

EFFECT OF BREAST CRAWL ON LENGTH OF THE THIRD STAGE OF LABOUR AND BLOOD LOSS

¹Lekshmi Sudhish Nair, ^{*2}Jyoti Avinash Salunkhe,

¹Assistant Professor, Obstetrical and Gynaecological Nursing, Krishna Institute of Nursing Sciences (KINS), Karad, nairlekshmi86@gmail.com

²Professor & Dean academics, Obstetrical and Gynaecological Nursing Krishna Institute of Nursing Sciences (KINS), Karad, jasalunkhe.salunkhe9@gmail.com

Abstract

Background: Breast crawl is cost-effective, simple and appropriate method to reduce the time for third stage of labour and blood loss. Methodology: With convenient sampling technique 371 mothers who delivered at full term in labour ward of Krishna Hospital Karad, without maternal or fetal complications were selected for study. Breast crawl technique was performed immediately after delivery of baby. Check list was used to measure the time duration took for 3rd stage of labour. Blood loss during Third stage was calculated with the help of V- drape. Results:

Among 371 babies, 344 (93%) babies have succeeded in the breast crawl and 27 (7%) babies failed to crawl. In Length of the Third Stage of labour, In Successful breast crawl, mean score was 16.29 minutes with the standard deviation 1.32. Whereas in Unsuccessful breast crawl group, the mean score was 18.63 minutes with the standard deviation 3.12 and mean difference was 2.34 minutes. Regarding blood loss, In Successful breast crawl group the mean score was 251.78 ml with the standard deviation 53.61. Where as in the Unsuccessful breast crawl group, the mean score was 334.12 ml minutes with the standard deviation 120.26 and mean difference was 82.34. Conclusion: Breast crawl is cost-effective, simple and appropriate method to reduce the time for third stage of labour.

Keywords: Breast Crawl, Third Stage of Labour, Blood Loss.

INTRODUCTION

Post natal period especially initial first week is vital for in the lives of mothers and newborn. Most of the complications occur during these weeks which adversely affect the mother and baby¹. Breast crawl (BC) is procedure where new born baby is placed on mother's abdomen and allowed to move towards breast. With this process baby is initiated for breast feeding. The time duration required for initiation of baby's movement would be 12 to 44 minutes and within 27 to 71 minutes baby starts sucking the nipple². Breast feeding is considered as important procedure for developing mother

baby emotional bond. It has got many physiological and psychological benefits for both baby and mother. During this process mother baby will have skin to skin contact which ultimately produces oxytocin and leads to physiological and psychological benefits. Release of oxytocin plays very important role in providing these benefits to mother and baby. One of the important benefits in this process is reduction of 3rd stage of labour and reduced blood loss. During the process of labour, it is common practice to accelerate the third stage of labor by using synthetic oxytocin to causes contraction of uterus. Normally, immediately after the delivery oxytocin causes contraction

of blood vessels in uterus but as breast crawl procedure starts these changes may accelerates and placental separation little early than in normal way without breast crawl. Intention of Breast crawl is initiation of breast feeding which in term will be the wonderful benefit to baby. As per the Baby Friendly Hospital Initiative (BFHI), every newborn must be placed in skin-to-skin contact with mothers after their delivery for at least one hour, and mothers should be asked to breastfeed within the first half-hour³. Other benefits of breast crawl is, it helps in increased secretion of breast milk and strengthens uterine contractions, early placental separation and reduction in duration of the third stage of labor with minimal blood loss⁴. Breast crawl is Natural, cost-effective, simple and appropriate method to reduce the time for third stage of labour and blood loss.

Methodology:

The present study was aimed at evaluating effect of Effect of Breast Crawl on duration of 3rd stage of labour and amount of blood loss among primipara mothers at Krishna Hospital Karad. Experimental study with Post test only design used in this research. With convenient sampling technique 371 mothers who delivered at full term, without maternal or fetal complications were selected for study. Delivery by forceps, ventouse and caesarean section were excluded.

Ethical consideration:

The study was initiated after approval of the Institutional Ethics Committee of Krishna Institute of Medical Sciences Deemed University's, Permission from Head of the Department in Obstetrics and Gynecology and Medical director of the Krishna Hospital. 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.

Procedure for Data Collection

The mothers were explained about the purpose of the study and were assured of confidentiality of the data and newborn's health satutus. Privacy was provided; mother was continuously observed and supported during labour process. After delivery of the baby the cord was clamped immediately and cut, suctioning was done and checked for active breathing. Immediately the baby was put on mother's abdomen and observed for crawling. Time was noted right from delivery of the baby and complete expulsion of placenta. Placental separation was confirmed by sign such as hardening of the uterus, gushing of blood, lengthening of the cord was observed. Check list was used to measure the time duration for 3rd stage of labour. Blood loss during Third stage was calculated with the help of V- drape, which were under-buttocks drape helps in measuring the amount of blood loss in a calibrated pouch. Data were analysed using descriptive and inferential statistics.

Results:

Table 1: *Proportion of Successful Breast Crawl*

| SL NO | Proportion of Successful Breast Crawl | Number Of Babies | Percent age |
|-------|---------------------------------------|------------------|-------------|
| 1. | Successful Breast Crawl | 344 | 93 % |
| 2. | Unsuccessful Breast Crawl | 27 | 7 % |
| | | 371 | 100% |

Among 371 babies, 344 (93%) babies have succeeded in the breast crawl techniques with positive outcome and 27 (7%) babies were observed for unsuccessful breast crawl. This proves that 93% of success in breast crawl intervention.

Table 2: Length and blood loss during third stage of labor

| | Successful Breast Crawl Number of mothers F (%) | Unsuccessful Breast Crawl Number of mothers F (%) |
|---|---|---|
| Length of the Third Stage of labour | | |
| 10-15 Minutes | 127 (37%) | 8 (30 %) |
| 16 -20 Minutes | 135 (39%) | 14 (52 %) |
| 21-25 Minutes | 82 (24%) | 2 (7 %) |
| >30 minutes | 0 (0 %) | 3 (11 %) |
| Blood loss during Third stage of labor | | |
| Below 250 ml | 9 (2 %) | 9 (33%) |
| 251-500 ml | 316 (92 %) | 15 (56%) |
| Above 500 ml | 19 (6 %) | 3 (11%) |

The above table reveals that, among successful breast crawl, maximum 135 (39%) mothers completed third stage within 16-20 minutes and 127 (37%) mothers took 10-15 minutes to

complete 3rd stage, whereas 82 (24%) mothers completed third stage within 20-25minutes. Among unsuccessful breast crawl, majority 14 (52%) of the mothers completed third stage of labour within 16-20 minutes followed by 8 (30%) mothers took less than 15 minutes, 2(7%) mothers completed in 21-25 minutes and only 3 (11%) mothers took more than 30 minutes for the completion of 3rd stage of labour.

Among successful breast crawl, maximum 316 (92%) of mothers had blood loss of 251ml to 500 ml whereas 19 (6%) mothers had blood loss above 500 ml and only 9 (2%) mothers had blood loss below 250 ml. Among unsuccessful breast crawl, maximum 15 (56%) of mothers had blood loss of 251ml to 500 ml whereas 9 (33%) mothers had blood loss below 250 ml, and only 3 (11%) mothers had blood loss above 500 ml.

Table 4: Mean, Standard deviation and Mean difference on third stage of labour both in Successful breast crawl and Unsuccessful breast crawl

| Effect of breast crawl on 3 rd stage of labour | Successful breast crawl | Unsuccessful breast crawl | Mean difference | independent 't' test |
|---|-------------------------|---------------------------|-----------------|--|
| | Mean \pm SD | Mean \pm SD | | |
| Length of the Third Stage of labour | 16.29 \pm 1.32 | 18.63 \pm 3.12 | 2.34 | t=4.36 P=0.001*** DF = 58, Significant |
| Blood loss during Third stage | 251.78 \pm 53.61 | 334.12 \pm 120.26 | 82.34 | t=6.24 P=0.001*** DF = 58, Significant |

Considering the Length of the Third Stage of labour, In Successful breast crawl, mean score was 16.29 minutes with the standard deviation 1.32. Whereas in Unsuccessful breast crawl group, the mean score was 18.63 minutes with the standard deviation 3.12 and mean difference was 2.34 minutes. The independent 't' test t was 4.36 was greater than table value which was significant at 0.001 level.

Whereas considering Blood loss during Third stage, In Successful breast crawl group the mean score was 251.78 ml with the standard deviation 53.61. Where as in the Unsuccessful breast crawl group, the mean score was 334.12 ml minutes with the standard deviation 120.26 and mean difference was 82.34 and the independent 't' test t was 6.24 which was greater than table value so it was significant at 0.001 level.

Table 5: Association between demographic data with Length of the Third Stage of labour Among Successful breast crawl

| Demographic variables | Category | Length of the Third Stage | | | | Total | Chi Square value | Association at p< 0.05 level |
|------------------------------|---|---------------------------|---------------|-----------------|-----|--------------|----------------------|------------------------------|
| | | Less than 15 Minutes | 16-20 Minutes | 21 - 25 Minutes | | | | |
| Age of the Mother | Up to 25 years | 79 | 56 | 27 | 162 | 13.50 | 0.0091* , S | |
| | 25 years and above | 48 | 79 | 55 | 182 | | | |
| Educational Status | Up to Higher secondary education | 112 | 125 | 75 | 312 | 7.57 | 0.11, NS | |
| | Graduation & Post graduation | 15 | 10 | 7 | 32 | | | |
| Occupation | Officials, Business and farmers | 45 | 70 | 35 | 150 | 21.12 | 0.0003* , S | |
| | House wife | 82 | 65 | 47 | 194 | | | |
| Monthly income of family | Less than 15,000 | 115 | 125 | 72 | 312 | 28.43 | < 0.0001* , S | |
| | Above 16,000 | 12 | 10 | 10 | 32 | | | |
| Completed weeks of gestation | 38 weeks | 8 | 5 | 4 | 17 | 5.83 | 0.21, NS | |
| | Above 39 weeks | 119 | 130 | 78 | 327 | | | |
| Number of antenatal visits | Up to 5 visits | 16 | 16 | 12 | 44 | 5.86 | 0.21, NS | |
| | >5 visits | 111 | 119 | 70 | 300 | | | |
| Habits of the Mother | Watching TV Listening Music Reading Books | 26 | 45 | 31 | 102 | 22.03 | 0.0002* , S | |
| | House hold works | 101 | 90 | 51 | 242 | | | |
| Sex of the baby | Female | 88 | 81 | 44 | 213 | 14.06 | 0.0071* , S | |
| | Male | 39 | 54 | 38 | 131 | | | |

The Association between socio demographic variables of Successful breast crawl and Length of the Third Stage of labour among Successful breast crawl shows that age of mother,

occupation, monthly income, habits of mother, sex of the baby showing significant association with p<0.05 and rest demographic data were not found significant.

Table 6: Association between demographic data with Length of the Third Stage of labour among Unsuccessful breast crawl

| Demographic variables | Category | Length of the Third Stage | | | | Total | Chi Square value p-value | Association at p< 0.05 level |
|-----------------------|----------------------------------|---------------------------|-----------------|-----------------|--------------|-------|--------------------------|------------------------------|
| | | Less than 15 Minutes | 20 - 25 Minutes | 25 - 30 Minutes | > 30 Minutes | | | |
| Age of the Mother | Up to 25 years | 5 | 1 | 2 | 1 | 9 | 6.56, 0.16 | NS |
| | 25 years and above | 3 | 13 | 0 | 2 | 18 | | |
| Educational | Up to Higher secondary education | 6 | 11 | 2 | 2 | 21 | 1.69, | NS |

| | | | | | | | | |
|------------------------------|---|---|----|---|---|----|------------|----|
| Status | Graduation & Post graduation | 2 | 3 | 0 | 1 | 6 | 0.79 | |
| Occupation | Officials, Business and farmers | 4 | 7 | 0 | 0 | 11 | 5.25, 0.26 | NS |
| | House wife | 4 | 7 | 2 | 3 | 16 | | |
| Monthly income of family | Less than 15,000 | 5 | 9 | 2 | 0 | 16 | 5.74, 0.22 | NS |
| | Above 16,000 | 3 | 5 | 0 | 3 | 11 | | |
| Completed weeks of gestation | 38 weeks | 3 | 1 | 0 | 0 | 4 | 2.57, 0.63 | NS |
| | Above 39 weeks | 5 | 13 | 2 | 3 | 23 | | |
| Number of antenatal visits | Up to 5 visits | 6 | 5 | 2 | 2 | 15 | 3.04, 0.55 | NS |
| | >5 visits | 2 | 9 | 0 | 1 | 12 | | |
| Habits of the Mother | Watching TV, Listening Music, Reading Books | 3 | 2 | 0 | 1 | 6 | 1.69, 0.79 | NS |
| | House hold works | 5 | 12 | 2 | 2 | 21 | | |
| Sex of the baby | Female | 6 | 4 | 0 | 1 | 11 | 1.98, 0.74 | NS |
| | Male | 2 | 10 | 2 | 2 | 16 | | |

The Association between socio demographic variables of unsuccessful breast crawl and Length of the third stage of labour 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 $p < 0.05$.

Table 7: Association between demographic data with Blood loss during Third stage of labor – Among Successful breast crawl

| Demographic variables | Category | Blood loss during Third stage of labor | | | Total | Chi Square value | Association at $p < 0.05$ level |
|-----------------------|----------------------------------|--|------------|--------------|-------|------------------|---------------------------------|
| | | Below 250 ml | 251-500 ml | Above 500 ml | | | |
| Age of the Mother | Up to 25 years | 4 | 147 | 11 | 162 | 0.96 | 0.62, NS |
| | 25 years and above | 5 | 169 | 8 | 182 | | |
| Educational Status | Up to Higher secondary education | 6 | 292 | 14 | 312 | 13.77 | 0.0010*, S |
| | Graduation & Post graduation | 3 | 24 | 5 | 32 | | |
| Occupation | Officials, Business and farmers | 6 | 132 | 12 | 150 | 5.33 | 0.070, NS |
| | House wife | 3 | 184 | 7 | 194 | | |

| | | | | | | | |
|-------------------------------------|------------------------------|---|-----|----|-----|-------|----------------------|
| Monthly income of family | Less than 15,000 | 4 | 295 | 13 | 312 | 36.64 | < 0.0001* , S |
| | Above 16,000 | 5 | 21 | 6 | 32 | | |
| Completed weeks of gestation | 38 weeks | 2 | 14 | 1 | 17 | 5.90 | 0.052 , NS |
| | Above 39 weeks | 7 | 302 | 18 | 327 | | |
| Number of antenatal visits | Up to 5 visits | 3 | 39 | 2 | 44 | 3.55 | 0.17 , NS |
| | >5 visits | 6 | 277 | 17 | 300 | | |
| Habits of the Mother | Watching TV, Listening Music | 7 | 87 | 8 | 102 | 12.08 | 0.0024* , S |
| | Reading Books | | | | | | |
| | House hold works | 2 | 229 | 11 | 242 | | |
| Sex of the baby | Female | 6 | 202 | 5 | 213 | 10.84 | 0.0044* , S |
| | Male | 3 | 114 | 14 | 131 | | |

The Association between socio demographic variables of successful breast crawl and Blood loss during third stage of labor shows that

Educational Status of mother, monthly income, habits of mother and sex of the baby was statistically significantly associated whereas other demographic data were not significant with Blood loss during third stage of labor.

Table 8: Association between demographic data with Blood loss during Third stage of labor- among unsuccessful breast crawl

| Demographic variables | Category | Blood loss during Third stage of labor | | | Total | Chi Square value p-value | Association at p< 0.05 level |
|------------------------------|----------------------------------|--|------------|--------------|-------|--------------------------|------------------------------|
| | | Below 250 ml | 251-500 ml | Above 500 ml | | | |
| Age of the Mother | Up to 25 years | 3 | 5 | 1 | 9 | 0.0, 1.0 | NS |
| | 25 years and above | 6 | 10 | 2 | 18 | | |
| Educational Status | Up to Higher secondary education | 6 | 13 | 2 | 21 | 1.54, 0.46 | NS |
| | Graduation & Post graduation | 3 | 2 | 1 | 6 | | |
| Occupation | Officials, Business and farmers | 3 | 7 | 1 | 11 | 0.78, 0.49 | NS |
| | House wife | 6 | 8 | 2 | 16 | | |
| Monthly income of family | Less than 15,000 | 5 | 9 | 2 | 16 | 0.12, 0.94 | NS |
| | Above 16,000 | 4 | 6 | 1 | 11 | | |
| Completed weeks of gestation | 38 weeks | 2 | 1 | 1 | 4 | 1.99, 0.37 | NS |
| | Above 39 weeks | 7 | 14 | 2 | 23 | | |

| | | | | | | | |
|----------------------------|---|---|----|---|----|---------------|----|
| Number of antenatal visits | Up to 5 visits | 5 | 8 | 2 | 15 | 0.18, 0.91 | NS |
| | >5 visits | 4 | 7 | 1 | 12 | | |
| Habits of the Mother | Watching TV, Listening Music, Reading Books | 2 | 1 | 3 | 6 | 12.6, 0.0018* | NS |
| | House hold works | 7 | 14 | 0 | 21 | | |
| Sex of the baby | Female | 4 | 5 | 2 | 11 | 1.23, 0.54 | NS |
| | Male | 5 | 10 | 1 | 16 | | |

Association between socio demographic variables of unsuccessful breast crawl and Blood loss during Third stage of labor indicates 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:

Among 371 babies, 344 (93%) babies have succeeded in the breast crawl techniques with positive outcome and 27 (7%) babies were observed for unsuccessful breast crawl. This proves that 93% of success in breast crawl intervention. Varendi et al (1994)⁵ conducted the study and shows that 83.3% of babies were able to complete breast crawl successfully. These results were lower than our results.

In the present study among successful breast crawl, 170 (49%) mother completed third stage in 16-20 minutes and 131 (38%) mothers took 10-15 Minutes. Among unsuccessful breast crawl majority 14 (52%) of the mothers completed third stage of labour within 16-20 minutes followed by 8 (30%) mothers in Less than 15 Minutes, 2 (7%) mothers in 21-25 minutes and only 3 (11%) mothers had more than 30 minutes. These results are associated with the age of mother, occupation, monthly income, habits of mother, sex of the baby.

As per as blood loss is concerned among Successful breast crawl, 316 (92%) of mothers had blood loss of 251ml to 500 ml, 19 (6%)

mother loosed blood mother than 500 ml and only 9 (2%) mother reported that blood loss was less than 250 ml. These results are statistically significantly associated with Educational Status of mother, monthly income, habits of mother and sex of the baby. Among unsuccessful 15 (56%) mothers had blood loss of 251ml to 500 ml, 9 (33%) mother lose more than 500 ml and only 3 (11%) mother reported that blood loss was less than 250 ml without having any significant association with any demographic data.

Christena, P. (2018)⁶. Demonstrated that in their study that 17 (57%) of postnatal mothers had mild blood loss, 13 (43%) had moderate blood loss with breast crawl effects which was lower than our results. Regarding duration of separation of the placenta in the third stage of labour 19 (63%) has ≤ 6 min and 11 (37%) has > 6 min. these results are better than our research results. Tiwari V et al (2015)⁷ found expulsion of placenta in 95% of breast crawl mothers in 2-4 minute than (19%) in Non breast crawl mothers in more than 5minutes. These results are lower than our results.

The effect of breast crawl will be due to early skin to skin contact with mother and baby and early initiation of breast feeding. The discussion is carried out based on these concepts. Ample of studies have demonstrated that mother-infant SSC on reduces the mean of third stage of labor in the intervention group as compared to the conventional care group with significant difference^{8,9,10,11}. In the present study also we found 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 is also considered the effective method in reducing the postpartum hemorrhage^{12, 13,14,15,16}.

Vimala B.D et al¹⁷ in their study stated 30 parturient mothers 9(30%) had delivered the placenta within 5 minutes, 13(43.3%) within 6-10 minutes, 6 (20%) within 11-15 minutes and 2(6.6%) had more than 20 minutes to deliver the placenta after initiation of breast feeding. There was a significant association between early suckling and the reduction of third stage of labour at $p=0.007$ level. Similarly Amy Brown et al (2014)¹⁸ also proved early initiation of breast feeding have great effects on third stage of labour and causes reduction in postpartum blood loss early placental delivery. Other research was supported to support our study results are Dilek., et al. (2002)¹⁹ and De Chateau P²⁰, Wiberg B (2006)²¹ in which they found that early sucking helps in reducing the third stage of labour and found that there were significant ($P < 0.001$) reduction in the risk of retained placenta.

A Prishanthini A (2018)²² demonstrated in their study the mean blood loss in third stage of the labour in experiment group was $227 \text{ ml} \pm 7.89 \text{ ml}$ and in the control group was $288 \text{ ml} \pm 23.47 \text{ ml}$ with the mean difference of 61 ml which is found to be significant (at $t = 7.789$, $p = 0.000$) where as in our study it is reported that the mean blood loss among successful breast crawled mothers was $247 \text{ ml} \pm 8.89 \text{ ml}$ where as mean blood loss among unsuccessful breast crawled mothers was $264 \text{ ml} \pm 7.31 \text{ ml}$. These results were similar to Dilek., et al. (2002)¹⁸ and De Chateau P, Wiberg B (2006)¹⁹.

Conclusion:

This study reveals that through breast crawling technique 3rd stage of labour can be managed effectively without delaying and many complications. Breast crawl is aimed at early initiation of breast feeding and benefits are due to early skin to skin contact, release of oxytocin, and breast feeding. The important

physiological change to reduce the third stage of labour by early expulsion of placenta is release of oxytocin. The role of oxytocin in delivery process is motioned widely in the literature.

Strength of the study:

This study is evaluated the effectiveness of breast crawl on episiotomy suturing pain, with 371 mothers which is huge sample to generalize the results.

Conflict of interest: None

Reference

- [1] Every Newborn, An Executive Summary for The Lancet's Series. May 2014.
- [2] https://www.unicef.org/infobycountry/india_40548.htm
- [3] WHO. CHD. Evidence for the Ten Steps to successful breastfeeding. Geneva: World Health Organization; 1998.
- [4] Oxytocin--anatomy and functional assignments: a mini review., Kiss A, Mikkelsen JD, Endocr Regul. 2005 Sep; 39(3):97-105.
- [5] Varendi H, Porter RH, Winberg J Does the newborn baby find the nipple by smell? Lancet. 1994 Oct 8;344(8928):989-90.
- [6] Christena, P. (2018). A study to evaluate the effectiveness of breast crawl technique on physiological outcome during the third stage of labour and immediate initiation of breastfeeding among postnatal mother at the selected hospital, Trichy. International Journal of Advance Research, Ideas and Innovations in Technology, 4, 460-465.
- [7] Tiwari V, Singh N, Purohit A, Shyam S. Role of breast crawl in maternal health and wellbeing. Int J Med Res Rev 2015;3(6):540-546.
- [8] Essa RM, Ismail NI. (2015). Effect of early maternal/newborn skin-to-skin contact after birth on the duration of third stage of labor and initiation of breastfeeding. J Nurs Educ Pract, 5(4):98.
- [9] Mejbek MK, Ali RM. (2012). Effectiveness of Skin-to-Skin Contact on duration of third stage of labor in Baghdad

- Teaching Hospital: Comparative Study. *Kufa J Nurs Sci*, 2(3): 1–13.
- [10] Al-Morbaty HY, Ashmauey AA, Al-Ghamdi AA. (2017). The Effect of Mother and Newborn Early Skin-To-Skin Contact on the Duration of Separation and Expulsion of the Placenta. *J Nurs Health Stud*, 2:2.
- [11] Safari K, Saeed AA, Hasan SS, Moghaddam-Banaem L. (2018). The effect of mother and newborn early skin-to-skin contact on initiation of breastfeeding, newborn temperature and duration of third stage of labor. *Int Breastfeed J*, 13:32.
- [12] Cunningham FG, Leveno KJ, Bloom SL, et al. (2014). *Williams Obstetrics*. 24th ed McGraw-Hill, United States, pp: 546–548, 780–785
- [13] Essa RM, Ismail NI. (2015). Effect of early maternal/newborn skin-to-skin contact after birth on the duration of third stage of labor and initiation of breastfeeding. *J Nurs Educ Pract*, 5(4):98.
- [14] Khadivzadeh T, Karimi FZ, Tara F. (2018). Effects of early mother-neonate skin-to-skin contact on the duration of the third stage of labor: A randomized clinical trial. *Iran J Obstet Gynecol Infertil*, 21(2): 23–29.
- [15] Postpartum maternal oxytocin release by newborns: effects of infant hand massage and sucking. Matthiesen AS, Ransjö-Arvidson AB, Nissen E, Uvnäs-Moberg K *Birth*. 2001 Mar; 28(1):13-9.
- [16] Does skin-to-skin contact and breast feeding at birth affect the rate of primary postpartum haemorrhage: Results of a cohort study. Saxton A, Fahy K, Rolfe M, Skinner V, Hastie C *Midwifery*. 2015 Nov; 31(11):1110-7.
- [17] Vimala Beulah.D., Parimala. L. (2015); Effectiveness Of Initiation Of Breast Feeding On Third Stage Of Labour Among Parturient Mothers At Selected Hospital, Chennai *Int. J. Of Adv. Res.* 3 (Oct). 1399-1402
- [18] Jenifer Sleep J, et al. *Maternal and Child health Nursing*. 3rd edn, 1992. Mosby Publication
- [19] Dyson L, McCormick FM, Renfrew MJ. Interventions for promoting the initiation of breastfeeding. *Cochrane Database of Systematic Reviews* 2005, Issue 2. Art. No.: CD001688. DOI: 10.1002/14651858.CD001688.pub2
- [20] Long-term effect on mother-infant behaviour of extra contact during the first hour post partum. II. A follow-up at three months, De Chateau P, Wiberg B. *Acta Paediatr Scand*. 1977 Mar; 66 (2) : 145-51
- [21] Long-term effect on mother-infant behaviour of extra contact during the first hour post partum. V. Follow-up at three years. Wiberg B, Humble K, de Chateau P. *Scand J Soc Med*. 1989;17(2):181-91
- [22] Prishanthini A, Manjubala D. “Early Initiation of Breastfeeding on Outcome of Third Stage of Labour among the Intra-Natal Mothers at Rggw & Ch, Puducherry”. *Acta Scientific Paediatrics* 1.2 (2018): 09-16.