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The Effect Of Immediate Skin To Skin Contact On Maternal & Neonatal Outcomes In A Selected Hospital, Bangalore.

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Abstract

Introduction

Post delivery life is a crucial moment for the mother and newborn so early skin to skin contact in the labor room can be beneficial to both of them.

Objectives:1. To compare the neonatal outcomes between experimental group and control group.2.To compare the maternal outcomes between experimental group and control group.

3.To determine the association of neonatal outcomes and selected baseline variables of the neonate. 4. To determine the association of maternal outcomes and selected baseline variables of the mother.

Method: A Quasi experimental research design was adopted for the study. The purposive sampling technique was used to select 80 mothers and their healthy newborns. Initially the control group data was collected once the control group was completed, the investigator reinforced the standard protocol of strict implementation of immediate sustained SSC, for the mothers in the experimental group, SSC was started immediately within 30 minutes after the birth and continued for 1 hour with less than 10 minutes' interruption under the supervision of the investigator.Both groups were assessed in terms of breast feeding and physiological out comes at the end of 1st hour and 3rd day. The maternal scores on EPDS on 3rd daywas also assessed.

Result:The result of the study revealed a significant difference in temperature, heart rate, respiration rate, IBFAT Score and bilirubin of baby between the experimental group and control group at 60 minutes and on the third day, $p < 0.05$ level of significance. There was no significant difference in respiration rate and change in weight. There was a significant difference in EPDS score between two group on the 3rd day $p<0.001$.

Interpretation and conclusion: The findings of the study revealed that immediate skin to skin contact has positive effect on both the mother and the baby.

Key word

Immediate skin to skin contact, maternal outcome, neonatal outcome.

Introduction

Giving birth is an ecstatic jubilant adventure; it is a woman's crowning creative experience of a life time. In the life of a woman giving birth is momentous. It is a life-changing event and facilitates a positive experience. The first hour of life is a special moment for both the mother and the baby. Touch is the first language that they speak. This period of post birth, is called "the early sensitive period", which is characterized by close contact between mother and the infant that may exert a long-term positive effect on mother-infant interaction. The manner in which a new baby is welcomed into the world during the first hour after birth may have short and long-term consequences. There are ample evidences that normal term newborns that are placed skin to skin with their mothers immediately after birth make the transition from fetal to newborn life more pleasant and comfortable. Mothers who hold their newborn skin to skin after birth demonstrate increased maternal behaviors, showing more confidence in caring for their babies and also breastfeed for longer durations.[1]

The first hour after birth is a sensitive period. The skin-to-skin contact increases Oxytocin significantly promoting maternal and newborn attachment reducing stress in both of them, and helps the newborn transition to postnatal life[2].

During the early postpartum period the mothers and babies who experienced early SSC (Skin to Skin Contact) method are more likely to have successful breastfeeding initiation. The advantages of this method is the infant's transition to extra uterine life is made much more easier; it helps to improve the ability of the mother to care for the neonate; the stress level of both mother and newborn is also reduced; it leads to positive effect on attachment behaviors.[3,4]

OBJECTIVES:

1.To compare the neonatal outcomes between experimental group and control group.
2.To compare the maternal outcomes between experimental group and control group.
3.To determine the association of neonatal outcomes and selected baseline variables of the neonate.
4.To determine the association of maternal outcomes and selected baseline variables of the mother.

HYPOTHESIS

H1: There will be a significant difference in the mean score of the selected neonatal outcomes between experimental group and control group at 0.05 level of significance.
H2: There will be a significant difference in the mean score of the maternal outcomes between experimental group and control group at 0.05 level of significance.
H3: There will be a significant association between neonatal outcomes and selected base line variables of the neonate at 0.05 level of significance.
H4: There will be a significant association between maternal outcomes and selected baseline variables of the mother at 0.05 level of significance.

Methodology:

1.The researcher obtained prior permission from administrative authorities and the IEC.
2.The subjects were selected as per inclusion and exclusion criteria of the study.
3.The need and purpose of the study was explained to the probable subjects and written consent was taken and assured them that confidentiality will be maintained by the researcher.
4.Mothers in the 3rd stage of labor who fulfilled the inclusion and exclusion criteria alone were included in the study.
5.Purposive sampling was employed
6.During the first 2-3 weeks of data collection, after the routine care practiced in the hospital, the control group was assessed in terms of breast feeding outcome using IBFAT at the end of 60 minutes of routine care; physiological out comes at the end of the 1st hour and 3rd day and maternal scores on EPDS on 3rd day.
7.Once the control group was completed, the investigator reinforced the standard protocol of strict implementation of immediate sustained SSC. For the mothers in the experimental group, skin to skin to contact was started immediately within 30 minutes after the birth and continued for 1 hour with less than 10 minutes'

interruption in between under the supervision of the investigator. Investigator was with the mother & baby during 60 minutes of SSC.

8. The experimental group mothers were assessed in terms of breast feeding outcome at the end of 60 minutes of immediate sustained SSC; physiological out comes at the end of 1st hour and 3rd day and maternal scores on EPDS on 3rd day.

RESULTS

I.a. Baseline variables of mother:- Findings revealed that in both the groups majority of the mothers were between the age group of 25-29 years 47.5% in experimental group and 45% in control group. The study showed that there was equal (50%) distribution of primi and multi gravid inexperimental group, where as in control group it mounted up to 55% of primigravida. The study denoted that the occupational status of 85% mothers were semiskilled in both the groups.(Table-1a)

I. b. Baseline variables of neonate:-The study illustrated that half of the neonates 52.5% in study group were boys and 57.5% were girls in control groups. The study also exhibited that more than half, 55% in experimental group and 65% control group neonates gestational age was > 38 weeks. The study disclosed that majority of neonates 60% in both the groups had birthweight ≤3kg. The study manifested the mean Apgar score at 1min was 8 and at 5 min was 9 for both the groups.(Table-1b)

II.Findings related to the neonatal outcomes between experimental group and control group:-The findings related to comparison of neonatal outcomes between experimental group and control group showed that at 60 minutes, the mean/SD in the experimental group was 98.7± 0.44 and in control group the mean/SD was 97.95 ± 0.051. The findings were statistically significant at p= 0.026.The third day mean/SD in the experimental group was 98.52± 0.46 while in control group was97.92± 0.70, p=0.003 which means there was a favorable effect on the temperature of the baby in the SSC group. (Table-2)

The study findings indicated that the heart rate mean/SD at 60 minutes in the experimental group was 149.8 ± 5.2 and in control group was 144.55±5.78. The findings were statistically significant p =0.0001. The third day mean/SD in the experimental group was 145.1± 3.1 and in control group was 136.1± 10.01,the results presented a statistical significance p <0.001.

The result of this study showed that the respiration mean/SD at 60 minutes in the experimental group was 50.2 ± 2.51 and incontrol group it was 47.55± 6.24 and was statistical significant p=0.022. Nevertheless,on the third day there was no statistical significance. Findings related to comparison of IBFAT Scores between experimental and control group depicted that the mean/SD at 60 minutes in the experimental group was 8.4±0.93 and in control group was 6.53±1.40 and this showed astatistical significance p<0.001. The third day mean/SD in the experimental group was 11.65±0.53, where as in control group was 9.00±1.28, and it showed a statistical significance p<0.001

TABLE1.a. Description of Baseline variables of the mother:

n=80

Sl No	Base line variable	Experimental Group		Control group Range		Chi-Square test	P Value
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
1	**Age in years**						
	<24	14	35.0%	15	37.5%	0.0625	0.97
	25-29	19	47.5%	18	45%		
	≥30	7	17.5%	7	17.5%		
2	**Parity**						
	Primi	20	50	22	55%	0.2005	0.654
	Multi	20	50	18	45%		
3	**Education**						
	≤ inter	15	37.5%	24	60%	10.97	0.04
	≥Graduate	25	62.5%	16	40%		
4	**Occupation**						
	Professional						
	Skilled	2	%	0	0%		
	Semi-skilled	4	10%	6	15%	0.00	1.00
		34	85%	34	85%		

Table 1b: Frequency and percentage distribution of selected baseline variables of neonates in the experimental group and control group

n=80

Sl No	Base line variable	Experimental group		Control group Range		Chi-Square test	P Value
		Frequency	Percentage (%)	Frequency	Percentage (%)		
5	**Gender**						
	Boy	21	52.5%	17	42.5%	0.8020	0.370
	Girl	19	47.5%	23	57.5%		
6	**Weight**						
	< 3kg	23	57.50%	24	60%	0.051	0.820
	≥ 3kg	17	42.50%	16	40%		
7	**Gestational age**						
	≤ 38 weeks						
	> 38 weeks	18	45%	14	35%	0.833	0.361
		22	55%	26	65%		
8	**Apgar at**						
	1 min--7	5	12.5%	5	12.5%		
	8	28	70%	30	75%	0.40	0.82
	9	7	17.5%	5	12.5%		
	5 min 8	1	2.5%	1	2.5%		
	9	39	97.5%	37	92.5%	2.1	0.36
	10	0	0%	2	5%		

TABLE-2:- Findings related to the neonatal outcomes between experimental group and control group. n=80

Neonatal Outcomes		Experimental group		Control group Range		Test of statistic	P value
	Time	Range	Mean ±SD	Range	Mean ±SD		
Temperature	60min	98.6-99.4	98.7± 0.44	96.8– 100	97.95 ± 0.05	2.2	0.026*
	3rd day	98.0- 99.3	98.52± 0.46	96.8 -98.7	97.92± 0.70	-2.9	0.003*
Heart rate	60min	138-160	149.8 ± 5.2	130-156	144.55± 5.78	-4.2	0.0001*
	3rd day	140-150	145.1± 3.1	110-150	136.1± 10.01	-5.03	<0.001*
Respiration rate	60min	46-58	50.2 ± 2.51	34-60	47.7± 6.24	-2.3	0.022*
	3rd day	40-48	46.1 ± 1.94	30-60	44.1± 6.91	-01.8	0.07
IBFAT	60min	7-10	8.4± 0.93	4-9	6.53± 1.4	-7.2	<0.001*
	3rd day	10-12	11.65± 0.53	6-12	9.00± 1.28	-12.07	<0.001*
Bilirubin	3rd day	5.8-12.2	10.02± 2.37	7.76-17.2	7.76± 12.98	6.2	<0.001*

***-** significance

TABLE.3. Comparison of maternal outcomes between experimental group and control groupn=80

Maternal outcomes			Experimental group		Control group		Chi square test	p value
Depression score		Depression level	F	%	F	%		
EPDS on 3 Day	0-6	Minimal	8	20	3	7.5		
	7-13	Mild	31	77.5	19	47.5	20.38	<0.001*
	14=19	Moderate	1	2.5	16	40		
	19-30	Severe	0	0.0	2	5		

***-** significance

On the 3rd day the bilirubin level of the experimental group mean/SD was 10.02± 2.37 significantly lesser than control group was 12.98±1.84 p<0.001 level.

III.Comparison of maternal outcomes between experimental group and control group:- depicts there is a significant difference in EPDS score between the two group on 3rd day p<0.001**.**Therefore the hypothesis 2 is accepted.(Table-3)

IV. The study depicts there is no association of neonatal outcomesand selected baseline variables.Therefore the hypothesis 3 is rejected.

V.The study shows there is no association and between the maternal outcomes and selected baseline variables of the mother. Therefore the hypothesis4 is rejected.

DISCUSSION

Findings related to neonatal outcome

The present study showed that there is significant difference in temperature, heart rate, respiration rate, IBFAT Score and bilirubin of thebaby between the experimental group and control group. With regard to temperature the study showed a statistical significancep = 0.02 at 60 minutes and on the third day p =0.003. heart rate at 60 minutes shows statistical significant at p= 0.0001 and on the third day p <0.001. In terms of respiration at 60 minutes shows statistical significant at p= 0.022 and on the third day nevertheless there was no statistical significance p<0.07. IBFAT Scores at 60 minutes p<0.001 and on the third day p <0.001. Bilirubin level on the third day showed statistical significance p <0.001.

There was no significant difference in the weight of the baby at 60 minutes and on 3rd day and on respiration rate on the 3rd day between experimental group and control group

Findings in another study conducted at Chandigarh in2008, depicted there was no significant difference between the groups with regard to axillary temperature, heart rate and respiratory rate during the first 24 hours of life[5] which was in contrast to the findings of the current study. However , the respiratory rate showed no significant difference. A study was conducted in Southern Haryana, India where axillary temperature in the babies were compared at the start and end of 2 hour period, the temperature gain was higher in babies in the intervention group when compared to the control group (p < 0.0001) which was similar to the findings of the present study.[6]

In the present study there was a significant difference in the bilirubin level of the baby between the experimental group than control group. However the researcher did not find any previous published material referring to the possible influence of skin to skin contact on Bilirubin.

A similar study was conducted in Egypt, 94% infants in the experimental group and 56% in control group had a score of 10-12 during the 1st successful breast feeding and before discharge 100% successful breast feeding was seen in experimental group and where by 70% had the score of 10-12, that was successful breast feeding in control group[7].In the year 2018 yet another study was conducted in Gujarat; where successful breastfeeding was observed as 88% in study group compared to 54% in the control group p<0.01. Breastfeeding was initiated within 30 minutes of birth in 96% in the study group compared to 41% in the control group.[8]

A study was conducted in Netherland that proved that SSC decreases postpartum depressive symptoms in mothers[9]. Another evidence based study was conducted in Iran to improve the mental health of the mother[10]

Limitation:-It was difficult to get the co-operation from the staff. The research took considerable amount of time and patience from the researcher, as after waiting for long hours 21% of the mothers were shifted for LSCS.

Conclusion

Present study assessed the effect of immediate skin to skin contact on both the baby and the mother.And the findings implied that it was effective in promoting neonatal and maternal outcomes. It is a natural and cost effective therapy it can be can be implemented in all health care settings. Health care professional could take keen interest in implementing this simple technique which promotes early successful breast feedingthat will in turn reduce global rates of newborn mortality.

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