Effect of breast crawl on placental separation among the primi parturient mothers

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Abstract

Background: Breast crawl is the procedure in which baby is placed on abdomen of mother and observing for the movement towards the nipple and attach to it for breastfeeding all by themselves. Methodology: The present study aimed at evaluating effect of "breast crawl on placental separation among primi parturient mothers. This study was conducted in the Krishna Hospital Karad. Experimental – Post test only design was used, with convenient sampling technique 371 mothers selected who delivered at full term. Breast crawl technique was performed and observed with the routine hospital procedure. Time of separation of placenta, mode of placental separation was assessed. Results: among successful breast crawl majority 277 (81%) mothers had placental separation within 5-10 minutes, followed by 49 (14%) and 18 (5%) mothers had placental separation within 11 -15 minutes and 16 -20 minutes respectively. 327 (95%) of mothers placenta was delivered spontaneously whereas only 10 (3%). Among unsuccessful breast crawl majority 8 (30%) of the mothers had placental separation within 5-10 minutes, and 16–20 minutes, followed by 6 (22%) mothers had placental separation within 11 -15 minutes. 22 (81%) of mothers placenta was spontaneously delivered. Conclusion: The result shows that maximum mothers had placental separation due to breast crawl. It would be very effective to utilize the evidence of breast crawl for improvement of maternal and fetal outcome and reducing the maternal mortality.

Keywords: Effect, Breast Crawl, Placental Separation.

INTRODUCTION

Care of the mother after birth includes assessment of her physical, emotional and psychological wellbeing. It is also important that appropriate assessment for any complications is undertaken, as failure to do so can have long-term consequences for the woman's. Breast crawl is the procedure in which baby is placed on abdomen of mother and observing for the movement towards the nipple and attach to it for breastfeeding all by themselves. In this technique babies movements initiate 12 to 44 minutes after birth, followed by spontaneous suckling at 27 to 71 minutes after birth1. Breast crawl helps in improving the process of involution of uterus thus reducing the chances of post partum hemorrhage and anemia ultimately It also adds sense of wellbeing in mother thus prevent post partum depression2.

Breastfeeding helps mother and baby to bond Breastfeeding is the best method of nourishing a newborn. One of the World Health Organization's proposals to preserve breastfeeding in maternal and child health services is to help mothers to start

breastfeeding within the first one hour of birth. Consistent with previous WHO guidelines, evidence shows immediate breast feeding reduces the risks of mortality and morbidity in the first month of life (compared to partial and predominant breastfeeding) and improves post-neonatal outcomes.

Methodology:

The present study aimed at evaluating effect of "breast crawl on placental separation among primi parturient mothers admitted in labour room. With the assumption that, Breast crawl promotes the synthesis of oxytocin so the placenta can be delivering on its own and this promotes immediate initiation of feeding this study was carried out. This study was conducted in the Krishna Hospital Karad. The research design used in this study was Experimental – Post test only design. With convenient sampling technique 371 mothers who delivered at full term in labour ward, without maternal or fetal complications were selected for study. Mothers who delivered by forceps, ventouse and caesarean section were excluded. The study was initiated after approval of the Institutional Ethics Committee of Krishna Institute of Medical Sciences Deemed University's. Permission was obtained from Head of the Department in Obstetrics and Gynecology and Medical director.

Procedure for Data Collection

The mothers were explained about the purpose of the study and were assured of confidentiality of the data collected and were assured that the newborn's health will not be affected. An oral and written consent of each study samples was obtained before starting the data collection. The advantages of the study were explained to the samples. Breast crawl technique was performed and observed with the routine hospital procedure. Ensured prevention of baby fall throughout the breast crawl. Those babies were not crawled and crossed 60 minutes were considered as unsuccessful breast crawl. Time of separation of placenta, mode of placental separation was assessed. Then the results were analysed and compared with each other. Data

were analysed using descriptive and inferential statistics. In this study, frequency and percentage distribution mean, standard deviation, chi square test and unpaired "t" test were used.

Results:

Table 1: *Duration of placental separation and Mode of delivery of placenta* N= 371

	Successful Breast Crawl Number of mothers (%)	Unsuccessful Breast Crawl Number of mothers (%)
Duration of placental Separation		
5-10 minutes	277 (81%)	8 (30 %)
11-15 minutes	49 (14%)	6 (22 %)
16–20 minutes	18 (5%)	8 (30 %)
21 – 25 minutes	0 (0 %)	2 (7 %)
> 25 minutes	0 (0 %)	3 (11 %)
Mode of delivery of placenta		
Spontaneous	327 (95%)	22 (81 %)
Control Cord Traction	10 (3%)	4 (15%)
Manual Removal of Placenta	7 (2%)	1 (4%)

Above table depicts that, among successful breast crawl majority 277 (81%) mothers had placental separation within 5-10 minutes, followed by 49 (14%) and 18 (5%) mothers had placental separation within 11 -15 minutes and 16 -20 minutes respectively.

Among unsuccessful breast crawl majority 8 (30%) of the mothers had placental separation within 5-10 minutes, and 16–20 minutes, followed by 6 (22%) mothers had placental separation within 11 -15 minutes. 2 (7%) mothers had placental separation within 21 to 25 minutes and 3 (11%) mothers had placental separation more than 25 minutes.

Among successful breast crawl, 327 (95%) of mothers placenta was delivered spontaneously whereas only 10 (3%) mothers placenta was delivered by controlled cord traction and 7 (2 %) mothers placenta delivered by manual removal of placenta. Among unsuccessful breast crawl 22 (81%) of mothers placenta was spontaneously delivered whereas 4 (15 %) mothers placenta was delivered by

controlled cord traction and only 1 (4 %)   mother required manual removal of placenta.

Table 2: *Association between demographic data with Duration of placental separation among successful breast crawl*

Demographic variables	Category	Duration of placental separation			Total	Chi Square value p-value	Association at p< 0.05 level
		5-10 minutes	10-15 minutes	15–20 minutes			
Age of the Mother	Up to 25 years	79	41	39	162	20.26, 0.0004*	S
	25 years and above	50	72	62	182		
Educational Status	Up to Higher secondary education	114	90	108	312	9.17, 0.057	S
	Graduation &Post graduation	15	10	7	32		
Occupation	Officials, Business and farmers	42	58	50	150	62.42, < 0.0001*	S
	House wife	87	66	41	194		
Monthly income of family	Less than 15,000	122	118	72	312	22.48, 0.0002*	S
	Above 16,000	7	6	19	32		
Completed weeks of gestation	38 weeks	8	6	3	17	8.72, 0.068	NS
	Above 39 weeks	121	118	88	327		
Number of antenatal visits	Up to 5 visits	6	20	18	44	17.65, 0.0014*	S
	>5 visits	123	104	73	300		
Habits of the Mother	Watching TV, Listening Music, Reading Books	29	42	31	102	42.72, < 0.0001*	S
	House hold works	100	82	60	242		

Sex of the baby	Female	88	85	40	213	23.78,	S
	Male	41	39	51	131	< 0.0001*	

*Significant when p<0.05, S- Significant, NS- Not Significant

The above table explains Association between socio demographic variables and Duration of placental separation shows that all demographic variables were statistically significant with Duration of placental separation with $p<0.05$ except gestation week $p>0.05$.

Table 3: *Association between demographic data with Mode of delivery of placenta among successful breast crawl*

Demographic variables	Category	Mode of delivery of placenta			Total	Chi Square value p-value	Association at p< 0.05 level
		Spontaneous	Control Cord Traction	Manual Removal of Placenta			
Age of the Mother	Up to 25 years	153	5	4	162	0.33, 0.85	NS
	25 years and above	174	5	3	182		
Educational Status	Up to Higher secondary education	303	5	4	312	30.47, < 0.0001*	S
	Graduation &Post graduation	24	5	3	32		
Occupation	Officials, Business and farmers	35	1	1	37	5.77, 0.45	NS
		27	2	2	31		
		78	3	1	82		
	House wife	187	4	3	194		
Monthly income of family	Less than	125	3	2	130	47.10, < 0.0001*	S
	15,000	178	2	2	182		
	Above 16,000	22	3	2	27		
		2	2	1	5		
Completed weeks of gestation	38 weeks	12	3	2	17	23.70, < 0.0001*	S
	Above 39 weeks	126	2	1	129		
		189	5	4	198		
Number of antenatal visits	Up to 5 visits	40	2	2	44	13.44, 0.0093*	S
	>5 visits	216	3	1	220		
		71	5	4	80		
Habits of the Mother	Watching TV, Listening Music, Reading Books	89	9	4	102	20.93,	S

	House hold works	238	1	3	242	< 0.0001*	
Sex of the baby	Female	205	4	4	213	2.18,	NS
	Male	122	6	3	131	0.33	

*Significant when p<0.05, S- Significant, NS- Not Significant

The above table depicts Association between socio demographic variables and Mode of delivery of placenta which shows that Age, occupation of the Mother and sex of the baby were not significant and rest of the demographic variables i.e. educational status, monthly income of family, gestation week, number of antenatal visits and habits of mother was found statistically significant with p<0.05.

Table 4: *Association between demographic data with Mode of delivery of placenta among unsuccessful breast crawl*

Demographic variables	Category	Mode of delivery of placenta			Total	Chi Square value p-value	Association at p< 0.05 level
		Spontaneous	Cord Control Traction	Manual Removal of Placenta			
Age of the Mother	Up to 25 years	5	4	0	9	6.24, 0.04*	S
	25 years and above	17	1	0	18		
Educational Status	Up to Higher secondary education	19	2	0	21	6.22, 0.04*	S
	Graduation Post graduation	3	3	0	6		
Occupation	Officials, Business farmers	9	2	0	11	1.87, 0.39	NS
	House wife	13	3	0	16		
Monthly income of family	Less than15,000	12	4	0	16	1.3, 0.52	NS
	Above 16,000	10	1	0	11		
Completed weeks of gestation	38 weeks	3	1	0	4	0.53, 0.77	NS
	Above 39 weeks	19	4	0	23		
Number of antenatal visits	Up to 5 visits	11	4	0	15	1.69, 0.43	NS
	>5 visits	11	1	0	12		
Habits of the Mother	Watching TV, Listening Music, Reading Books	3	3	0	6	6.22, 0.044*	S
	House hold works	19	2	0	21		
Sex of the baby	Female	9	2	0	11	0.52, 0.77	NS
	Male	12	4	0	16		

*Significant when p<0.05, S- Significant, NS- Not Significant

The above table depicts Association between socio demographic variables and Mode of delivery of placenta which shows that Age, education and mothers hobbits were significant and rest of the demographic variables i.e. educational status, monthly income of family, gestation week, number of antenatal visits and habits of mother was found statistically not significant with p<0.05.

Table 5: *Association between demographic data with Length of the Third Stage of labour among unsuccessful breast crawl*

Demographic variables	Category	Length of the Third Stage						Chi Square value p-value	Association at p< 0.05 level
		10-15 Minutes	15–20 Minutes	20 – 25 Minutes	25 - 30 Minutes	> 30 Minutes	Total		
Age of the Mother	Up to 25 years	2	3	1	2	1	9	6.56, 0.16	NS
	25 years and above	6	3	7	0	2	18		
Educational Status	Up to Higher secondary education	7	4	6	2	2	21	1.69, 0.79	NS
	Graduation &Post graduation	1	2	2	0	1	6		
Occupation	Officials, Business and farmers	3	3	5	0	0	11	5.25, 0.26	NS
	House wife	5	3	3	2	3	16		
Monthly income of family	Less than 15,000	3	5	3	2	2	16	5.74, 0.22	NS
	Above 16,000	5	1	5	0	1	11		
Completed weeks of gestation	38 weeks	1	2	1	0	0	4	2.57, 0.63	NS
	Above 39 weeks	7	4	7	2	3	23		
Number of antenatal visits	Up to 5 visits	5	3	3	2	2	15	3.04, 0.55	NS
	>5 visits	3	3	5	0	1	12		
Habits of the Mother	Watching TV, Listening Music, Reading Books	1	2	2	0	1	6	1.69, 0.79	NS
	House hold works	7	4	6	2	2	21		
Sex of the baby	Female	3	3	4	0	1	11	1.98, 0.74	NS
	Male	5	3	4	2	2	16		

The Association between socio demographic variables and Length of the Third Stage of labour was shown in the above table, which explains that Age of the Mother, Educational Status, Occupation, Monthly income of family , Completed weeks of gestation, Number of antenatal visits, Habits of the Mother, Sex of the baby showing no significant association with p<0.05.

Discussion:

In successful breast crawl, 95% of mothers placenta was separated spontaneously where as only 3% mothers placenta was delivered by controlled cord traction and 2 % mothers placenta delivered by manual removal of placenta. Among unsuccessful breast crawl 81% of mother's placenta was separated spontaneously where as only 15 % mother's placenta was delivered by controlled cord traction and 4% mother's required manual removal of placenta. The result shows that maximum mothers had placental separation due to breast crawl. It has been proved in Varendi et al3 1994 who has studied that among 30 newborn, 25 (83.3%) of babies were able to complete breast crawl successfully with positive maternal outcome. Gangal et al, (2007)4 stated that breast crawl has the potential to uterine contraction, enhances expulsion of the placenta and reduces maternal blood loss. Arun Gupta., (2007)5 proved early breast feeding through breast crawling has a physiological effect on the uterus as well, causing it to contract. It has been demonstrated that oxytocin levels increases during first 25 minutes and return to normal levels in 60 minutes. It was found that suckling and hand touching by babies stimulates oxytocin release which is significant for uterine contractions. Marshall Kalus., (2007)6 mentioned hypotheses that, when infant suckles from breast, there is an outpouring of 19 different gastrointestinal hormones in both the mother and the infant. This increases oxytocin in both the mother's brain and the infant's brain, which stimulates the vagus nerve, then causes the increase in the output of gastrointestinal hormones and early expulsion of placenta with minimal blood loss. Matthiesen AS 7 determine the effect of nipple stimulation on uterine activity during the third stage of labour which shows breast crawl will helps in reduction of third stage of labour and blood loss. Similar results were found in Colson, S. D. et al., (2001)8, Fewtrell M., et al., (2010)9, Widstrom AM., et al., (2010)10. Anuchithra S11 explained that the emotional interaction coupled with cutaneous, visual and auditory stimuli by the baby stimulates the oxytocin release which helps in uterine contraction, expulsion of placenta and constriction of uterine blood vessels hence preventing blood loss. Baby's act of pushing the abdomen with legs also aids the process of placental expulsion. In the present study we found that there was significant association with selected demographic data. When the baby is placed on mother's abdomen for crawling, skin contact with mother established and as baby moves it acts like abdominal massage which stimulates uterine contraction and helps in separation and early expulsion of placenta, hence baby crawling was also considered the effective method in reducing the postpartum hemorrhage12, 13, 14,15,16,17

However this study lacks in control group but the increased number of mother's placental expulsion indicates that breast crawl has significant impact on placental expulsion in spontaneous way. Hence breast crawl reduces the chances of using Control Cord Traction or Manual Removal of Placenta.

Conclusion:

There are enormous studies which proved the benefits of early initiation of breast feeding but recently new studies are proving proof of breast feeding with the help of breast crawl techniques would interim benefit the maternal and fetal recovery. The study findings revealed that breast crawl is an effective intervention on duration of placental separation and mode of placental delivery. There was a significant association found between the placental separations with their selected demographic variables. Hence breast crawl techniques would be effect in maternity unit for improving and mother and baby well being.

Nursing implications:

As evidence of breast crawl is improving in the literature as well as research, it would be very effective to utilize the evidence of breast crawl for improvement of maternal and fetal outcome and reducing the maternal mortality.

Nursing curriculum lacks the importance of breast crawl techniques. Student nurses require understanding the procedure of breast craw, its importance and clinical implication. Hence more academic importance must be given during training period for nurses. Similarly clinical nurses are required training for the same. Nurse administer can organize workshops, conference and continuing nursing education program to effective implementation of breast crawl techniques.

Strength of the study:

This study is evaluated the effectiveness of breast crawl on placental separation with 344 mothers which is huge sample to generalize the results.

Recommendation for Further Research:

1.   As earlier mentioned the effect of breast crawl would be best explained with control group research, further study can be conducted with comparative group.

Conflict of interest: None

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