

Research Article

Comparison of Factors Affecting Early Initiation of Breastfeeding Among Postnatal Mothers with Vaginal Delivery Versus Cesarean Delivery at Maternity Hospital Skims, Soura, Srinagar, Kashmir

Riffat Hijazi¹, Seerat Ismail², Munira Kachroo³, Suhail Ahmad Rather⁴, Khurshida Akhtar⁵, Nida Bashir⁶, Ruheela Rahim⁷, Bisma Jaileel⁸, Insha Nazir⁹, Jamsheed Ahmad Wani¹⁰, Tabasum Munawar¹¹, Junaid Ahmad Bhat¹², Snober Farooq¹³, Neeha Falak¹⁴, Huzafa Hamid¹⁵, Nikita Sharma¹⁶

^{1,2,8-10,12-16}M Sc nursing, ³Principal, ⁴MBBS, MD, ⁵Tutor, ⁶House Officer, Sher-i-Kashmir Institute of Medical Sciences (SKIMS) Soura, Srinagar, Jammu and Kashmir.

⁷Nursing Officer, Shifa Hospital Srinagar, Jammu and Kashmir.

¹¹M Sc nursing, Bibi Halima College of Nursing and Medical Technology, Rainawari, Srinagar, Jammu and Kashmir.

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Corresponding Author:

Riffat Hijazi, Sher-i-Kashmir Institute of Medical Sciences (SKIMS) Soura, Srinagar, Jammu and Kashmir.

E-mail Id:

riffathijazi189@gmail.com

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A B S T R A C T

Background: Early initiation of breastfeeding, defined as breastfeeding within one hour of birth, protects newborns from infections, reduces mortality, and fosters mother-baby bonding. This study aimed to compare factors influencing early breastfeeding initiation among postnatal mothers with vaginal and cesarean deliveries, and to examine associations with demographic variables.

Methodology: A comparative descriptive design was used to select 100 postnatal mothers (50 with vaginal delivery, 50 with cesarean delivery) through purposive sampling at Maternity Hospital, SKIMS, Soura. A self-structured interview schedule assessed factors affecting early breastfeeding initiation.

Results: Among mothers with vaginal delivery, 74% initiated breastfeeding within one hour, compared to only 22% of cesarean mothers. Key influencing factors included knowledge about breastfeeding, antenatal education, birth spacing, reduced fatigue with vaginal delivery, pain from delivery-related wounds, nipple issues, gestational age, pre-lacteal feeds, privacy, and support from attendants or health personnel. Factors such as previous breastfeeding experience, birth order, and feeding colostrum showed no significant difference between the two groups.

Conclusion: Breastfeeding initiation was higher among mothers with vaginal deliveries, attributed to factors like breastfeeding knowledge, antenatal education, and reduced fatigue. Mothers undergoing cesarean delivery may need additional support to initiate breastfeeding on the first day.

Keywords: Early Initiation of Breastfeeding, Vaginal Delivery, Cesarean Delivery, Postnatal Mothers

Introduction

Background of The Study

Birth of a baby is an important event in a family. It is therefore important for the mothers to have a healthy baby. Breast milk is the best food for the babies as breastfed babies are healthier than formula fed babies.¹

Breastfeeding saves an estimated 6 million additional deaths from infectious disease alone. Breast milk, especially the first milk (colostrum), contains anti-bacterial and anti-viral agents that protect the infant against disease, especially diarrhoea. Breast milk also aids in development of the infant's own immune system, maximizes a child's physical and intellectual potential.²

Baby Friendly Hospital Initiative (BFHI) was launched jointly by WHO and UNICEF in March 1991 to motivate facilities providing maternity and newborn services worldwide to implement the Ten steps to successful Breastfeeding. One of the important steps of BFHI is to help mothers to initiate breastfeeding within half an hour of birth and mothers should be advised not to administer pre lacteal feeding to neonates.³

In India, breastfeeding appears to be influenced by social, cultural, and economic factors. In 1991, Breastfeeding Promotion Network of India (BPNI) was born to protect, promote and support breastfeeding. Further, the Government of India has started National Rural Health Mission, which intends to implement Integrated Management of Neonatal and Childhood Illnesses (IMNCI) through the existing healthcare delivery system.⁴

There are various factors which affect early initiation of breastfeeding such as maternal age, place of residence, religion of mother, caste, maternal educational level, duration of pregnancy, sex of the baby, place of delivery, mode of delivery, birthweight of the baby and parity.⁵

Initiation of breast feeding within one hour of birth, exclusive breastfeeding for the first six months, the introduction of nutritionally adequate and safe complementary foods at six months together with continued breastfeeding up to 2 years of age or beyond, offer a powerful line of defence against infection and malnutrition and boosters brain development in a child. In contrast, children who are not entirely or partially breastfed have a higher risk of diarrhoea and other infections, are more likely to suffer from malnutrition and have an increased risk of death in their infancy. Although 3 in 4 women deliver in health facilities, only 1 in 5 babies could get breastmilk within 1 hour. Lack of knowledge, cultural practices of feeding and shortfalls in the quality of care provided to mothers and newborns are some of the factors contributing to the lack of early breastfeeding initiation after birth.⁶

Need For The Study

Early initiation of breast feeding is defined as breastfeeding within an hour of birth for mothers with vaginal delivery and cesarean delivery with spinal anaesthesia; if general anaesthesia was used for the procedure, it is defined as initiation of breastfeeding as soon as the mother regains consciousness.⁷

Several factors related to mother and the baby which affect early initiation of breastfeeding. Mode of delivery is one of the factors.⁸ When delivery takes place by cesarean section, the mother becomes surgical patient having all the post operative risks and problems. Mothers who are having cesarean section, have to cope with surgery as well as to care for their newborn children.⁹

According to WHO and UNICEF (2018) report, globally 78 million new born or 3 in 5 babies are not put to the breast within the first hour of life, putting them at higher risk of death and disease and making them less likely to continue breastfeeding. Skin to skin contact along with suckling at the breast stimulate the mother's production of breast milk, including colostrum, also called the baby's 'first vaccine' which is extremely rich in nutrients and antibodies. The barriers reported to early initiation of breastfeeding are: feeding newborns food or dinks, the rise in elective cesarean sections, decreased quality of health care provided to mothers and newborns. In Egypt, only 19% of babies born by cesarean section were breastfed in the first hour after birth, compared to 39% of babies born by natural delivery.¹⁰

According to UNICEF, globally only 43% of infants under six months old are exclusively breastfed. Babies who aren't breastfed at all are 14 times more likely to die than those who are fed only breastmilk. The more is the delay in breastfeeding, the higher is the risk of death in the first month of life. Delaying breastfeeding by 2-23 hours after birth increases the risk of dying in the first 28 days of life by 40%. Delaying it by 24 hours or more increases that risk to 80%.¹⁰

In India there is improvement in breastfeeding practices like improvement in early initiation of breastfeeding and exclusive breastfeeding for six months. In 2016, almost 42% of children were introduced to breastfeeding within one hour of birth. As compared to 2006, gains were made across all socio-economic groups with poorest and marginalized being the biggest beneficiaries. There was a 22% gain for families in poorest wealth quintile as compared to 9% for the richest. However, the current rate of early initiation of breast feeding compared to high institutional coverage of 79% highlights a critical "missed opportunity" for newborns, who do not receive their first inoculation through colostrum against death and disease i.e., only 42% newborns breastfed within one hour of birth and 55% children are exclusively

breastfed. Early initiation of breastfeeding in cesarean section remains a challenge at 33% and private hospitals (33%) performing worse than public health facilities (40%).¹¹

During the review of literature, it was found that there are various factors which are affecting early initiation of breast feeding but such type of studies has not been conducted in Kashmir so far. During the clinical posting, investigator witnessed delay in the early initiation of breast feeding particularly among post-natal mothers with cesarean delivery. Thus, the study was taken to assess the comparison of factors affecting early initiation of breastfeeding among postnatal mothers with respect to mode of delivery. This study assessed means to address the factors, and identified the interventions that support to increase the rate of early initiation of breast feeding.

Methodology

A quantitative research approach with comparative descriptive design was selected to carry out this study. Permission was obtained from the concerned authorities of Mader-e-Meharban Institute of Nursing Sciences and Research (MMINSR) SKIMS, Soura, Srinagar to conduct the final study. Ethical clearance was obtained from Institutional Ethical Committee (IEC), admitted in postnatal wards at Maternity Hospital SKIMS, Soura from 15th April to 15th of May 2024. Permission was also obtained by taking informed consent individually from each postnatal mother, prior to their inclusion as sample in the study. Privacy, confidentiality, and anonymity were being guarded. Data was collected through self-structured interview schedule from 100 postnatal mothers.

The early initiation of breastfeeding was categorized into three grades; fair, good and very good based on the number of mothers who initiated breastfeeding within one hour in each group i.e. vaginal delivery (50) and cesarean delivery (50). If the score was 0-33%, it was considered as fair; if the score was 18-67%, it was considered as good; if the score was >67% it was considered as very good.

Results And Discussion

Findings related to demographic and clinical variables

42% and 56% of study subjects with vaginal delivery and cesarean delivery respectively belonged to the age group of 21-30 years whereas, 58% of study subjects with vaginal delivery and 44% of study subjects with cesarean delivery belonged to the age group of 31-40 years. Almost equal number of study subjects with vaginal delivery (44%) and cesarean delivery (42%) had completed higher secondary school education, about 26% of study subjects with vaginal delivery and 36% of study subjects with

cesarean delivery had educational status as graduate and above, almost equal number of study subjects with vaginal delivery (16%) and cesarean delivery (14%) had educational status as primary school and almost equal number of study subjects with vaginal delivery (14%) and cesarean delivery (8%) had completed secondary school education. Highest number of the study subjects were non-working (vaginal delivery versus cesarean delivery:82% versus 68%), whereas working study subjects with vaginal delivery versus cesarean delivery:18% versus 32%. Equal numbers of the study subjects, belonged to urban area (38% each) and rural area (62% each). Almost equal number of study subjects belonged to nuclear family (vaginal delivery versus cesarean delivery:48% versus 56%) and to joint family (vaginal delivery versus cesarean delivery:52% versus 44%). Study subject with monthly family income of Rs 30,000-Rs50,000 were 46% (vaginal delivery), and 38% (cesarean delivery), almost equal number of study subjects had monthly income of Rs <30,000-50,000 (vaginal delivery 36%, cesarean delivery 30%) and study subjects with vaginal delivery (18%) and cesarean delivery (32%) had monthly family income of Rs>50,000. Almost equal number of study subjects with vaginal delivery were primi para and multi para (34%) and second para (32%) and almost equal number of study subjects with cesarean delivery were second para and multipara (30%) and primi para (40%). Majority of the study subjects with vaginal delivery (96%) and cesarean delivery (84%) delivered one baby in present gestation, whereas study subjects who delivered twins were 2%(vaginal delivery) and 16% (cesarean delivery), and study subjects with vaginal delivery (2%) delivered triplets (Table 1). Similar results were indicated in other studies conducted by Shewangizaw and Mekonnen¹² at Public Hospitals of Addis Ababa, Ethiopia, Nair, Kumar, GR, Venkatesh, Rani (2022)¹³ at Vydehi Institute of Medical Sciences and Research Institute India, Sorkhani, Namazian, Komsari, Arab (2021)¹⁴ at Afzal Pour Hospital, Iran and Shakya and Rana (2021)¹⁵ at Manipal College of Medical Sciences, Pokhara, Kaski, Nepal.

Findings related to the determination of the postnatal mothers with vaginal delivery and cesarean delivery for early initiation of breastfeeding

Majority of study subjects with vaginal delivery (74%) and very few number of study subjects with cesarean delivery (22%) had initiated breastfeeding within one hour whereas 26% of study subjects with vaginal delivery and 78% of study subjects with cesarean delivery didn't initiate breastfeeding within one hour (Table 2 and figure 1). According to WHO rating on early initiation of breastfeeding, 0-29% is considered as poor, 30-49% as fair, 50-89% as good and 90-100% as very good.²² In this study, it is found that early

initiation of breastfeeding in 74% of the study subjects with vaginal delivery, indicating a good rating, whereas only 22% of study subjects with cesarean delivery initiated breastfeeding within one hour, indicating a poor rating. Similar results were conveyed from studies conducted by Shewangizaw and Mekonnen (2022)¹² at Public Hospitals of Addis Ababa, Ethiopia, Nair, Kumar, GR, Venkatesh, Rani (2022)¹³ at Vydehi Institute of Medical Sciences and Research Institute and Badaya, Jain, Kumar (2018)¹⁶ at Jawahar Lal Nehru Medical College, Ajmer, Rajasthan, India.

Findings related to comparison of factors affecting early initiation of breastfeeding among postnatal mothers with vaginal delivery and cesarean delivery.

There was statistically significant comparison in the factors of postnatal mothers with vaginal delivery and cesarean delivery like (knowledge about breastfeeding, antenatal education regarding breastfeeding, birth spacing, fatigue/exhaustion, pain due to episiotomy or surgical wound, baby's admission in NICU, nipple problems, gestational age(term/ pre-term), perception of evil eye, pre-lacteal feed, lack of privacy, lack of provision of assistance from attendants and health personnel) at $p < 0.05$ (Table 3). Similar results were conveyed from various studies conducted by Nair, Kumar, GR, Venkatesh, Rani (2022)¹³ at Vydehi Institute of Medical Sciences and Research Institute India, Shewangizaw and Mekonnen (2022)¹² at Public Hospitals of Addis Ababa, Ethiopia, Rubagumya, Abied, Aghan, Noorani (2021)¹⁷ at Aga Khan Hospital, Tanzania, Shakya and Rana

(2021)¹⁵ at Manipal College of Medical Sciences, Pokhara, Kaski, Nepal. Johar, Mohamad, Saddki, Ismail, Sulieman (2020)¹⁸ in Kelantan, Malaysia, Shobo, Umar, Amyants (2019)¹⁹ in Public Primary Health Care Facilities in North East Nigeria, Badaya, Jain, Kumar (2018)¹⁶ at Jawahar Lal Nehru Medical College, Ajmer, Rajasthan, India and Sharma and Byrne (2016)²⁰ in South Asia.

Findings related to association of early initiation of breastfeeding of study subjects with vaginal delivery and cesarean delivery and their selected demographic variable

That there was statistically significant association among study subjects with cesarean delivery between their early initiation of breastfeeding and all demographic variables except type of family whereas, there was non-significant association among study subjects with vaginal delivery between their early initiation of breastfeeding and all demographic variables (Table 4 and 5).

Similar results were conveyed from various studies conducted by Nair, Kumar, GR, Venkatesh, Rani (2022)¹³ at Vydehi Institute of Medical Sciences and Research Institute India Shakya and Rana (2021)¹⁵ at Manipal College of Medical Sciences, Pokhara, Kaski, Nepal, Soren, Sahu, Kujur, Dandput, Kashyap, Kumari et al (2021)²¹ at Tertiary Care Centre of a Tribal Dominant State in India, Johar, Mohamad, Saddki, Ismail, Sulieman (2020)¹⁸ in Kelantan, Malaysia and Badaya, Jain, Kumar (2018)⁴⁰ at Jawahar Lal Nehru Medical College, Ajmer, Rajasthan, India.

Table 1. Frequency and percentage distribution of study subjects according to demographic variables

N=100

		Vaginal Delivery (N=50)		Cesarean Delivery (N=50)	
Variables	Categories	Frequency	Percentage	Frequency	Percentage
Age in years	21-30 Years	21	42.0%	28	56.0%
	31-40Years	29	58.0%	22	44.0%
Educational status	Primary	8	16.0%	7	14.0%
	Secondary	7	14.0%	4	8.0%
	Higher Secondary	22	44.0%	21	42.0%
	Graduate and above	13	26.0%	18	36.0%
Occupation	Working	9	18.0%	16	32.0%
	Non-working	41	82.0%	34	68.0%
Residence	Urban	19	38.0%	19	38.0%
	Rural	31	62.0%	31	62.0%
Type of family	Nuclear family	24	48.0%	28	56.0%
	Joint family	26	52.0%	22	44.0%
Monthly family income	<Rs30,000	18	36.0%	15	30.0%
	Rs 30,000- 50,000	23	46.0%	19	38.0%
	>Rs 50000	9	18.0%	16	32.0%

Parity	Primipara	17	34.0%	20	40.0%
	Second para	16	32.0%	15	30.0%
	Multipara	17	34.0%	15	30.0%
Number of babies born in present gestation	1	48	96.0%	42	84.0%
	2	1	2.0%	8	16.0%
	3 or more	1	2.0%	0	0.0%

Table 2. Frequency and percentage distribution of study subjects according to early initiation of breastfeeding

N=100

Postnatal mothers who initiated breastfeeding within one hour.	Type of delivery			
	vaginal delivery (n=50)		Cesarean delivery (n=50)	
	Frequency	Percentage	frequency	Percentage
Yes	37	74%	11	22%
No	13	26%	39	78%

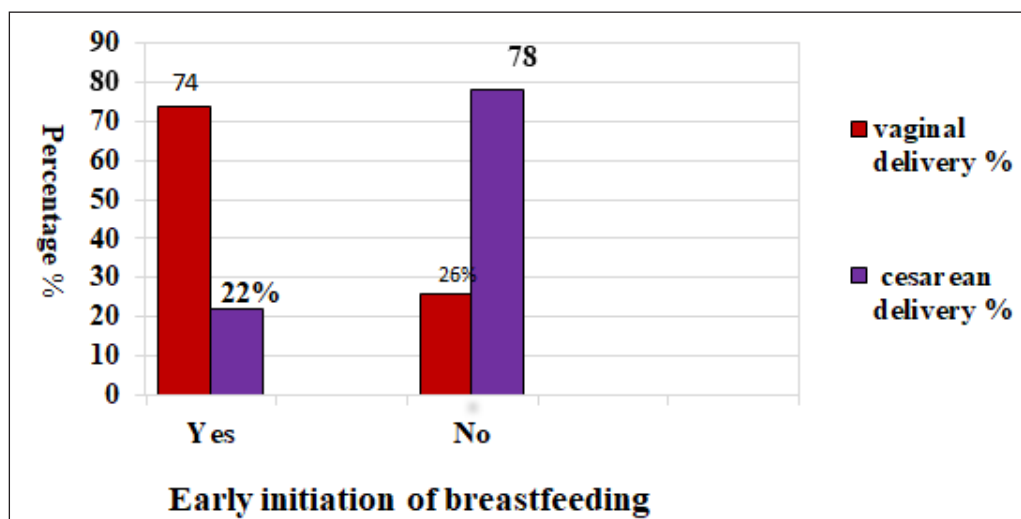


Figure 1. Bar graph showing frequency and percentage distribution of study subjects according to early initiation of breastfeeding

Table 3. Comparison of factors affecting early initiation of breast feeding of study subjects between vaginal delivery and cesarean delivery

N=100

Factors affecting early initiation of breastfeeding	Response	Type of delivery				Chi square test	df	p-value
		vaginal delivery (n=50)		cesarean delivery (n=50)				
		Frequency	Percentage	Frequency	Percentage			
Knowledge about breastfeeding	No	11	22.00%	27	54.00%	10.86	1	0.001 ***S
	Yes	39	78.00%	23	46.00%			
Previous experience of breastfeeding	No	19	38.00%	28	56.00%	3.25	1	0.071 NS
	Yes	31	62.00%	22	44.00%			

Antenatal education regarding breastfeeding	No	27	54.00%	39	78.00%	6.41	1	0.011 S
	Yes	23	46.00%	11	22.00%			
	Yes	36	72.00%	11	22.00%			
Birth spacing	No	22	44.00%	39	78.00%	12.14	1	0.001 ***S
	Yes	28	56.00%	11	22.00%			
Birth order	No	30	60.00%	39	78.00%	3.78	1	0.052 NS
	Yes	20	40.00%	11	22.00%			
Fatigue/ exhaustion	No	42	84.00%	24	48.00%	14.43	1	0.001 ***S
	Yes	8	16.00%	26	52.00%			
	Yes	6	12.00%	18	36.00%			
Pain due to episiotomy or surgical wound	No	39	78.00%	18	36.00%	17.99	1	0.001 ***S
	Yes	11	22.00%	32	64.00%			
Baby's admission in NICU	No	47	94.00%	38	76.00%	6.35	1	0.012 S
	Yes	3	6.00%	12	24.00%			
Nipple problems. If yes specify	Cracked nipples	0	0.00%	4	8.00%	7.88	3	0.048 S
	flat nipple	7	14.00%	8	16.00%			
	Large nipple	0	0.00%	3	6.00%			
	No	43	86.00%	35	70.00%			
Gestational age (Term/ Preterm)	No	47	94.00%	36	72.00%	8.35	1	0.003 S
	Yes	3	6.00%	14	28.00%			
Feeding colostrum	No	13	26.00%	39	78.00%	0.45	1	0.499 NS
	Yes	37	74.00%	11	22.00%			
Perception of evil eye	No	48	96.00%	39	78.00%	7.16	1	0.007 S
	Yes	2	4.00%	11	22.00%			
Pre-lacteal feeds	Any other (dates)	10	20.00%	11	22.00%	11.17	4	0.047 S
	Formula feed	8	16.00%	10	20.00%			
	No	22	44.00%	15	30.00%			
	Plain water	1	2.00%	6	12.00%			
	Sugar and glucose water	9	18.00%	8	16.00%			
Lack of privacy	No	45	90.00%	32	64.00%	9.54	1	0.002 S
	Yes	5	10.00%	18	36.00%			

*= Significant at 0.05 level, ** = significant at 0.01 level, *** significant at 0.001, S = Significant, NS = non-significant

Lack of provision of assistance from attendants and health personnel	No	38	76.00%	23	46.00%	9.45	1	0.002 S
	Yes	12	24.00%	27	54.00%			

Table 4. Association of early initiation of breastfeeding of study subjects with vaginal delivery and their selected demographic variables

N=50

Demographic variables	Categories	vaginal delivery						chi square test	df	p-value
		Fair (<33%)		Good (33-67%)		Very good (>66%)				
		Frequ ency	Percent Age	Frequ Ency	Percent Age	Frequ ency	Percent age			
Age	21-30 years	13	43.30%	8	40.00%	0	0.00%	0.005	1	0.815 NS
	31-40 years	17	56.70%	12	60.00%	0	0.00%			
Educational status	Primary.	3	10.00%	5	25.00%	0	0.00%	5.83	3	0.120 NS
	secondary.	3	10.00%	4	20.00%	0	0.00%			
	Higher secondary.	13	43.30%	9	45.00%	0	0.00%			
	Graduate and above.	11	36.70%	2	10.00%	0	0.00%			
Occupation	Working	8	26.70%	1	5.00%	0	0.00%	3.81	1	0.051 NS
	Non-working	22	73.30%	19	95.00%	0	0.00%			
Residence	Urban	12	40.00%	7	35.00%	0	0.00%	0.127	1	0.721 NS
	Rural	18	60.00%	13	65.00%	0	0.00%			
Type of family	Nuclear	15	50.00%	9	45.00%	0	0.00%	0.12	1	0.729 NS
	Joint	15	50.00%	11	55.00%	0	0.00%			
Monthly family income (in rupees)	< Rs 30,000	8	26.70%	10	50.00%	0	0.00%	4.95	2	0.084 NS
	Rs30,000- Rs50,000	14	46.70%	9	45.00%	0	0.00%			
	> Rs50,000	8	26.70%	1	5.00%	0	0.00%			
Parity	Primipara	10	33.30%	7	35.00%	0	0.00%	2.69	2	0.260 NS
	Second para	12	40.00%	4	20.00%	0	0.00%			
	Multipara	8	26.70%	9	45.00%	0	0.00%			
Number of babies born in present gestation	1	30	100.00%	18	90.00%	0	0.00%	3.125	2	0.210 NS
	2	0	0.00%	1	5.00%	0	0.00%			
	3 or More	0	0.00%	1	5.00%	0	0.00%			

NS =non-significant

Table 5. Association of early initiation of breastfeeding of study subjects with cesarean delivery and their selected demographic variables

N=50

Demographic Variables	Categories	cesarean delivery						chi square test	df	p-value
		Fair (<33%)		Good (33-67%)		very good (>66%)				
		Frequ ency	Percent Age	Frequ Ency	Percent age	Frequ ency	Percent age			
Age	21-30 years	11	55.00%	17	.56.70%	0	0.00%	0.014	1	0.907 NS
	31-40 years	9	45.00%	13	43.30%	0	0.00%			
Educational status	Primary.	2	10.00%	5	16.70%	0	0.00%	2.96	3	0.398 NS
	secondary.	3	15.00%	1	3.30%	0	0.00%			
	Higher secondary.	7	35.00%	14	46.70%	0	0.00%			
	Graduate and above.	8	40.00%	10	33.30%	0	0.00%			
Occupation	Working	7	35.00%	9	30.00%	0	0.00%	0.138	1	0.71 NS
	Non-working	13	65.00%	21	70.00%	0	0.00%			
Residence	Urban	8	40.00%	11	36.70%	0	0.00%	0.057	1	0.812 NS
	Rural	12	60.00%	19	63.30%	0	0.00%			
Type of family	Nuclear	7	35.00%	21	70.00%	0	0.00%	5.96	1	0.015 S
	Joint	13	65.00%	9	30.00%	0	0.00%			
Monthly family income	< Rs 30,000	7	35.00%	8	26.70%	0	0.00%	0.823	2	0.663 NS
	Rs30,000-Rs50,000	8	40.00%	11	36.70%	0	0.00%			
	> Rs50,000	5	25.00%	11	36.70%	0	0.00%			
Parity	Primipara	8	40.00%	12	40.00%	0	0.00%	0.01	2	1 NS
	Second para	6	30.00%	9	30.00%	0	0.00%			
	Multipara	6	30.00%	9	30.00%	0	0.00%			
Number of babies born in present gestation	1	19	95.00%	23	76.70%	0	0.00%	3.001	1	0.083 NS
	2	1	5.00%	7	23.30%	0	0.00%			
	3 or More	0	0.00%	0	0.00%	0	0.00%			

NS =Non-significant, S=Significant

Conclusion

The study concluded that percentage of study subjects with vaginal delivery who initiated breastfeeding was higher as compared to study subjects with cesarean delivery. This is attributed to various factors like knowledge and antenatal education regarding breastfeeding, birth spacing, less fatigue or exhaustion among vaginal delivery mothers, gestational age. Cesarean delivery mothers need support to breast feed their babies on first day. There was statistically significant association between the early initiation of

breastfeeding of study subjects with cesarean delivery and type of family, probably the members of the family supported them in their early initiation of breastfeeding and assisted them in adapting comfortable position for breastfeeding. Community based breastfeeding education and counselling is recommended for pregnant mothers and encourages all mothers to promote early breastfeeding.

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Conflicts of Interest: None

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