Research Article

Early Initiation of Breastfeeding on Outcome of Third Stage of Labour among the Intra-Natal Mothers at Rggw&Ch, Puducherry

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Abstract

Introduction: Breast feeding is the first fundamental right of the child. WHO estimates that 1.5 million infant lives could be saved each year through increased breast feedings. One -fifth of neonatal deaths could be prevented by early initiation of exclusive breast feeding. Breast feeding within the first hour.

Objectives of the study:

1. To initiate breastfeeding of the newborn as soon as possible in the experimental group
2. To evaluate the effectiveness of early initiation of breast feeding on outcome of third stage of labour in the experimental group in comparison with control group

Research Approach and Design: The research approach is quantitative research approach and the design is only post-test with two group experimental design, adopted for this Study. Sample Size Selected For This Study Was 60 Intra-natal Mothers (30 In Experimental Group, 30 in Control Group).

Result and Findings: In relation to the demographic and obstetrical variables it showed that 21 (70%), 12 (40%), 7 (23.3%), 15 (50%), 2 (6.7%) and 3 (10%) mothers were in the age group of 20 - 25, 26 - 30, 31 - 35 years in the control and experimental group respectively. The mean duration of third stage and amount of blood loss was 10.27 ± 2.92, 3.57 ± 1.52 and 302.67 ± 33.41, 198.33 ± 25.74 with the mean difference of 6.7 minutes and 104.34 ml in the control group and experimental group respectively. The calculated 't value is 14.08 and 11.11 ('p' < 0.000) was statistically significant in the duration of third stage and amount of blood loss in the experimental group.

Conclusion: It was inferred that there is a positive effect of early initiation of breast feeding on duration of third stage and the amount of blood loss in the experimental group.

Keywords: Early Initiation; Breastfeeding; 3rd Stage of Labour; Intra-natal Mothers

"A healthy newborn will change the future".

Introduction

Breast feeding is the first fundamental right of the child. The initiation of breast feeding and the timely introduction of adequate safe and appropriate complementary foods in conjunction with continued breast feeding are of prime importance for the growth, development, health and nutrition of infants and children everywhere [1,2]. It is found that early suckling and hand touching by babies stimulates oxytocin release which is significant for uterine contraction and early separation of placenta [3,4].

In India child death accounts for two-third of mortality and half of the pediatric deaths occurring in infancy. Each year 26 million

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infants are born in India, around 10% of them do not survive to 5 years of age. India contributes to 25% of the 10 million under five deaths occurring worldwide every year. One of the main causes for this is delay in initiation of breast feeding [5]. Only 24.5% women initiate breast feeding within one hour of delivery, exclusive breast feeding rate at 6 months is only 40%. Exclusive breast feeding has been identified as the single most effective, preventive intervention which could prevent 13 percent of all childhood deaths [6].

WHO estimates that 1.5 million infant lives could be saved each year through increased breast feedings. One -fifth of neonatal deaths could be prevented by early initiation of exclusive breast feeding. Breast feeding within the first hour [7].

A descriptive study was conducted to assess the prevailing breast feeding and infant feeding practices among 1050 infants from 0 - 24 months of age in rural areas of central Karnataka. The results revealed that only 3(0.3%) infants were offered breast feeding within one hour after delivery. Delayed initiation of breast feeding was common; 35% of babies were not breast fed even at 48 hours of birth [8,9].

Breastfeeding babies within the first hour of birth stimulate the production of breast milk. The first milk, also called as colostrums is extremely nutritious and helps to prevent diseases. Early initiation ensures that a newborn receives colostrum. Colostrum is often considered the baby's first immunization because of its high level of vitamin A, antibodies, and other protective factors [10].

A randomized controlled trial was carried out among post-natal mothers in Tyne to determine whether suckling immediately after birth reduces the amount of blood loss. The findings showed that the incidence of PPH was 7.9% in the suckling group, 8.4% in the control group and the mean blood loss level in control group was 258 ml and in experimental group was 256 ml respectively [11,12].

An experimental study was conducted to evaluate the effect of early breast feeding among 87 mothers in Turkey. The result revealed that the rate of placental delivery at the first 5 - 10 minutes of the third stage was significantly higher in the early breast feeding group. Numerous studies highlighted that the early contact between mother and the baby and the time they spent together stress the fact that it is highly valuable for the mothers, infants, family and society in general [13].

The investigator has noticed that early initiation of breast feeding is not being practiced, during her clinical practice and was motivated to conduct the study to assess the effectiveness of early initiation of breast feeding on outcome of third stage of labour.

Objectives of the Study

1. To assess the mother' Vitals and baby 's APGAR after delivery.

2. To initiate breastfeeding of the newborn as soon as possible in the experimental group.

3. To evaluate the effectiveness of early initiation of breast feeding on outcome of third stage of labour in the experimental group in comparison with control group.

4. To correlate the duration of third stage of labour with the amount of Blood Loss among the experimental group mothers.

5. To associate the outcome of 3rd stage of labour with their selected demographic variables.

Assumptions

The study assumed that
1. Early initiation of breast feeding reduces the duration of third stage.
2. Early breastfeeding promotes active contraction of the uterus and helps for early separation of placenta and minimizes blood loss.

Hypotheses

- **H1:** There is a significant difference in the outcome of third stage of labour, between the experimental and control group

- **H2:** There is a significant correlation between the duration of 3rd stage of labour and amount of blood loss.

- **H3:** There is a significant association between early initiation of breastfeeding on outcome of third stage of labour with their selected demographic variables.

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Conceptual Framework

The conceptual framework of this study is based on the modified Deck Chair Model by Jean Ball 1987. The purpose of all maternity care is to enable to woman to be successful in becoming a mother and this success applies to the physiological process which motivates the desire for parenthood and its fulfillment [14].

The base of the chair is formed by the maternity services. The side strut, the women's self-confidence, personality, life experiences and so on and the central strut, her family and support system. The women's maternal well-being, the seat of the chair is dependent on the effective coming together of all these element.

According to this theory, if the deck chair is not erected properly, it will collapse under the weight of its occupant. If it's does not stand on a firm base it will fall over with similar results and if the arts do not fit together well, the occupant may be held up, but will become uncomfortable and strained.

Midwives acts by strengthening the base of the deck chair providing knowledge on health education and assisting in initiate breastfeeding as early as possible for the baby and she should take adequate and well balanced diet, which enhances the confidence of a women in breastfeeding child and contributes to have to positive self feelings after birth and will lead to image and satisfaction with mother hood as this makes her feel, that baby is progressing well and improved her own health and early breast feeding will enhance the mother and helps in contraction of uterus and thus minimizes the duration of third stage and amount of blood loss.

Midwives provide individualized supportive flexible care by establishing a relationship of trust and ensuring coordinated care. The midwife offer correct atmosphere in hospital and home.

Methodology

Research approach and Design

The research approach is quantitative research approach and the design is only post-test with two group experimental design, adopted for this Study.
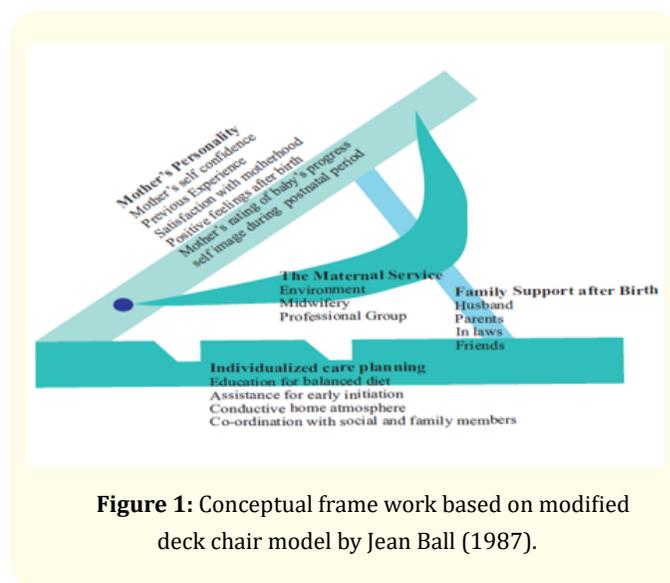

Figure 1: Conceptual frame work based on modified deck chair model by Jean Ball (1987).

Schematic representation of Research Design

Total duration of third stage	Control group N = 30		Experimental group N = 30	
	Frequency	%	Frequency	%
5 - 10 minutes	21	70	30	100
10 - 15 minutes	7	23.3	-	-
More than 15 minutes	2	6.7	-	-
Amount of Blood Loss	**N**	**%**	**N**	**%**
100 - 200 ml	1	3.3	17	56.7
200 - 300 ml	15	50.0	13	43.3
More than 300 ml	14	46.7	-	-

Table 1: Distribution of duration and amount of blood loss in third stage among the mothers in the control and experimental group.

Settings of the study

In order to carry out the study the investigator selected labour room at Rajiv Gandhi Government Women and Children Hospital, Puducherry. It is a tertiary center with 700 bedded hospital. About

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600 - 700 women get admitted to the antenatal ward every month and about 200 uncomplicated primi parturient women deliver in the labour room every month. Antenatal women are admitted to the labour ward from the antenatal OPD and antenatal ward of RGGWCH, around 25 to 35 deliveries are conducted in the labour room every day.

Sample

The sample for this study was intra-natal mothers with normal vaginal delivery present during the period of data collection.

Sample Size

Sample Size Selected For This Study Was 60 intra-natal Mothers (30 in Experimental Group, 30 in Control Group).

Criteria for selection of the sample
Inclusion criteria:

The study will include women who are

1. Primi mothers who were in third stage of labour.
2. Mothers who delivers a full term baby through normal vaginal delivery with and without episiotomy.
3. Newborn with an APGAR score above 7/10.
4. Mothers without any complication during antenatal and intra-natal period.

Exclusion criteria:

The study excluded

1. Women with any underlying disease such as pregnancy induced hypertension, diabetes mellitus or cardiovascular disease.
2. Women with complicated pregnancy like Prolonged labour, multiple pregnancies and preterm labour.
3. Emergency admission for delivery.
4. Mothers who had inverted nipple
5. Mothers who are uncooperative.
6. Mothers who delivered newborn with complication.

Sampling technique

Simple Random Sampling technique was used to assign the mother into both groups. The researcher randomly assigned alphabetical letters by using lot system for both groups. The designated alphabetical letter for the experimental groups was 'E' and for the control group the designated alphabetical letter was' C'. Mothers were selected on the basis of the inclusion and exclusion criteria.

Development and Description of Tool

The tool was developed after extensive review of literature, internet search and experts' advice which helped the investigator to select the most suitable self-developed questionnaire for collecting the demographic and obstetric variables.

Description of Tool

The tool for the data collection consists of two sections.

Section A

This section comprised of demographic and obstetrical data. Demographic data like -name, age, religion, education, location. Obstetrical data like gravida, parity, weeks of gestation etc.

Section B

This Section has checklist to monitor the duration of third stage of labour and amount of blood loss:

- Part I: Time duration of placenta expulsion of intra-natal mothers for third stage of labour after normal vaginal delivery among the experimental and the control group.

- Part II: Amount of blood loss of intra-natal mothers in the third stage was measured by using Kelley's pad with the help of measuring jar.

Check List

Variables	Control group		Experimental group		Mean Difference	Level of significance
	Mean	S .D	Mean	S .D		't' & 'P' value
Duration of third stage in mins	10.27	2.92	3.57	1.52	6.7	t= 14.08 P= 0.000***
Amount of blood loss in ml	302.67	33.41	198.33	25.74	104.34	t= 11.112 P= .000***

Table 2: Comparison of the duration and amount of blood loss in third stage among the control and experimental group mothers

** = P < 0.000; S: Significance , *** = p < 0.000 , (s): Highly Significant

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Scoring procedure

Parameters in the tool were assessed by observation method and scored quantitatively.

Procedure for Intervention

1. The procedure was explained to the mother and written consent was obtained from the experimental group mothers.

2. Privacy was provided, breast was cleaned with warm or plain water before interventions.

3. The nipple was checked for any abnormalities like inverted, flat or cracked.

4. The mother was observed and supported during labour.

5. Once the baby was born the cord was clamped immediately and cut.

6. After clamping the umbilical cord, suctioning was done and baby was wiped with clean towel also checked it whether the baby was active and breathing normally. The baby was wrapped with clean towel.

7. Immediately the baby was put on mother's breast and initiate breast feeding before separation of placenta and the time was noted for duration and blood loss was measured in the third stage.

Content validity: The tool was submitted to five experts. Experts in the field of obstetrics and gynaecology Nursing, statistician and expert in English. The experts were asked to give their opinion and suggestion about the tool. The modifications were incorporated in the final preparation of the tool.

Ethical consideration

The permission was obtained from the medical superintendent of Rajiv Gandhi Government Women and Children Hospital-Puducherry. The selection of the sample was based on inclusion criteria. Moreover, informed consent was obtained from the samples in both oral and written. The client had the freedom to withdraw from the study at any time.

Pilot study

The investigator conducted a pilot study from 9/12/13 to 14/12/2013 at Rajiv Gandhi Women and Children Hospital, Pu-

ducherry. Totally 6 postnatal mothers was selected and randomly divided into experimental and control groups based on the inclusion criteria. Informed consent was obtained from mothers. Data collection was done in labour room; The early initiation of breast feeding and the duration of third stage and blood loss was noted in both control and experimental group. Hospital routine care was provided to the control group. Pilot study result showed feasible to proceed for the main study.

Reliability

The reliability of the tool was checked by using inter rater reliability technique ('r = 0.9) and it was found that the tool was reliable.

Procedure for data collection

After the pilot study, the researcher conducted the main study in labour room at RGGW&CH, Puducherry. Before starting data collection the mothers were selected on the basis of inclusion criteria. The researcher explained the procedures to the mothers and a written informed consent was obtained from the mothers. Investigator was assessed the mother and baby 's condition after delivery, then the investigator started the early initiation of breastfeeding as soon as the baby was delivered for the experimental group, the time duration of third stage and blood loss was noted, among intra-natal mothers in both the control and experimental group. Hospital routine care was provided to the control group. The data collection period was four weeks from 15/12/13 to 15/01/14.

Plan for data analysis:

Data analysis enables the researcher to organize, summarize, evaluate, interpret and communicate numerical information. Organize the data in master sheet and proceed for analyses. Descriptive statistics like frequency, percentage distribution are used to analyse the demographic and obstetrical variables. Mean and standard deviation were used to analyse the duration and blood loss of the experimental and control group. Unpaired t test will be used to compare the amount of blood loss between the two groups. Correlation of coefficient is used to correlate amount of blood loss and the duration of third stage of labour. Chi square test are used to associate the blood loss with the selected demographic and obstetrical variables.

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Result and Findings

In relation to the demographic and obstetrical variables it showed that 21 (70%), 12 (40%), 7 (23.3%), 15 (50%), 2 (6.7%) and 3 (10%) mothers were in the age group of 20 - 25, 26 - 30, 31 - 35 years in the control and experimental group respectively. 22 (73%), 21 (70%) mothers were Hindus, 7 (23.3%), 9 (30) were Christians respectively in the control and experimental group, whereas 2(3.3%) were muslim in the control group. 26 (86.7%), 21 (70%) mothers studied below 12th std, 4 (13.3%), 7 (23.3%) mothers studied upto 12th std in the control and experimental group respectively whereas 2(6.7%)mothers studied up to graduate in the experimental group. 7 (23.3%) and 17 (54.7%) mothers from urban and 23 (76.7%) and 13 (43.3%) mothers were from rural area in the control and experimental group respectively. 14 (46.7%) and 9 (30%) mothers were primi and 16 (53.3%) and 21 (70%) were multi gravida mothers in the control and experimental group respectively.

Table 1 highlights that in the control group 21 (70%), 7 (23.3%) and 2 (6.7%) had 5 - 10 minutes, 10 - 15 minutes and > 15 minutes as their duration for 3rd stage, whereas in the experimental group all the mothers 30 (100%) had an 5 - 10 minutes as their dura-

tion of the third stage. Further 1 (3.3%), 17 (56.7%), 15 (50%), 13 (43.3%) mothers had normal 100 - 200 ml, 200 - 300 ml blood loss in the control and experimental group respectively. In the control group 14 (46.7%) mothers had more than 300 ml blood loss whereas none of the mother in the experimental group had above 300 ml blood loss during the 3rd stage of labour.

Total duration of third stage	Control group N = 30		Experimental group N = 30	
	Frequency	%	Frequency	%
5 - 10 minutes	21	70	30	100
10 - 15 minutes	7	23.3	-	-
More than 15 minutes	2	6.7	-	-
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Variables	Control group		Experimental group		Mean Difference	Level of significance
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Table 2: Comparison of the duration and amount of blood loss in third stage among the control and experimental group mothers

** = P < 0.000; S: Significance , *** = p < 0.000 , (s): Highly Significant

The above table shows that the mean duration of third stage and amount of blood loss was 10.27 ± 2.92, 3.57 ± 1.52 and 302.67 ± 33.41, 198.33 ± 25.74 with the mean difference of 6.7mins and 104.34 ml in the control group and experimental group respectively. The calculated 't value is 14.08 and 11.11 ('p' < 0.000) was statistically significant in the duration of third stage and amount of blood loss in the experimental group.

Therefore, it was inferred that there is a positive effect of early initiation of breast feeding on duration of third stage and the amount of blood loss in the experimental group.

The above table shows that there is a positive correlation (r = 0.7) between the vaginal blood loss and the duration of third stage of labour Score r = 0.688, indicates there is reduction of vaginal blood loss according to the duration of third stage of labour and vice versa.

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Variables	Mean	SD	r value
Amount of vaginal blood loss (ml)	302.67	2.96	0.688
Duration of third stage of labour (mins)	10.67	33.41	

Table 3: Correlation between the amount of vaginal blood loss and the duration of third stage of labour among the experimental group.

*Correlation is significant at the level of 0.05.

In relation to association of demographic and obstetrical variables it showed that age and gravid of the subjects showed highly significant (P< 0.000) with the duration of third stage and amount of blood loss in experimental group.

Discussion

The present study result revealed that the mean duration of third stage was 10.27 ± 2.92 and 3.57 ± 1.52 in the control and experiment group respectively and the mean amount of blood loss of was 302.67 ± 33.41 and 198.33 ± 25.74 with the mean difference of 6.7 minutes and 104.34 ml in the control group and experimental group respectively. The study result was supported by the author Soheir Ibrahim Sobhy., *et al.* (2004) conducted a study on "Early breast feeding on duration of third stage of labour among intra-natal mothers". The major findings of the study showed that the mean blood loss in third stage of the labour in experiment group was 227 ml ± 7.89 ml and the mean blood loss in the control group was 288ml ± 23.47 ml with the mean difference of 61 ml which is found to be significant (at t = 7.789, p = 0.000) [15]. Further it was supported by Dilek., *et al.* (2002) and De Chateau P, Wiberg B (2006). conducted a study to demonstrate the effectiveness of suckling on the prevention of immediate complications of third stage of labor and found that there were significant (P < 0.001) reduction in the risk of retained placenta [16,17].

The present study result indicates that the mean duration of third stage and the mean amount of blood loss was less in the experiment group in compare to the control group. There is a significant difference in the outcome of third stage of labour, between the experimental and control group after initiation of early breast feeding. There was a positive correlation between duration of 3rd stage with the amount of bleeding. Hence H1, H2 and H3 was accepted.

Conclusion

The study result shows that early initiation of breast feeding was effective on duration of third stage and amount of blood loss among the mothers in the third stage of labour. And there was a positive correlation between the amount of blood loss and the duration of third stage of labour. All the subjects in the experimental group has decreased amount of blood loss and duration of third stage. This is also a convenient measure. So this early initiation of breast feeding can be promoted by health professionals in their day to day caring the mother in hospital setting.

Limitations

Collecting blood in the Kelley 's pad was the difficulty felt during study

Recommendations

- Replication of the study may be done with large samples in different settings to validate and generalize the findings.

- The findings can be used as evidence based practice for early initiation of breast feeding, for all mothers who undergo vaginal delivery to prevent incident of PPH, and postpartum anemia.

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Volume 1 Issue 2 September 2018