specialists content validity (clarity and relevancy) of the instruments was determined. The internal consistency and reliability coefficient of the data collection tool were attained through conducting a pilot study on a sample of 10 mothers and using Cronbach’s alpha and the result was r=0.73. The inclusion criteria for this study were mothers gave last birth with cesarean section and their child were at the age of 6-23 months. Participants should be in physically and mentally healthy status. Following data collection and data entering to the statistical package of social science (SPSS) version 26, data analysis was performed with the help of descriptive and inferential statistics such as chi-square, Frequency and percentage as descriptive statistics, Chi-Square to compare the differences and significands between variables. Statistical significance was defined as $P<0.05$.

Results

Table 1 shows that most of mother's age 29% were between 24-29 years old. It is seen that nearly half of mothers 42% were graduated from university, while only 4% of them were able to read and write. The majority of the mothers 82% were housewife, while 15% of them were employee and only a few numbers of them 3% had self-job. In relation to the family monthly income, most of the study respondents (79%) monthly income was barely sufficient. Regarding type of family, majority of them 91% were lived as nuclear type of family. Moreover, it is presented that high percent of the families 79% were living in urban area.

Table(1): Socio-Demographic Variables of Mothers

Items		Frequency	Percent
Age Group	18-23 years	17	17.0
	24-29 years	29	29.0
	30-35 years	25	25.0
	36-41 years	25	25.0
	42-47 years	4	4.0
Level of education	Unable to read and write	12	12.0
	Able to read and write	4	4.0
	Primary school graduation	25	25.0
	Secondary school graduation	17	17.0
	University graduate	42	42.0
Occupational status	Housewife	82	82.0
	Employee	15	15.0
	Self- job	3	3.0
Family monthly income	Highly sufficient	17	17.0
	Barely sufficient	79	79.0
	Insufficient	6	6.0
Type of family	Nuclear	91	91.0
	Extended	9	9.0
Address	Urban	77	77.0
	Sub-Urban	18	18.0
	Rural	5	5.0

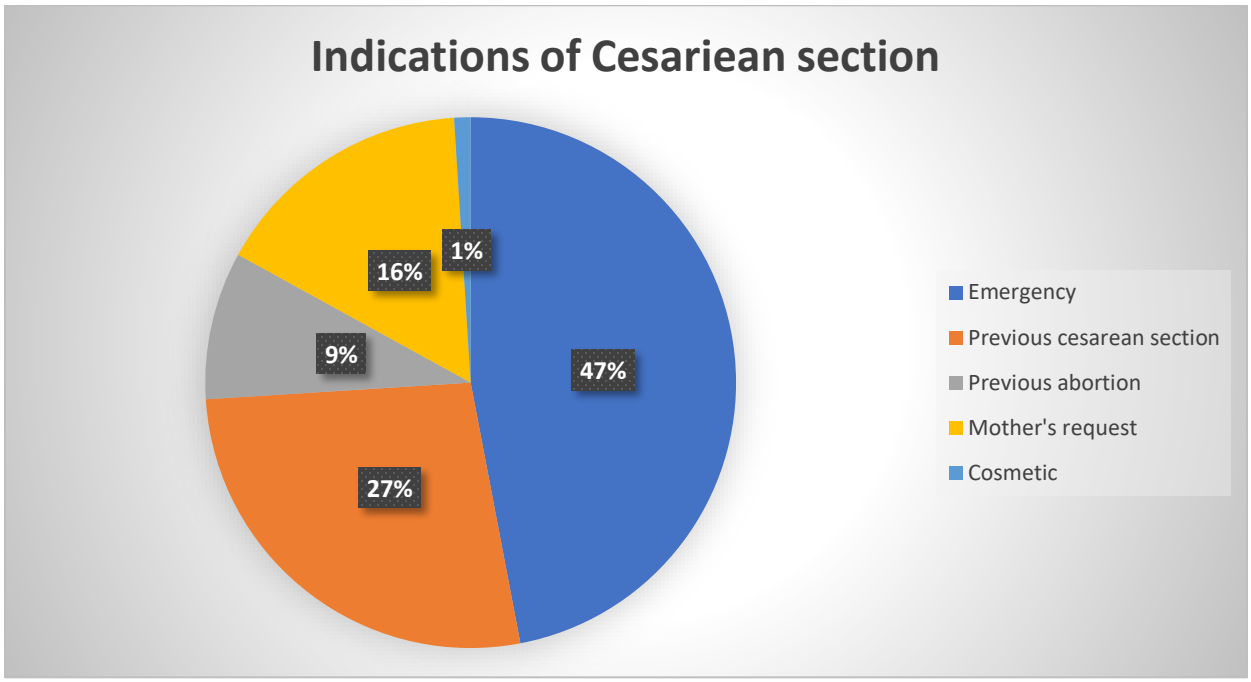

Figure (1): Indications of Cesarean Section

A pie chart above demonstrates the distribution of maternal indications for C/S nearly half of medical indications were emergency (47%) followed by another category such as previous C/S (27%) and only (1%) of them was cosmetic.

Table 2 reveals that about one-third of the babies (36%) were initiated breast feeding within one hour following birth, whereas 18% of the babies' initiation of feeding were after 24 hours following birth. Regarding baby being placed directly on mother's skin soon after birth (kangaroo mother care), about half of the mothers 51% were practiced skin to skin contact. Also, the majority of mothers (87%) counseled about breastfeeding during postnatal periods. More than half of the newborn and infants (54%) were breastfeeding during their first 24 hours of life. While the rate of breastfeeding was gradually decreased from 54% to 51% and 44% from their first hour following delivery to the neonatal period and then to the first six month of life respectively. In respect to pain during breastfeeding as one of the difficulties recorded a high level 46% during first 24 hours following delivery. While the problem level decreased to 15% during neonatal period and further decreased to only 3% during first six month of life.

Table (2): Baby's Feeding History and Difficulties following Delivery

Variables	Categories	Frequency	Percent
Initiation of Breast Feeding After Birth	Within One Hour	36	36.0%
	Within 24 Hours	46	46.0%
	After 24 Hours	18	18.0%
Baby Being Placed Directly on Mother's Skin Soon After Birth	Yes	51	51.0%
	No	49	49.0%
Breast Feeding Counselling During Postnatal Period	Yes	87	87.0%
	No	13	13.0%
Method of Feeding For 1st 24 Hours Postpartum	Breast Feeding	54	54.0%
	Formula	33	33.0%
	Mix	13	13.0%
Method of Feeding During First Neonatal Period	Breast Feeding	51	51.0%
	Formula	22	22.0%
	Mix	27	27.0%
Method of Feeding During First Six Month of The Baby's Life	Breast Feeding	44	44.0%
	Formula	18	18.0%
	Mix	38	38.0%
Difficulties of Breastfeeding in The First 24 Hours of Birth	Pain	46	46.0%
	Insufficient Milk	20	20.0%
	Poor Sucking	3	3.0%
	Baby Not Interested	5	5.0%
	None	26	26.0%
Difficulties of Breastfeeding in The First Month of Birth	Pain	15	15.0%
	Insufficient Milk	22	22.0%
	Poor Sucking	7	7.0%
	Baby Not Interested	8	8.0%
	None	48	48.0%
Difficulties of Breastfeeding in The First 6 Month of Birth	Pain	3	3.0%
	Insufficient Milk	23	23.0%
	Poor Sucking	1	1.0%
	Baby Not Interested	14	14.0%
	None	59	59.0%

Table 3 shows that there were no significant associations between feeding history and indication of caesarean section.

Table(3): Association between feeding history with indication of Caesarean Section.

Variables	Categories	Indicated Of C/S					P-Value
		Emergency	Previous Caesarean Section	Previous Abortion	Mothers Request	Cosmetic	
Initiation of Breast Feeding After Birth	Within One Hour	22	7	3	4	0	0.593
		46.8%	25.9%	33.3%	25%	0.0%	
	Within 24 Hours	19	13	4	9	1	
		40.4%	48.1%	44.4%	56.3%	100.0%	
	After 24 Hours	6	7	2	3	0	
		12.8%	25.9%	22.2%	18.8%	0.0%	
Placing Baby Directly on Mother's Skin Soon After Birth	Yes	23	11	6	10	1	0.418
		57.9%	40.7%	66.7%	38.5%	100.0%	
	No	24	16	3	6	0	
		42.1%	59.3%	33.3%	61.5%	0.0%	
Breast Feeding Counselling During Postnatal Period	Yes	41	23	8	14	1	0.992
		87.2%	85.2%	88.9%	87.5%	100.0%	
	No	6	4	1	2	0	
		12.8%	14.8%	11.1%	12.5%	0.0%	
Method of Feeding During 24 Hours Postpartum	Breast Feeding	23	16	3	12	0	0.420
		48.9%	59.3%	33.3%	75.0%	0.0%	
	Formula	16	8	5	3	1	
		34.0%	29.6%	55.6%	18.8%	100.0%	
	Mix	8	3	1	1	0	
		17.0%	11.1%	11.1%	6.3%	0.0%	
Method of Feeding During First Neonatal Period	Breast Feeding	20	17	5	8	1	0.364
		42.6%	63.0%	55.6%	50.0%	100.0%	
	Formula	9	5	2	6	0	
		19.1%	18.5%	22.2%	37.5%	0.0%	
	Mix	18	5	2	2	0	
		38.3%	18.5%	22.2%	12.5%	0.0%	
Method of Feeding During First Six Month of The Baby's Life	Breast Feeding	19	16	3	6	0	0.054
		40.4%	59.3%	33.3%	37.5%	0.0%	
	Formula	6	2	4	6	0	
		12.8%	7.4%	44.4%	37.5%	0.0%	
	Mix	22	9	2	4	1	
		46.8%	33.3%	22.2%	25.0%	100.0%	

Table 4 shows that there were no significant associations between difficulties of breastfeeding and indication of caesarean section.

Table (4): Association between difficulties of breastfeeding with indication of caesarean section.

Variables	Categories	Indicated of C/S					P-Value
		Emergency	Previous Caesarean Section	Previous Abortion	Mothers Request	Cosmetic	
Difficulties of Breastfeeding in The First 24 Hours of Birth	Pain	25	9	6	6	0	0.162
		53.2%	33.3%	66.7%	37.5%	0.0%	
	Insufficient Milk	7	9	2	1	1	
		14.9%	33.3%	22.2%	6.3%	100.0%	
	Poor Sucking	2	0	0	1	0	
		4.3%	0.0%	0.0%	6.3%	0.0%	
	Baby Not Interested	1	1	0	3	0	
		2.1%	3.7%	0.0%	18.8%	0.0%	
	None	12	8	1	5	0	
		25.5%	29.6%	11.1%	31.3%	0.0%	
Difficulties of Breastfeeding in The First Month of Birth	Pain	6	5	2	2	0	0.413
		12.8%	18.5%	22.2%	12.5%	0.0%	
	Insufficient Milk	9	6	3	4	0	
		19.1%	22.2%	33.3%	25.5%	0.0%	
	Poor Sucking	6	1	0	0	0	
		12.8%	3.7%	0.0%	0.0%	0.0%	
	Baby Not Interested	1	3	0	4	0	
		2.1%	11.1%	0.0%	25.0%	0.0%	
	None	25	12	4	6	1	
		53.2%	44.4%	44.4%	37.5%	100.0%	
Difficulties of Breastfeeding in The First 6 Month of Birth	Pain	1	1	0	1	0	0.826
		2.1%	3.7%	0.0%	6.3%	0.0%	
	Insufficient Milk	8	9	4	2	0	
		17.0%	33.3%	44.4%	12.5%	0.0%	
	Poor Sucking	1	0	0	0	0	
		2.1%	0.0%	0.0%	0.0%	0.0%	
	Baby Not Interested	6	5	0	3	0	
		12.8%	18.5%	0.0%	18.8%	0.0%	
	None	31	12	5	10	1	
		66.0%	44.4%	55.6%	62.5%	100.0%	

Discussion

Results of this study could be discussed and compared with other studies worldwide. Participants of this study were mothers who birth their baby with cesarean section procedure and the main object was to assess the effect of cesarean section on the baby's feeding history. So that, mother's sociodemographic characteristics could play role and should be discussed. The highest percentage of the mothers did cesarean section was at the 24-29 age group. The majority of them were housewife and with the barely sufficient family income.

In term of the mother's level of education, it was attained that nearly half of the mothers who birth their baby with cesarean section were at high level of education. About same result was achieved in a study conducted in Iran as noticed that about half of the Iranian mothers whom undergo cesarean section were at high level of education (Sharifirad et al., 2013). Additionally, in a health survey study conducted in Kenya and Tanzania it was attained that higher cesarean deliveries were associated with both higher maternal education level and richest household mothers (Ochieng Arunda et al., 2020).

In term of the indications for cesarean section, in the present study it is presented that nearly half of the cesarean deliveries were emergency. This result is supported by a study conducted in a rural area of Nepal and pointed out that three-quarters of the cesarean deliveries were performed as emergency (Samdal et al., 2016). An interesting point in this study is that, only about one-third of the mothers' initiate breastfeeding within the first hour following delivery. This result is supported by a systematic review and meta-analysis study among seventeen studies on impact of cesarean delivery on initiation of breastfeeding in Ethiopia (Getaneh et al., 2021). It was pointed out that cesarean section is a significant factor associated with delay initiation of breastfeeding following delivery (Gedefaw et al., 2020, Yisma et al., 2019).

Concerning type of feeding within the first 24 hours following delivery, in the present study nearly half of the mothers give breastmilk to their baby. In a retrospective cohort study conducted in Turkey, results were parallel with the findings of the present study and proposed that just above half of the mothers undergone cesarean section surgery were exclusively breastfeeding their baby for the first three days following delivery (Paksoy Erbaydar and Erbaydar, 2020). In addition to that, in the present study it is exposed that the rate of exclusive breastfeeding was decreased dramatically during postpartum period from delivery to the first six months of life. In a 6-month cohort study in three different communities in China, on the effect of cesarean delivery on breastfeeding practice and duration, it was attained that exclusive breastfeeding rate was fallen from the majority of the sample during neonate period to only about one-fifth of them at the age of six month (Chen et al., 2018). In the present study pain is one of the most common disorder among mothers that contributed to difficulties of breastfeeding. From that, nearly half of the participants stated that pain is one of the difficulties that affected normal initiation of breastfeeding within the first hour following delivery. It has been stated that

maternal and fetal stress due to cesarean delivery increase the probability of feeding difficulties and increase the chance of early breastfeeding cessation (Hobbs et al., 2016).

The main concern in this study is that, although there was no significant association between indications of cesarean section and breastfeeding history and/or difficulties, emergency cesarean section were associated with higher rate of early initiation of breastfeeding compared with other planned cesarean deliveries (Previous caesarean section, Previous abortion, Mother's request, Cosmetic). Nevertheless, compared to emergency cesarean deliveries, breastfeeding success rate were higher in planned cesarean sections especially previous cesarean section. A prospective pregnancy cohort study in Canada support the present study's finding as emergency cesarean delivery is associated with unsuccessful breastfeeding during first 24 hours following delivery and following discharge from hospital (Hobbs et al., 2016).

References

Chen, C., Yan, Y., Gao, X., Xiang, S., He, Q., Zeng, G., Liu, S., Sha, T. & Li, L. 2018. Influences Of Cesarean Delivery On Breastfeeding Practices And Duration: A Prospective Cohort Study. Journal Of Human Lactation, 34**,** 526-534.

Gedefaw, G., Goedert, M. H., Abebe, E. & Demis, A. 2020. Effect Of Cesarean Section On Initiation Of Breast Feeding: Findings From 2016 Ethiopian Demographic And Health Survey. Plos One, 15**,** E0244229.

Getaneh, T., Negesse, A., Dessie, G., Desta, M., Temesgen, H., Getu, T. & Gelaye, K. 2021. Impact Of Cesarean Section On Timely Initiation Of Breastfeeding In Ethiopia: A Systematic Review And Meta-Analysis. International Breastfeeding Journal, 16**,** 1-10.

Hobbs, A. J., Mannion, C. A., Mcdonald, S. W., Brockway, M. & Tough, S. C. 2016. The Impact Of Caesarean Section On Breastfeeding Initiation, Duration And Difficulties In The First Four Months Postpartum. Bmc Pregnancy And Childbirth, 16**,** 1-9.

Horta, B. L., Loret De Mola, C. & Victora, C. G. 2015. Long-Term Consequences Of Breastfeeding On Cholesterol, Obesity, Systolic Blood Pressure And Type 2 Diabetes: A Systematic Review And Meta-Analysis. Acta Paediatrica, 104**,** 30-37.

Mahmood, M. 2016. Assessment Of Some Associated Factors With Omitting Exclusive Breastfeeding In Rania City. University Of Raparin, 3**,** 8.

Ochieng Arunda, M., Agardh, A. & Asamoah, B. O. 2020. Cesarean Delivery And Associated Socioeconomic Factors And Neonatal Survival Outcome In Kenya And Tanzania: Analysis Of National Survey Data. Global Health Action, 13**,** 1748403.

Organization, W. H. 2018. Who And Unicef Issue New Guidance To Promote Breastfeeding In Health Facilities Globally.

Organization, W. H. & Unicef. 2003. Global Strategy For Infant And Young Child Feeding, World Health Organization.

Paksoy Erbaydar, N. & Erbaydar, T. 2020. Relationship Between Caesarean Section And Breastfeeding: Evidence From The 2013 Turkey Demographic And Health Survey. Bmc Pregnancy And Childbirth, 20**,** 1-9.

Samdal, L. J., Steinsvik, K. R., Pun, P., Dani, P., Roald, B., Stray-Pedersen, B. & Bøhler, E. 2016. Indications For Cesarean Sections In Rural Nepal. The Journal Of Obstetrics And Gynecology Of India, 66**,** 284-288.

Sharifirad, G., Rezaeian, M., Soltani, R., Javaheri, S. & Mazaheri, M. A. 2013. A Survey On The Effects Of Husbands' Education Of Pregnant Women On Knowledge, Attitude, And Reducing Elective Cesarean Section. Journal Of Education And Health Promotion, 2.

Smith, E. R., Locks, L. M., Manji, K. P., Mcdonald, C. M., Kupka, R., Kisenge, R., Aboud, S., Fawzi, W. W. & Duggan, C. P. 2017. Delayed Breastfeeding Initiation Is Associated With Infant Morbidity. The Journal Of Pediatrics, 191**,** 57-62. E2.

Yisma, E., Mol, B. W., Lynch, J. W. & Smithers, L. G. 2019. Impact Of Caesarean Section On Breastfeeding Indicators: Within-Country And Meta-Analyses Of Nationally Representative Data From 33 Countries In Sub-Saharan Africa. Bmj Open, 9**,** E027497.