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Effectiveness of Prenatal Video Assisted Teaching Regarding Breast Crawl on Maternal and Neonatal Outcome among the Mothers in Rajiv Gandhi Women and Children Hospital, Puducherry



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ABSTRACT

The objectives are to assess the post-test level of maternal and neonatal outcomes among mothers in an experimental and control group, to evaluate the effectiveness of breast crawl on maternal and neonatal in an experimental group compare to the control group. And to associate the post-test level of selected maternal and neonatal outcomes of mothers with their selected demographic variables in the experimental group and control group. Materials And Methods: The study was conducted as a post-test only design with a quantitative research approach. The sample size was 110, selected through purposive sampling technique. Quasi-experimental- post-test with Experimental and control group research design was used. The data was collected through an interview schedule from the subjects regarding their demographic and obstetrical variables, Visual pain assessment scale, Infant Breast Feeding Assessment tool and LATCH (Lower Anchors and Tethers for Children) scale were used to assess the level of episiotomy pain, initiation of breastfeeding and level of attachment. Video-assisted teaching on breast crawl was given to the mothers before delivery. Results: The age of the mother had shown a statistically significant association with amount of blood loss at p<0.01 level among experimental group mothers than control group. Conclusion: Thus the researcher concluded that Video assisted teaching regarding breast crawl method was an effective method on maternal and neonatal outcomes which will promote early initiation of breastfeeding and reduce the episiotomy pain, reduce the blood loss during labor and reduce the duration of third stage of labour; hence it is highly benefited to the mother and newborn.

1. INTRODUCTION:

Until one becomes a mother, no one can ever tell you what it will feel like to love someone else so deeply and profoundly that you will rejoice when they rejoice, ache when they ache, feel what they feel –even without ever speaking a word".-Jennifer Quinn(2018)

Childbirth is a universal and natural event, even though labour is often known as one of the most painful phenomena in women's life. A supportive care is needed to ease the woman's worries and uneasiness. Perhaps vast variety of pain relief measures are there in pharmacological and non-pharmacological. (Vevila Ronald, 2017){1}

After the labour pain, mothers usually have episiotomy pain. And this leads to feel mother as unbreakable pain. The management for pain pharmacologically during episiotomy suturing is the administration of 10ml of 2%lignocaine before the suturing. Much non-pharmacological management can be used. So Breast Crawl is one of the techniques to divert the mother from pain during episiotomy suturing. (Vevila Ronald, 2011){2}

So breast crawl procedure which benefits the mother; it is the technique of breast massage by the baby and due to subsequent suckling may induce a large oxytocin surge from the mother's pituitary gland into her bloodstream. This may lead to close emotional interaction coupled with cutaneous, visual and auditory stimuli from the baby during the Breast Crawl which induces the release of oxytocin. This oxytocin helps to contract the uterus, expelling the placenta and it closes the blood vessels in the uterus, thus reducing loss of blood and finally it prevent anemia. Due to the pressure of an infant's feet on the mothers abdomen may also help in expelling the placenta early. (Klaus and Kennel, 2001){3}

2. MATERIALS AND METHODS

2.1. STUDY DESIGN

The research approach adopted for this study was the Quantitative research approach. The research design adopted for this study was Quasi-Experimental design (Post-test only design)... Population of the study comprises of all antenatal mothers who were admitted in the Antenatal ward and Labour room undergoing normal vaginal delivery at the selected Hospital, Puducherry. The study was conducted for 30 days from 04/11/2019 to 03/12/2019.

2.2. STUDY PARTICIPANTS

Population of the study comprises of all antenatal mothers who were admitted in the Antenatal ward and Labour room undergoing normal vaginal delivery at Rajiv Gandhi Women & Children Hospital, Puducherry. Sample size was110 mothers (55 in experimental and 55 in control group). A standardized tool, called Visual pain scale, Infant Breast Feeding Assessment Tool and LATCH (Lower Anchors and Tethers for Children)scale was used in the research study to assess the level of pain, initiation of breastfeeding and level of attachment. And it comprises of Video assisted module prepared by reviews of books, journals on Breast Crawl. The video contains of information on the introduction of Breast Crawl, steps and procedure of Breast Crawl, benefits of Breast crawl. The duration of video was 8 minutes used for mother's better understanding. This video was shown to the mothers in the Experimental group before the delivery. After the administration of the video, post-test assessment was done in labour room to evaluate the effectiveness on maternal and neonatal outcomes Approval, ethical clearance and a written informed consent was obtained.

2.3 DATA COLLECTION:

Prenatal Video Assisted Teaching regarding breast crawl method and benefits shown to antenatal mothers in Antenatal ward. Breast crawl was performed for experimental group mothers after birth of the baby. In the experimental group, once the baby cried well immediately after birth, the umbilical cord was clamped and cut. The baby was assessed by Apgar score and vitals respectively. The researcher dried only the head & trunk of the baby except the hands and placed the baby on the mother's abdomen and baby was covered with thin sheet to maintain warmth. The mother was instructed to support the baby's back which prevent slipping of the baby and helps for early initiation of breastfeeding. First the baby started salivating and moving hands followed by slowly moving towards the breast through leg and arm movements. Further the baby bounced head up and down and side to side, opened mouth at the nipple then finally latched and sucked.The mother remained in this position till the baby completes the first feed. There researcher supported and stood beside for each mother throughout this procedure. The whole procedure took around 30minutes to 1 hour as per the individual baby's capacity. All the mothers

post-test assessment was done in labour room to evaluate the effectiveness of maternal and neonatal outcomes.



Figure No. 1: Video-assisted teaching



Figure No. 2: Breast Crawl

RESULT AND DISCUSSION:

RESULT:

The result of the present study depicted that the mean level of pain was 2.40 ± 0.53 in the Experimental group mothers and the mean level of pain in the Control group was 3.76 ± 0.54 . The

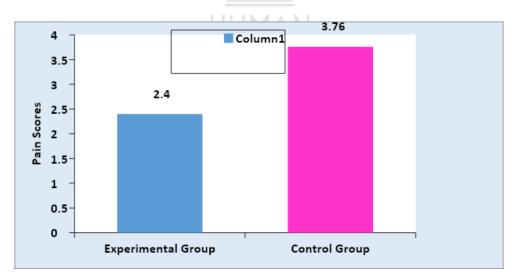
mean difference was 1.36 i.e., 13.6%. The calculated unpaired' test value (t = 13.320) was found to be statistically significant at p<0.001 level and this indicates that Breast Crawl had a significant impact on the level of pain perception hence level of pain during episiotomy suturing for the Experimental group was considerably reduced than the mothers in the Control group.

EFFECTIVENESS OF PRENATAL VIDEO ASSISTED TEACHING REGARDING BREAST CRAWL ON MATERNAL AND NEONATAL OUTCOME AMONG MOTHERS IN THE EXPERIMENTAL AND CONTROL GROUP

Table 1.1: Comparison of level of pain during episiotomy suturing among mothers in theExperimental and Control group.

N = 110(55+55)

| Level of pain | Mean | S.D | Mean Difference Score | Unpaired 't' Test Value |
|--------------------|------|------|-----------------------|-------------------------|
| Experimental Group | 2.40 | 0.53 | 1.36 | t = 13.320 |
| Control Group | 3.76 | 0.54 | (13.6%) | p = 0.0001, S*** |



***p<0.001, S – Significant

Figure No. 3: Comparison of the level of pain during episiotomy suturing among mothers in the Experimental and Control group

| Table No. 1: Comparison of the amount of blood loss among mothers in the Experimental |
|---|
| and Control group |

| N = | 110(55+55) |
|------------|------------|
|------------|------------|

| Blood Loss | Experime | ntal Group | Contro | l Group | Chi-Square Value |
|--------------|----------|------------|--------|---------|-------------------|
| DIOU LOSS | No. | % | No. | % | Cin-Square value |
| 100 – 200 ml | - | - | - | - | $\chi^2 = 40.528$ |
| 200 – 300 ml | 1 | 1.8 | 0 | 0 | d.f=2 |
| 300 – 400 ml | 50 | 90.9 | 19 | 34.5 | p = 0.000 |
| 400 – 500 ml | 4 | 7.3 | 36 | 65.5 | S*** |

***p<0.001, S - Significant

Table 1.2 depicts that in the Experimental group, most of the mothers 50(90.9%) had 300 – 400 ml of blood loss, 4(7.3%) mothers had 400 – 500 ml of blood loss and 1(1.8%) mother had 200 – 300 ml of blood loss, whereas in the Control group most of the mothers 36(65.5%) had 400 – 500 ml of blood loss and 19(34.5%) mothers had 300– 400 ml of blood loss. The calculated Chi-Square value between the two groups of mothers shows that there was a significant difference between the Control group and Experimental group, amount of blood loss which was evident from the Chi-square value of χ^2 =40.528 which was found to be statistically significant at p<0.001 level.

 Table No. 2: Comparison of Initiation of breastfeeding among newborn babies in the

 Experimental and Control group

N = 110(55+55)

| Initiation of Breast Feeding by babies | Mean | S.D | Mean Difference Score | Unpaired 't' Test Value |
|---|-------|------|--------------------------|----------------------------|
| Experimental Group | 10.49 | 0.92 | 3.91 | t = 23.949 |
| Control Group | 6.58 | 0.79 | (32.6%) | p = 0.0001, S*** |

***p<0.001, S – Significant

Table 1.3 depicts that the mean score initiation of breastfeeding was 10.49 ± 0.92 in the Experimental group babies and initiation of breastfeeding in the Control group babies was 6.58 ± 0.79 . The mean difference score was 3.91 i.e., 32.6%.

The calculated unpaired' test value of t = 23.949 was found to be statistically significant at p<0.001 level and this indicates Breast Crawl procedure had a significant effect and good initiation of breastfeeding was observed among babies in the Experimental group than the babies in the Control group.

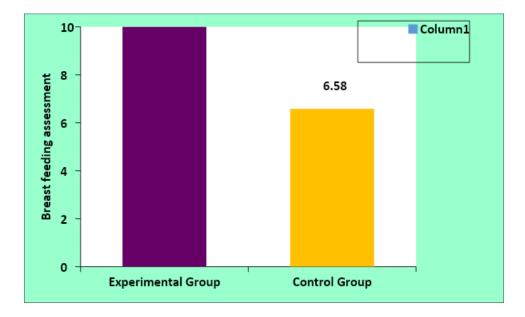


Figure No. 4: Comparison of Initiation of breastfeeding among newborn babies in the Experimental and Control group

Table No. 3: Comparison of Level of attachment among newborn babies in theExperimental and Control group

N = 110(55+55)

| Initiation of Breast Feeding | Mean | S.D | Mean Difference Score | Unpaired 't' Test Value |
|---------------------------------|------|------|--------------------------|----------------------------|
| Experimental Group | 7.83 | 0.63 | 1.87 | t = 50.712 |
| Control Group | 5.96 | 0.19 | (18.7%) | p = 0.0001, S*** |

***p<0.001, S – Significant

Table 1.4 depicts that the mean score of the level of attachment was 7.83 ± 0.63 in the Experimental group babies and the mean score of level of attachment in the Control group was 5.96 ± 0.19 . The mean difference score was 1.87 i.e., 18.7%.

The calculated unpaired 't' test value (t = 50.712) was found to be statistically significant at p<0.001 level and this indicates Breast Crawl procedure had a significant effect and good level of attachment was observed among babies in the Experimental group than the babies in the Control group.

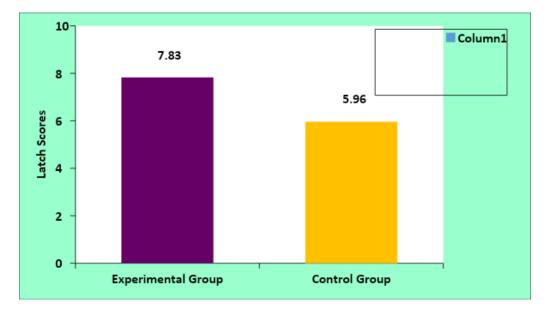


Figure No. 5: Comparison of the level of attachment among newborn babies in the Experimental and Control group

 Table No. 4: Association of the amount of blood loss among mothers with their selected

 demographic and obstetrical variables in the experimental group

N=110(55+55)

| Demographic Variables | 200 – 300 ml | | 300 - | 400 ml | 400 - 5 | 500 ml | Chi-Square Value |
|---------------------------|--------------|-----|------------|--------|---------|--------|---------------------------|
| | No. | % | No. | % | No. | % | |
| Age of the mother | | | | | | | 2 15 054 |
| <18 yrs | 0 | 0 | 0 | 0 | 1 | 1.8 | χ ² =17.954 |
| 18 - 24 yrs | 0 | 0 | 19 | 34.5 | 2 | 3.6 | d.f=6 p = 0.006 |
| 25 - 29 yrs | 0 | 0 | 21 | 38.2 | 1 | 1.8 | p = 0.000 S** |
| >30 yrs | 1 | 1.8 | 10 | 18.2 | 0 | 0 | 5 |
| Educational status | | | | | | | 2 2 671 |
| Primary education | 0 | 0 | 1 | 1.8 | 0 | 0 | $\chi^2 = 2.671$ d.f=4 |
| Higher secondary | 0 | 0 | 20 | 36.4 | 3 | 5.5 | p = 0.614 |
| Degree | 1 | 1.8 | 29 | 52.7 | 1 | 1.8 | p = 0.014 N.S |
| Non formal education | - | - | | - | - | - | 11.5 |
| Occupation | | 4 | | 171 | | | ~2 0 209 |
| Housewife | 1 | 1.8 | 48 | 87.3 | 4 | 7.3 | $\chi^2 = 0.208$ d.f=2 |
| Labour | - | | | - | - | - | a.1=2 p = 0.901 |
| Private employee | 0 | 0 | 2^{\sim} | 3.6 | 0 | 0 | p = 0.901 N.S |
| Government employee | - | - | - | - | - | - | 11.5 |
| Religion | | | | | | | 2 0 217 |
| Hindu | 1 | 1.8 | 47 | 85.5 | 4 | 7.3 | $\chi^2 = 0.317$ d.f=2 |
| Christian | 0 | 0 | 3 | 5.5 | 0 | 0 | p = 0.853 |
| Muslim | - | - | - | - | - | - | p = 0.855 N.S |
| Others | - | - | - | - | - | - | 11.5 |
| Type of family | | | | | | | χ ² =0.673 |
| Nuclear family | 0 | 0 | 6 | 10.9 | 0 | 0 | d.f=2 |
| Joint family | 1 | 1.8 | 44 | 80.0 | 4 | 7.3 | p = 0.714 |
| Extended family | - | - | - | - | - | - | N.S |
| Residence | | | | | | | χ ² =2.063 |
| Rural | 1 | 1.8 | 24 | 43.6 | 3 | 5.5 | d.f=2 p = 0.357 |
| Urban | 0 | 0 | 26 | 47.3 | 1 | 1.8 | p = 0.357 N.S |

| Obstetrical Variables | | | | | | | |
|--------------------------------------|---|-----|----|------|---|-----|-----------------------|
| Parity | | | | | | | 2 4 905 |
| First | 0 | 0 | 29 | 52.7 | 3 | 5.5 | $\chi^2 = 4.805$ |
| Second | 1 | 1.8 | 13 | 23.6 | 0 | 0 | d.f=6 |
| Third | 0 | 0 | 6 | 10.9 | 1 | 1.8 | p = 0.569 N.S |
| More than three | 0 | 0 | 2 | 3.6 | 0 | 0 | 11.5 |
| Weeks of gestation | | | | | | | χ ² =0.102 |
| Below 36 weeks | 0 | 0 | 1 | 1.8 | 0 | 0 | d.f=2 |
| Above 36 weeks | 1 | 1.8 | 49 | 89.1 | 4 | 7.3 | p = 0.950 N.S |
| Baby gender | | | | | | | χ ² =2.303 |
| Male | 0 | 0 | 27 | 49.1 | 1 | 1.8 | d.f=2 |
| Female | 1 | 1.8 | 23 | 41.8 | 3 | 5.5 | p = 0.316 N.S |
| Weight of the baby | | | | 1 | | | 2 2 200 |
| 2000 - 2500 gms | 0 | 0 | 5 | 9.1 | 1 | 1.8 | $\chi^2 = 3.399$ |
| 2500 - 3000 gms | 0 | 0 | 26 | 47.3 | 2 | 3.6 | d.f=6 |
| 3000 - 3500 gms | 1 | 1.8 | 15 | 27.3 | 1 | 1.8 | p = 0.757 N.S |
| >3500 gms | 0 | 0 | 4 | 7.3 | 0 | 0 | 11.5 |
| Duration of 3 rd stage of | | | | | | | |
| labour | | | | | | | χ²=0.208 |
| 5 - 10 minutes | 1 | 1.8 | 48 | 87.3 | 4 | 7.3 | d.f=2 |
| 10 - 20 minutes | 0 | 0 | 2 | 3.6 | 0 | 0 | p = 0.901 |
| 20 - 30 minutes | - | - | - | - | - | - | N.S |
| >30 minutes | - | - | - | - | - | - | |

*p<0.01, S – Significant, N.S – Not Significant

Table 1.5 shows that the demographic variable age of the mother had shown statistically significant association with the level of blood loss at p<0.01 level and the other demographic and

obstetrical variables had not shown statistically significant association with the level of blood loss among mothers in the experimental group.

DISCUSSION:

The main focus of this study was to assess the effectiveness of breast crawl on episiotomy pain, blood loss, duration of the third stage of labor, level of attachment and initiation of breastfeeding among mothers in the experimental and control group. A total of 110 samples were selected by purposive sampling technique, out of the 55 for experimental and 55 for the control group were assigned. The study finding was discussed based on the following objectives.

Distribution of demographic variables

Regarding the experimental group, most of the mothers 22(40%) were in the age group of 25 - 29 years, 31(56.36%)mothers were degree holders, 53(96.36%) mothers were housewives, 52(94.55%) mothers were Hindus, 49(89.09%) mothers belonged to joint family, 28(50.91) were residing in a rural area, 32(58.18%).

Whereas in the control group, most of the mothers 35(63.64) were in the age group of 18 - 24 years, 33(60%) mothers were degree holders, 51(92.73%) mothers were laborers, 53(96.36%) mothers were Hindus, 44(80% mothers belonged to joint family, 35(63.64%) mothers were residing in the rural area.

Distribution of obstetrical variables

Regarding the experimental group 32(58.18%) mothers belongs to first parity, 54(98.18%) mothers had above 36 weeks of gestation, 28(50.91%) baby's gender was male, 28(50.91%) babies were weighing 2500 - 3000 gms, 53(96.36%) mothers had a duration of 3^{rd} stage of labour is about in 5 – 10 minutes, 50(90.91%) mothers had 300 - 400 amount of blood loss during delivery, whereas in a control group, 54(98.18%) mothers were first parity had above 36 weeks of gestation, 34(61.82%) baby's gender was male, 30(54.55%) babies were weighing 2500 - 3000 gms, 51(92.73%) mothers had a duration of the third stage of labour as 10 - 20 minutes, 36(65.45%)mothers had 400 - 500 ml amount of blood loss during delivery.

The data were analyzed as per the objective stated

The first objective of the study to assess the post-test level of maternal and neonatal outcomes such as pain, level of attachment, initiation of breastfeeding among mothers and infants in the experimental and control group.

The results highlighted the maternal outcome such as

Regarding level of episiotomy pain most of the mothers 54(98.18%) had mild pain and only one (1.82%) mother had moderate /severe episiotomy pain, whereas in the control group, most of them 44(80%) mothers had moderate/severe pain and only 11(22%) mothers had mild pain. In relation to level of attachment in the experimental group, all 55(100%) babies had a good level of attachment, whereas, in the control group, most of them 54(98.18%) babies had a mild level of attachment and only one (1.82%) baby had poor level of attachment.

In relation to Initiation of breast feeding, depicts that in the experimental group, most of the babies 39(70.91%) had good initiation of breast feeding and 16(29.09%) babies had poor initiation of breast feeding, whereas in the control group, all 55(100%) babies had poor initiation of breast feeding.

The second objective was based on the Effectiveness of breast crawl on maternal and neonatal outcomes among mothers in experimental and control group.

The mean level of pain was 2.40 ± 0.53 in the experimental group mothers and the mean level of pain in the control group was 3.76 ± 0.54 . The mean difference was 1.36 i.e., 13.6%. The calculated unpaired 't' test value (t = 13.320) was found to be statistically significant at p<0.001 level and this indicates that Breast Crawl had a significant impact on the level of pain perception hence level of pain during episiotomy suturing for experimental group was considerably reduced than the mothers in the control group.

The amount of blood loss during labour in the experimental group most of the mothers 50(90.9%) had 300 - 400 ml of blood loss, 4(7.3%) mothers had 400 - 500 ml of blood loss and 1(1.8%) mother had 200 - 300 ml of blood loss whereas in the control group, most of the mothers 36(65.5%) had 400 - 500 ml of blood loss and 19(34.5%) mothers had 300 - 400 ml of blood loss. The calculated Chi-Square value between the two groups shows that there was

significant difference between the experimental and control groups in the amount of blood loss which was evident from the Chi-square value of χ^2 =40.528 which was found to be statistically significant at p<0.001 level.

Initiation of breastfeeding was 10.49 ± 0.92 in the experimental group babies and initiation of breastfeeding in the control group babies was 6.58 ± 0.79 . The mean difference score was 3.91 i.e., 32.6%. The calculated unpaired' test value of t = 23.949 was found to be statistically significant at p<0.001 level and this clearly indicates Breast Crawl procedure had significant effect and good initiation of breastfeeding was observed among babies in the experimental group than the babies in the control group.

The level of attachment was 7.83 ± 0.63 in the experimental group babies and the mean score of level of attachment in the control group was 5.96 ± 0.19 . The mean difference score was 1.87 i.e., 18.7%. The calculated unpaired 't' test value (t = 50.712) was found to be statistically significant at p<0.001 level and this indicates Breast Crawl procedure had significant effect and good level of attachment was observed among babies in the experimental group than the babies in the control group.

The third objective was of the study to associate the post-test level of maternal outcomes among the primi mothers with the selected demographic variables and clinical variables in the experimental and control group.

The present study shows that some of the demographic variables and obstetrical variables was associated and showed statistically significant. In relation to level of episiotomy pain with the demographic variable of religion and type of family had shown statistically significant at p<0.001 level in experimental group, whereas in the control group the obstetrical variable of blood loss had shown statistically significant association with level of episiotomy pain at p<0.05 level.

To a level of blood loss, the demographic variable like age of the mother had shown statistically significant association with at p<0.01 level among mothers in the experimental group. Regarding the level of attachment in experimental group none of the demographic variables shown statistically significant association, whereas in control group religion and weight of the baby had

shown statistically association with level of attachment finding at p<0.001 and p<0.05 level respectively.

CONCLUSION

Breast crawl is the natural intuitive behaviour of the human newborn. The most sensitive period of mother and newborn is half an hour to one hour following delivery for successful breastfeeding. According to the results of this study, the mothers in the experimental group who received video-assisted teaching regarding breast crawl technique had highly significant in the level of pain on episiotomy suture, amount of blood loss during labour, duration of third stage of labour, level of attachment to mother and infant and initiation of breastfeeding.

RECOMMENDATION:

The nurses must enlighten the knowledge regarding breast crawl technique among mothers to initiate breastfeeding and reduce pain perception level while episiotomy suturing.

• The nursing students should educate the mothers and community regarding early initiation of breastfeeding by skin-to-skin contact and the management of complications of third stage of labour.

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• Research should be conducted on the preparation of better practices of nursing care and development of good and effective policies to provide quality care to the high risk patients.

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