A study to assess the effect of Rooming-in on breastfeeding among the newborns delivered by normal versus caesarean delivery in tertiary care rural hospital

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Abstract—**Background of the study The practice of rooming-in as defined by the World Health Organization and United Nations Children's Fund is a "hospital practice where postnatal mothers and normal infants stay together in the same room for 24 hours a day from the time they arrive in their room after delivery." In 1991, the Baby- Friendly Hospital Initiative (BFHI) was introduced by WHO and UNICEF to encourage maternity and newborn facilities worldwide to adopt the Ten Steps to Successful Breastfeeding. These Ten Steps serve as a comprehensive set of policies and procedures that should be implemented by such facilities to promote and support breastfeeding. In 2018, the WHO updated the Ten Steps following the 2017 guideline on safeguarding, promoting, and supporting breastfeeding in maternity and newborn service. There are numerous benefits to breastfeeding for both moms and babies. However, several mother and baby-related variables negatively impact the start of breastfeeding. One of these variables is the delivery method. The mother becomes a surgical patient with all the associated risks and complications when the delivery is accomplished by caesarean section. The number of caesarean deliveries performed in the nation under general anesthesia is increasing at the moment, but it is unknown how this will affect the start and continuation of breastfeeding Removing newborns from their mothers may result in fewer nursing sessions and, thus, less breast milk being produced by the mother. On the other hand, babies who remain with their mothers during their hospital stay will nurse more frequently, which fosters intimacy and bonding. The mother may be able to relax and have less stress with separate care, which may enhance milk production. Mother and child are increasingly often kept in the same room in hospitals, especially with the introduction of the WHO/UNICEF Baby Friendly Hospital Initiative in 1991. To determine if rooming-in or separate care after birth led to a longer duration of exclusive breastfeeding once they had returned home, a systematic review of randomized controlled trials was conducted.**

Objectives of the study were To assess the rooming-in on breastfeeding among the newborns delivered by normal versus caesarean delivery. To compare the effect of rooming-in on breastfeeding among the newborns delivered by normal versus caesarean delivered. To identify the association between the effect of rooming-in on breastfeeding among the newborns delivered by normal and caesarean delivery with selected demographic variables. Result the assessment of level of rooming-in on breastfeeding among the subjects delivered by normal versus caesarean delivery in tertiary care rural hospital. The level of MBBS-AT score is divided under following heading of poor, moderate and good respectively.4.44% of subjects with caesarean delivery had moderate MBBS-AT score and 100% of subjects with normal delivery and 95.56% of subjects with caesarean delivery had good MBBS-AT score. Minimum MBBS-AT score for normal delivery 15 and for caesarean delivery was 12 and maximum MBBS- AT score for subjects with normal delivery was 22 and for caesarean delivery it was 20. Mean MBBS-AT score for subjects with normal delivery was 19.76±2.21 and for caesarean delivery it was 17.88±1.83 and mean percentage of MBBS-AT score for subjects with normal delivery was 65.88±7.39 and for caesarean delivery it was 59.62±6.10. The comparison of mean difference in MBBS-AT among subjects delivered by normal and caesarean delivery from tertiary care rural hospital. Mean and standard deviation values are compared and student's unpaired 't' test is applied at 5% level of significance. The tabulated value for n=90+90-2 i.e. 178 degrees of freedom was 1.96. The calculated 't' value i.e. 5.81 for day 2 and 3.17 for day 3 are less than the tabulated value at 5% level of significance for mean difference in MBBS-AT score of subjects delivered by normal and caesarean delivery from tertiary care rural hospitals which is statistically acceptable level of significance. Hence it is statistically interpreted that Rooming-in on breastfeeding among subjects delivered by normal versus caesarean delivery in tertiary care rural hospital was effective. Thus, the H_1 is accepted Conclusion After a detailed analysis, this study leads to the following conclusion: breastfeeding effectiveness was higher among newborns in the rooming-in group delivered via normal delivery compared to those delivered via cesarean

section. There was a significant improvement in breastfeeding outcomes with rooming-in among newborns born through normal delivery. Thus, it was concluded that rooming-in is an effective method to enhance breastfeeding success, particularly in newborns delivered via normal delivery in a tertiary care rural hospital

***Keywords*—Rooming-in, Breastfeeding, Newborns, Normal Delivery, Caesarean Delivery, Tertiary Care Rural Hospital**

I. INTRODUCTION

Breastfeeding is a wonderful bonding for both mom and baby."

The practice of rooming-in as defined by the World Health Organization and United Nations Children's Fund is a "hospital practice where postnatal mothers and normal infants stay together in the same room for 24 hours a day from the time they arrive in their room after delivery." In 1991, the Baby- Friendly Hospital Initiative (BFHI) was introduced by WHO and UNICEF to encourage maternity and newborn facilities worldwide to adopt the Ten Steps to Successful Breastfeeding. These Ten Steps serve as a comprehensive set of policies and procedures that should be implemented by such facilities to promote and support breastfeeding. In 2018, the WHO updated the Ten Steps following the 2017 guideline on safeguarding, promoting, and supporting breastfeeding in maternity and newborn services.Rooming in facilitates your readiness to return home with your newborn. While some may consider sending their baby to the nursery to catch up on sleep after labour, studies indicate that having your baby in the room with you allows for just as much rest. Research demonstrates that keeping your baby close to you from the start is optimal for you and your baby to rest and establish a routine The significance of continuity of care across supportive workplace policies has been highlighted by a recent systematic review. Breastfeeding outcomes may be enhanced by the Baby-Friendly Hospital Initiative, skin-to- skin care, kangaroo mother care, cup feeding in medical settings, and assistance in the community and family. There is much uncertainty about the relationships between nursing duration and rooming-in. Research examining the relationships between staying in a room and the length of time a woman breastfeeds in postpartum care facilities. Thus, in a postpartum care center, the current study examined the relationships between a complete rooming-in policy and first-time mothers' continuous exclusive breastfeeding. Removing newborns from their mothers may result in fewer nursing sessions and, thus, less breast milk being produced by the mother. On the other hand, babies who remain with their mothers during their hospital stay will nurse more frequently, which fosters intimacy and bonding. The mother may be able to relax and have less stress with separate care, which may enhance milk production. Mother and child are increasingly often kept in the same room in hospitals, especially with the introduction of the WHO/UNICEF Baby Friendly Hospital Initiative in 1991. To determine if rooming-in or separate care after birth led to a longer duration of exclusive breastfeeding once they had returned home, a systematic review of randomized controlled trials was conducted.

II. OBJECTIVE

Primary objectives:
To assess the rooming-in on breastfeeding among the newborns delivered by normal versus caesarean delivery.

Secondary objectives:

1. To compare the effect of rooming-in on breastfeeding among the newborns delivered by normal versus caesarean delivered.
2. To identify the association between the effect of rooming-in on breastfeeding among the newborns delivered by normal and caesarean delivery with selected demographic variables.

III. MATERIAL AND METHODS

Present study was conducted with the primary to evaluate the effectiveness of Rooming-in on breastfeeding among the newborns delivered by normal versus caesarean delivery in tertiary care rural hospital. Hence quantitative research approach was considered as appropriate. With this approach it would be possible to evaluate the effect of Rooming-in on breastfeeding among the newborns delivered by normal versus caesarean. Observational Analytical Research Design, with the help of observation checklist. The study was conducted in a selected tertiary care rural hospital. The rationale for selecting this setting was its accessibility, as it is located in a rural area with easy transport facilities In this study, the target population consists of mothers who delivered newborns in the selected Tertiary Care

Rural Hospital. The calculated sample size is approximately 180. Tool was tested on 20 sample that were eligible for the study and the investigator found that tool was feasible. These sample were excluded for the main study.

IV. RESULT

SECTION A

This section deals with percentage wise distribution of subjects with regards to their demographic characteristics

Table 1: Percentage wise distribution of subjects according to their demographic characteristics.

Demographic Variables	Normal Delivery(n=90)	Caesarean Delivery(n=90)
Age(yrs)		
18-22 yrs	22(24.4%)	22(24.4%)
23-27 yrs	38(42.2%)	38(42.4%)
28-32 yrs	24(26.7%)	21(23.3%)
>32 yrs	6(6.7%)	9(10%)
Socio-economic Status		
12000-15000 Rs	28(31.1%)	42(46.7%)
16000-19000 Rs	37(41.1%)	22(24.4%)
20000-23000 Rs	22(24.4%)	26(28.9%)
≥24000 Rs	3(3.3%)	0(0%)
Residence		
Rural	53(58.9%)	44(48.9%)
Urban	37(41.1%)	46(51.1%)
Educational Qualification		
Primary School	7(7.8%)	13(14.4%)
High School	50(55.6%)	39(43.3%)
Graduation	33(36.7%)	38(42.2%)
Occupation		
Housewife	63(70%)	57(63.3%)
Business	6(6.7%)	20(22.2%)
Employee	6(6.7%)	4(4.4%)
Other	15(16.7%)	9(10%)
Parity		
Primipara	49(54.4%)	47(52.2%)
Multipara	41(45.6%)	43(47.8%)

Table 2: Assessment with level of MBBS-AT score
n=180

Level of MBBS-AT Score	Score Range	Level of MBBS-AT Score	
		Normal Delivery(n=90)	Caesarean Delivery(n=9 0)
Poor	0-7	0(0%)	0(0%)
Moderate	8-14	0(0%)	4(4.44%)
Good	≥15	90(100%)	86(95.56%)
Minimum score		15	12

Maximum score	22	20
Mean MBBS-AT score	19.76±2.21	17.88±1.83
Mean % MBBS-AT score	65.88±7.39	59.62±6.10

Table 3: Significance of difference between MBBS-AT in day 2 and day 3 of Subjects: Normal Delivery

Day	Mean	SD	Mean Difference	t-value	p-value
Day 1	19.76	2.21	-	-	-
Day 2	24.21	2.92	4.44±3.66	11.49	0.0001 S,p<0.05
Day 3	28.60	1.43	8.83±2.85	29.33	0.0001 S,p<0.05

Table 4: Significance of difference between MBBS-AT in day 2 and day 3test of subjects: Caesarean Delivery n=90

Day	Mean	SD	Mean Difference	t-value	p-value
Day 1	17.88	1.83	-	-	-
Day 2	19.52	2.43	1.63±2.74	5.63	0.0001 S,p<0.05
Day 3	25.12	3.75	7.23±3.83	17.91	0.0001 S,p<0.05

Table 5: Comparison of mean difference in MBBS-AT score among subjects delivered by normal and caesarean delivery from tertiary care rural hospital.

Day	Normal Delivery	Caesarean Delivery	t-value	p-value
Day 2	4.44±3.66	1.63±2.74	5.81	0.0001 S,p<0.05
Day 3	8.83±2.85	7.23±3.83	3.17	0.002 S,p<0.05

SECTION E ASSOCIATION OF LEVEL OF MBBS-AT SCORE AMONG THE SUBJECTS DELIVERED BY CAESAREAN DELIVERY FROM TERTIARY CARE RURAL HOSPITAL IN RELATION TO DEMOGRAPHIC VARIABLES

Table 6: Association of MBBS-AT score among subjects in relation to their age in years n=90

Age in year	No of Subjects	Poor	Moderate	Good	χ2- value	p-value
18-22 yrs	22(24.4%)	4	18	0	12.93	0.005 S,p<0.05
23-27 yrs	38(42.4%)	0	38	0		
28-32 yrs	21(23.3%)	0	21	0		
>32 yrs	9(10%)	0	9	0		

Table 7: Association of MBBS-AT score among subjects in relation to their Socio-economic Status n=90

Socio-economic Status	No of subjects	Poor	Moderate	Good	⍺2- value	p-value
12000-15000 Rs	42(46.7%)	2	40	0	1.67	0.43 NS,p>0.05
16000-19000 Rs	22(24.4%)	0	22	0		
20000-23000 Rs	26(28.9%)	2	24	0		
≥24000 Rs	0(0%)	0	0	0		

Table 8: Association of MBBS-AT score among subjects in relation to their Area of Residence n=90

Area of residence	No of subjects	Poor	Moderate	Good	⍺2-value	p-value
Rural	44(48.9%)	2	43	0	0.002	0.96 NS,p>0.05

Table 9: Association of MBBS-AT score among subjects in relation to their Educational Status n=90

Educational Status	No of subjects	Poor	Moderate	Good	⍺2- value	p-value
Primary School	13(14.4%)	4	9	0	24.79	0.0001 S,p<0.05
High School	39(43.3%)	0	39	0		
Graduation	38(42.2%)	0	38	0		

Table 10: Association of MBBS-AT score among subjects in relation to their Occupation n=90

Occupation	No of subjects	Poor	Moderate	Good	⍺2- value	p-value
Housewife	57(63.3%)	3	54	0	0.70	0.87 NS,p>0.05
Business	20(22.2%)	1	19	0		
Employee	4(4.4%)	0	4	0		
Other	9(10%)	0	9	0		

Table 11: Association of MBBS-AT score among subjects in relation to their Parity
n=90

	No of subjects	Poor	Moderate	Good	⍺2-value	p-value
Primipara	47(52.2%)	1	46	0	1.24	0.26 NS,p>0.05
Multipara	43(47.8%)	3	40	0		

V. CONCLUSION

The assessment of level of rooming-in on breastfeeding among the subjects delivered by normal versus caesarean delivery in tertiary care rural hospital. The level of MBBS-AT score is divided under following heading of poor, moderate and good respectively.4.44% of subjects with caesarean delivery had moderate MBBS-AT score and 100% of subjects with normal delivery and 95.56% of subjects with caesarean delivery had good MBBS-AT score. Minimum MBBS-AT score for normal delivery 15 and for caesarean delivery was 12 and maximum MBBS- AT score for subjects with normal delivery was 22 and for caesarean delivery it was 20. Mean MBBS-AT score for subjects with normal delivery was 19.76±2.21 and for caesarean delivery it was 17.88±1.83 and mean percentage of MBBS-AT score for subjects with normal delivery was 65.88±7.39 and for caesarean delivery it was 59.62±6.10. The levels MBBS-AT score during the compared to prove the effectiveness of MBBS-AT Score. Significance of difference at 5% level of significance is tested with student's paired 't' test and tabulated 't' value is compared with calculated 't' value. Also, the calculated 'p' values are compared with acceptable 'p' value i.e. 0.05.

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BIBLIOGRAPHY

[1] Kamble K, Bhalerao K. Effect of rooming-in on breastfeeding among newborns delivered by normal versus caesarean delivery. Int J Health Sci Res. 2018; 8(12):89-94

[2] Ruiz MT, Rodrigues E da, da Silva KE, de Resende CV, Cavalcanti MC, dos Santos LM, et al. Effectiveness of individualized counseling on the duration of exclusive breastfeeding: Study protocol for a multicenter, randomized, parallel, and open clinical trial. Trials. 2023 Jul 15;24(1). doi:10.1186/s13063-023-07490-y

[3] Moore ER, Bergman N, Anderson GC, Medley N. Early skin-to- skin contact for mothers and their healthy newborn infants. Cochrane database of systematic Reviews. 2016(11).

[4] Alao MA, Ibrahim OR, Briggs DC, Yekinni SA, Nri-Ezedi CA, Sotimehin SA, Olasinde YT, Aliu R, Borokinni AM, Elo-Ilo JC, Bello OO. Breastfeeding support among healthcare workers in Nigeria. Discover Health Systems. 2024 Jul 11;3(1):46.

[5] The rationale for Bfhi [Internet]. [cited 2025 Mar 5]. Available from: https://www.bfhi-india.in/the-rationale-for-bfhi-india