

Effectiveness of Child Birth Education on Labour Outcomes among Antenatal Mothers

Mrs. Jayasankari. S¹, Dr. Rebecca Samson², Dr. Radhabai Prabhu³,
Dr. Navaneetha.M⁴, Dr. Mary Daniel⁵

¹Prof. in Nursing, College of Nursing, Pondicherry Inst. of Medical Sciences, Puducherry,
Ph.D aspirant, MAHER University, Chennai.

²Prof and Dean, College of Nursing, Pondicherry Inst. of Medical Sciences, Puducherry,

³Prof & HOD, Dept. of OBG, Meenakshi Medical College & Research Institute, Kanchipuram, Chennai.

⁴Prof. College of Nursing, Pondicherry Inst. of Medical Sciences, Puducherry

⁵Prof.& HOD, Dept. of OBG, Pondicherry Institute of Medical Sciences –Puducherry.

Corresponding Author: Mrs. Jayasankari. S

ABSTRACT

Introduction: Educating antenatal mothers regarding child birth will improve their knowledge and confidence and enable them to adapt to the changes in their body, cope up with the pain, and to have a positive experience of child birth.

Methods: A True Experimental study with Post test only control group design was undertaken to assess the effectiveness of the child birth education on labour outcomes among 250 antenatal mothers at 32 – 34 weeks of gestation attending antenatal clinic in a tertiary care hospital in Puducherry. Antenatal mothers who have absolute contraindication for vaginal delivery and those who requested for epidural analgesia were excluded. The experimental group has 3 sessions of video assisted Child birth education while the control group had routine care.

Results: There was statistically significant improvement in the knowledge scores ($t=70.634$, $p<0.000$) on child birth after the education in experimental group. There was significant difference in the anxiety scores ($Z=13.65$, $p=0.05$) Coping level ($t=41.752$, $p=0.000$), child birth experience ($t=38.140$, $p=0.000$) and maternal infant bonding ($t=8.948$, $p=0.000$) duration of labour ($F=3956.055$, $p=0.000$) between the experimental group and control group. Majority 113 (94.2%) mothers in the intervention group had normal vaginal delivery.

Conclusion: The intervention was found to have increased the knowledge levels of the antenatal mothers which is highly correlated with the increase in the coping level of the parturients, decrease in the duration of labour, an uneventful intrapartum period, a positive child birth experience and an increase in maternal and infant bonding.

Key Words: Child birth education, Anxiety, coping, child birth experience, maternal infant bonding, Mode of delivery, duration of labour

INTRODUCTION

The birth of a baby is a powerful life event that has implications for a woman's wellbeing and future health. But less attention is paid to interventions for the safety, comfort of the antenatal mother and makes her feel positive about her experience during child birth. A positive birth

experience promotes a sense of achievement, enhances feeling of self-worth, and facilitates confidence- all of which are important for a healthy adaptation to motherhood and psychological growth. Child birth classes help them to cope- not just with pain, but with the entire child birth process.

NEED FOR THE STUDY:

“Make every mother and child count” reflects the need for today. In India, as per 2016 statistics, the maternal mortality is 130 per 100000 live births. ^[1] At present around 5, 85,000 women die from complications due to pregnancy and child birth globally each year. ^[2] Between 11% and 17% maternal death occur during first 24 hrs and more than 2/3 during first weeks and average infant mortality rate is 49.4%. Female education is a strong predictor of the use of reproductive health care services but the extent and nature of relation between the two is not uniform across social setting. Every woman has the right to get best possible care during pregnancy, delivery and postpartum periods without any distinction of race, religion and political belief, economic or social condition. The basic strategy of Birth Preparedness and Complication Readiness (BPACR) in Safe motherhood is the women empowerment, which facilitates her to take appropriate decisions on time. ^[3]

In India, practices relating to pregnancy and childbirth have been rooted in cultural beliefs and traditions that are based on knowledge contained in ancient Indian texts. Pondicherry is in the southernmost part of India, has female literacy rate of 71%, 99.9% institutional birth, 33.6% caesarean deliveries and ranks third in having lesser IMR 22.0 per 10000 live births. Childbirth is not a topic openly discussed in this region of India. No one talks about what will happen during childbirth other than it will be painful. The researcher, in her earlier survey identified that 33% of the rural antenatal mothers attending antenatal clinic in a tertiary care hospital had inadequate level of knowledge regarding child birth, 63% had moderate knowledge and only 3.3 % had adequate knowledge. ^[4]

If a mother is truly informed on childbirth, she is aware of the whole process of childbirth, and what is expected of her at each stage. She approaches labor with confidence, she is armed with coping

strategies and therefore it gives her a satisfying approach, rather finding themselves going into it with full of anxiety, fear and apprehensions. But that information need to be complete and obtained from a reliable source. Midwives and doctors are in a unique position to develop a trusting insightful relationship with the women they encounter by providing clear, evidence based information, reassurance, and one to one support.

Hence the investigator would like to evaluate the effects of a Child Birth Education programme on selected outcomes of labour.

OBJECTIVES:

1. To assess the level of Knowledge on child birth among antenatal mothers in the experimental and control group
2. To compare the level of knowledge of antenatal mothers on Child birth before and after child birth education among antenatal mothers in the experimental group.
3. To determine the difference in the level of Anxiety on child birth among antenatal mothers between the experimental group and control group
4. To compare the labor outcomes among antenatal mothers between the experimental and control group which includes, Duration of Labor, type of delivery, coping during labor, birth experience and Maternal Infant Bonding.
5. To associate the labor outcomes with selected demographic and clinical variables in the experimental group and control group

CONCEPTUAL FRAMEWORK:

The researcher has adopted the model of “Modified version of the Negotiating the journey- preparing for childbirth through education by Mary Koehn”. ^[5] The concept of a journey to a destination is the culmination of the women’s phases of physical and emotional transition into a mother. Knowledge decreases the anxiety and fosters a sense of confidence. The tension and a sense of

discomfort are associated with not knowing what was going to happen to them exists prior to the classes. At the end of the classes, a sense of serenity emerges in them which increase the confidence in them to face the labor, facilitate control, decision making and thereby lesser interventions and a positive experience of child birth. It also enhances the bonding between the mother and the unborn child. Thus this theory fits with the present study on preparation of women for childbirth

MATERIALS AND METHODS

True Experimental- Post test only-control group design was adopted. Ethical clearance from the Institutional Review Board was obtained. 248 primipara women attending antenatal clinic at PIMS Hospital with 32- 34 weeks of gestation who had planned to have delivery at PIMS and willing to participate in the study were registered as participants. Antenatal mothers who have absolute contraindication for vaginal delivery and who opted for epidural analgesia were excluded. After getting informed consent, the Antenatal mothers were assigned into either experimental (n=120) or control group (n=128) using double blinded computer assisted randomization. The experimental group had 3 sessions of video assisted Child birth education while the control group had followed routine care. Before shifting to labour room their level of anxiety on child birth was assessed using a modified shortened anxiety questionnaire for both the groups. Throughout labour and delivery they were observed by the Research Assistants(midwives) using a Structured Observation Checklist on level of coping. When the mother and the baby were shifted to the postnatal ward, the participants were assessed for their childbirth experience using a semi structured interview Questionnaire within 24 hours of delivery. Maternal infant bonding was assessed using a likert scale on the 3rd postnatal day in both the groups. Data regarding Duration of labor, type of delivery and complications

arose during labour and delivery were gathered using a semi structured observation check list.

STATISTICAL ANALYSIS

The data was analyzed using Descriptive Statistics: Frequency, Percentage, Mean, Standard error of mean and standard deviation to describe the socio demographic and clinical variables. The effect of child birth education on the labor outcomes was analyzed using t test, Fishers exact test, Mann Whitney U test. Chi-square test was used to determine the association between the demographic and clinical variables and the labour outcomes and Spearman correlation coefficient to determine the correlation between the labour outcomes.

RESULTS

I. Demographic and clinical characteristics of the study participants

Majority of the antenatal mothers 84(70.0%) in the experimental group and 102 (79.7%) in the control group were in the age group of 20 to 30 years.6(71.7%)antenatal mothers in the experimental group and 78(60.9%) in the control group had utmost higher secondary education. 108(90.0%) antenatal mothers in the experimental group and 107(83.6%) in the control group were house wives. 113(94.2%) antenatal mothers in the experimental group and 121(94.5%) in the control group were non vegetarians.73(60.8%) antenatal mothers in the experimental group and 76 (59.4%) in the control group belong to rural community. 89 (74.2%) antenatal mothers in the experimental group 99(77.3%) in the control group live in a nuclear family.20% antenatal mothers in the experimental group and 26% in the control group were obese.

II. Knowledge of the antenatal mothers on Child birth

Table 1: Mean, standard Deviation and the difference between pre and post test knowledge scores of antenatal mothers in the experimental group. N=248

S. No	Session	Pretest		Post Test		t test	P value
		Mean	SD	Mean	SD		
1	I	5.78	1.62	13.05	1.17	49.54	0.000*
2	II	7.74	2.68	23.11	0.88	70.63	0.000*

The mean post test knowledge score of both session I ($\bar{x}_1= 13.05, s_1= 1.17$) and session II ($\bar{x}_2= 23.11, s_2= 0.88$) of the antenatal mothers in the experimental group was greater than the mean pretest knowledge scores in Session I ($\bar{x}_1= 5.78, s_1= 1.62$) and Session II ($\bar{x}_2= 7.74, s_2= 2.68$) which was highly significant at $p=0.000$.

III. Level of Anxiety among the antenatal mothers

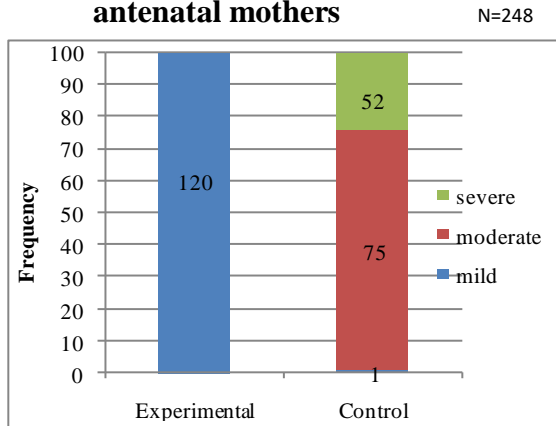


Fig.1 Distribution of antenatal mothers according to level of anxiety

There was significant difference in the level of anxiety between experimental and control group (Mann Whitney U test = 13.65) at $p=0.05$.

IV. Effect of Child Birth Education on Labor outcomes

i. Mean Duration of Labour among the Participants

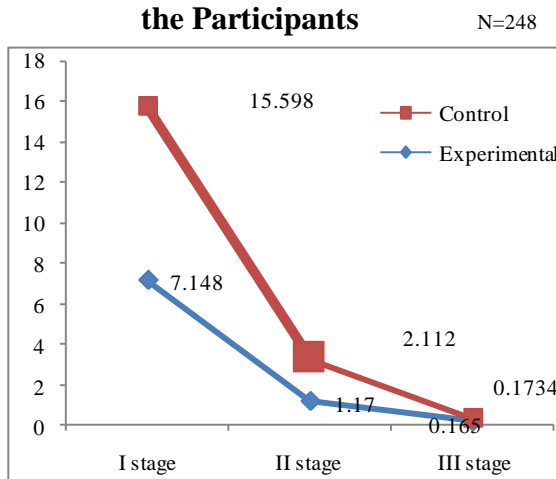


Fig.2 Mean Duration of labour among the participants

There was significant difference ($t=4.929$ at $p=0.000$) in the mean duration of labour

among the mothers in the experimental and control group.

ii. Level of coping among the Participants.

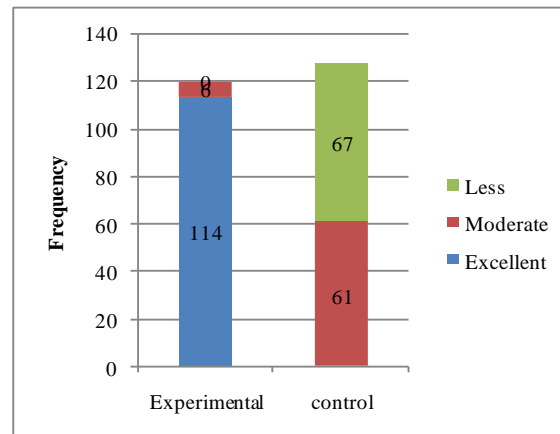


Fig.3 Distribution of antenatal mothers according to level of coping

In experimental group majority 114 (95%) parturients had excellent level of coping whereas in control group 67 (52.3%) less coping, 61 (47.7%) had moderate level of coping & none of them had excellent coping. There was proportionately high level of coping found in the experimental group ($t=41.752$) at $p<0.05$.

iii. Standard of experience among the Participants.

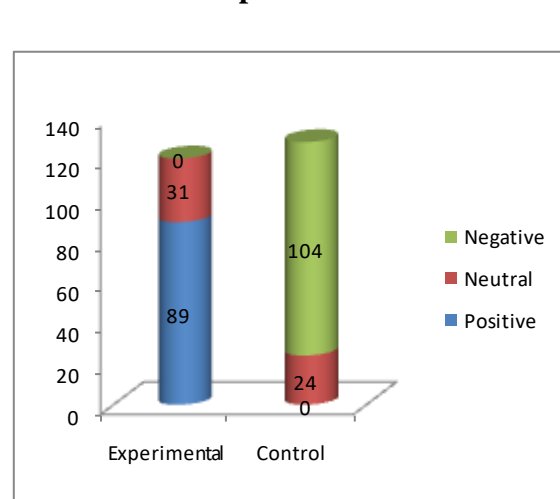


Fig.4 Distribution of antenatal mothers according to child birth experience

In experimental group majority 89 (74.2%) had positive experience and 31(25.8%) had neutral experience. whereas in control

group, majority 104 (81.3%) had negative experience, 24(18.8%) had neutral experience and none of them had positive experience. There was a significant difference in standard of experience at $p=0.000$ ($t=38.140$)

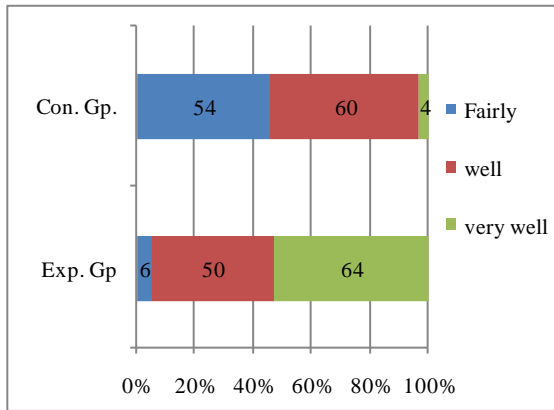


Fig.5 Parturients response regarding how well they Handled Child Birth

Of the 128 participants in the control group only 4 (3%) of the mothers reported that they handled their child birth very well, 60(46.9%) mothers reported that they handled their child birth well and 54 (42.2%)mothers reported that they handled their child birth fairly well and in experimental group,64 (53%) of the mothers reported that they handled their child birth very well and 50 (42%) reported that they handled their child birth well. Only 6 (5%) mothers reported that they handled their child birth fairly.

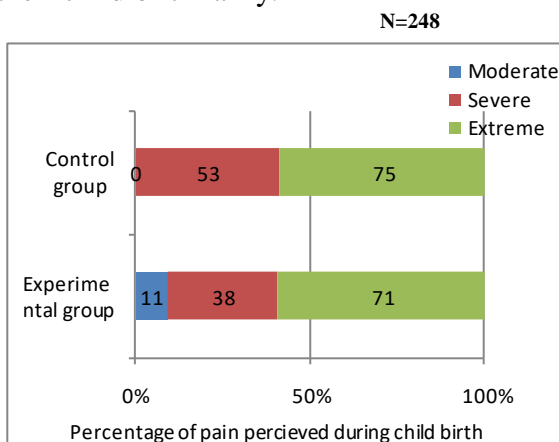


Fig.6 Level of pain perceived during Child Birth

Fig 6 represents the participant’s level of pain perception during child birth. In control group 53(41.4%) participants said that they

had severe pain during child birth 75 (58.6%) responded that they had extreme level of pain during child birth. But in experimental group 11(9.2%)participants responded that they had moderate level of pain during child birth, 38 (36.7%) responded that they experienced severe pain during child birth and 71 (59.2 %) responded that they had extreme level of pain during child birth.

Table 2: Mean, standard error of mean and the difference in the standard of experience between the participants in the experimental and control group

S. No	Group	Mean	Std. Error Mean	t test (p-value)
1	CBE_score	Con.Group (n=128)	13.50	.553
2		Exp.Group (n=120)	41.31	.468

In experimental group majority 89 (74.2%) had positive experience and 31(25.8%) had neutral experience. whereas in control group, majority 104 (81.3%) had negative experience, 24(18.8%) had neutral experience and none of them had positive experience. There was a significant difference in standard of experience at $p=0.000$ ($t=38.140$)

iv. Type of delivery among the Participants. N=248

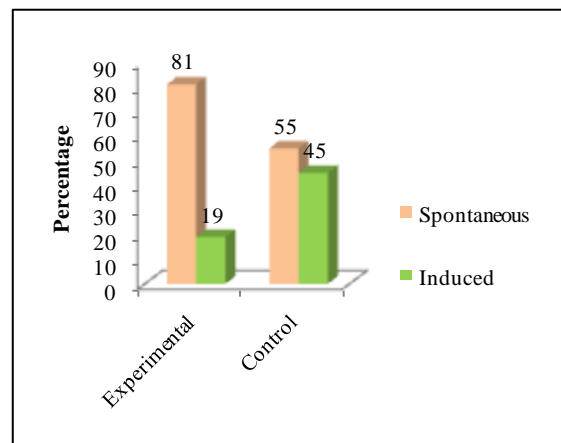


Fig.7 Distribution of participants according to onset of labour

In experimental group majority 81 % had spontaneous onset of labour and 19 % had Induced labour, whereas in control group, 55% had spontaneous labour and 45% had induced labour

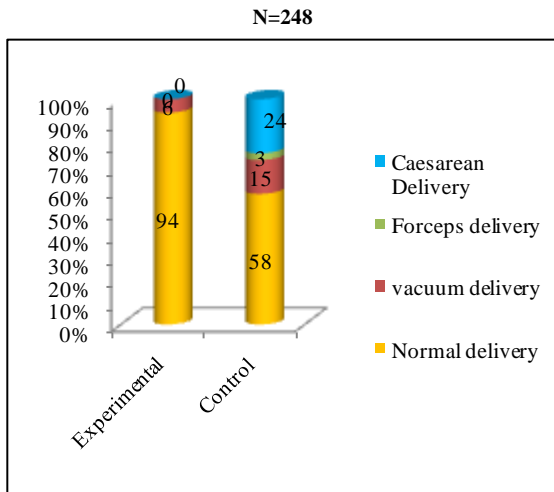


Fig. 8 Type of delivery among the participants

With regard to type of delivery, in experimental group majority of the primipara women 113 (94.2%) had normal vaginal delivery and 7(5.8%) had vacuum delivery. None of them had cesarean nor forceps delivery. In control group also majority of the primipara women 74(57.8%) had normal vaginal delivery 31 (24.2 %) of them underwent caesarean section, 19(14.8%) had vacuum delivery, 4(3.1%) of them had Forceps delivery.

v. Maternal infant bonding among the Participants.

Table 3 : Maternal infant bonding among the Participants

S.No	Group	Mean	Std. Error Mean	t test (p- value)
1	Maternal and Infant Bonding score	54.19	.377	8.948
2		57.85	.129	(0.000*)

With regard to Maternal Infant bonding in experimental group the maternal infant bonding was high for all 120 Primi para women. Whereas in the control group majority 116 (92.1%) primipara women had high level of bonding and 10 (7.9%) Primipara women had moderate level of bonding. None of the women in either control or experimental group had poor bonding. Proportionately there is no much difference in the level of maternal infant bonding. The mean Maternal and Infant Bonding score of the participants in the control group is 54.19 and the experimental group is 57.85 and there is significant difference in the level of coping at p=0.000

vi. Maternal and Fetal outcome among the Participants.

Table 4. Maternal and Fetal outcome among the Participants

Maternal Fetal Outcome		Group	
		Control group(N=128)	Experimental group(N=120)
Maternal Outcome	Uneventful	128(100%)	120(100%)
Foetal Outcome	Uneventful	102(79.7%)	120(100%)
	Asphyxia	15(11.7%)	0
	LBW	8(6.3%)	0
	Premature baby	3(2.4)	0

Table 13 depicts the comparison of maternal and fetal complications among the participants in the experimental and control group. In both the groups the maternal outcome was good. With regard to the newborn, in the experimental group there were no complications. All newborns of the 120 mothers were healthy and adequate birth weight. In control group, majority 102 (79.7%) newborns were healthy and with adequate birth weight, 2 (1.6%) babies were premature with low birth weight of less than 2.5 kg and , 6 (4.7%) were term babies with low birth weight , 18 (11.7%) babies had asphyxia and needed resuscitation

V. Association between selected variables and the labour outcomes

There was significant association between level of anxiety and age ($X^2 =15.507$, $p<.05$) religion ($X^2 =12.595$, $p<.05$) and education ($X^2 =23.59$, $p<.05$) of the antenatal mothers, level

of coping and education of the mothers ($\chi^2 = 41.209, p < .05$), the standard of experience and age of the mothers ($\chi^2 = 12.269, p < .05$)

Table 5: Correlation between the labour outcomes N=248

Correlations		Level of Anxiety	Level of Coping	Child Birth Experience	Maternal Infant Bonding
Level of Anxiety	Pearson Correlation		-.918**	-.896**	-.495**
	Sig. (2-tailed)		0.000	0.000	0.000
Level of Coping	Pearson Correlation	-.918**		.882**	.464**
	Sig. (2-tailed)	0.000		0.000	0.000
Child Birth Experience	Pearson Correlation	-.896**	.882**		.441**
	Sig. (2-tailed)	0.000	0.000		0.000
Maternal Infant Bonding	Pearson Correlation	-.495**	.464**	.441**	
	Sig. (2-tailed)	0.000	0.000	0.000	

Level of anxiety of the antenatal mothers had significant negative correlation with level of coping ($r = -0.918$), standard of experience ($r = -0.896$) and maternal Infant bonding ($r = -0.495$) exhibited by the antenatal mothers at p level 0.000. Level of coping had significant positive correlation with standard of experience ($r = 0.882$) and maternal Infant bonding ($r = 0.464$) at p level 0.000. Child birth experience had significant positive correlation with maternal Infant bonding ($r = 0.441$) at p level 0.000

DISCUSSION

The study findings revealed that the mean post test knowledge scores of the antenatal mothers on childbirth education was significantly greater than the mean pretest knowledge score ($t = 70.63, p = 0.000$) This increase in knowledge is attributed to the child birth education. The child birth education was effective in increasing the level of knowledge of antenatal mothers.

Bendangaro (2016) in his study to evaluate the effectiveness of video assisted teaching on knowledge and attitude regarding childbirth preparation among 60 primi mothers in selected hospitals at Dindigul district also got similar findings ($t = 19.023$ at $p < 0.01$). [6]

The present study findings showed that level of anxiety among the antenatal mothers in the experimental group was significantly lower than the level of anxiety among the antenatal mothers in the control group (Mann Whitney $U = 13.65$) at $p = 0.05$. The findings of the present study can be compared with the quasi experimental study conducted by Devilata and Swarna to assess

the Effectiveness of pre delivery preparation on anxiety among 60 Primigravida mothers at maternal child health centre, Tirupati, AP, India. The post assessment mean anxiety value 46.233 ($SD = 8.156$) of the experimental group was lower than the pre assessment mean anxiety value 71.767 ($SD = 10.782$). The obtained “t” value was 19.023 which was significant at 0.01 level. [7]

The Study findings proved that the child birth education improved the level of coping, reduced the duration of labor, improved the standard of experience, reduced the no. of cesarean section and improved the level of coping. The findings can be compared with the following studies

Madhavan Prabhakaran, Girija & Dsouza, Melba & Nairy, Subrahmanya. (2016) did randomized controlled trial with a two-group pretest/ posttest design was used among hundred nulliparous third trimester pregnant women in major maternity hospital in Kerala, India. The experimental group ($n = 50$) received three sessions of childbirth education. The experimental group demonstrated a significantly high mean knowledge scores of ($54.30 \pm 3.86, P < 0.001$) childbirth preparation than the control group (31.08 ± 1.96). Significant reductions of caesarean birth (50%) among nulliparous women along with a 12% increase in newborn’s birth weights were the main positive birth outcomes. [8]

Adams S, Eberhard-Gran M, Eskild (2012), did a prospective study to assess the association between fear of childbirth and duration of labour among 2206 pregnant

women with a singleton pregnancy and intended vaginal delivery during the period 2008–10 at Akershus University Hospital, Norway also got similar findings. Labour duration was significantly longer in women with fear of childbirth compared with women with no such fear using a linear regression model (crude unstandardised coefficient 1.54; 95% confidence interval 0.87–2.22, corresponding to a difference of 1 hour and 32 minutes, until delivery of the child. [9]

A descriptive study was done to determine the effect of childbirth preparation classes on self-efficacy in coping with labor pain among sixty Thai primiparas selected by nonprobability convenience sampling assigned to either a control or an experimental group (thirty in each group). The control group participants received standard care and education. Self efficacy expectancy in the experimental group was significantly different than that of the control group, $F(1, 54) = 14.66, p < .001$. Control group outcome expectancy decreased dramatically across three data points while the experimental group self efficacy increased after the class and then decreased after the birth but was higher than baseline. The groups did not differ in duration of labor and type of delivery. These findings indicate partial effect of childbirth preparation classes on self-efficacy in coping with labor pain. [10]

A randomized controlled trial to test the effectiveness of an efficacy-enhancing educational intervention to promote women's self-efficacy for childbirth and coping ability in reducing anxiety and pain during labour. The experimental group received two 90-minute sessions of the educational programme in between the 33rd–35th weeks of pregnancy. The experimental group was significantly more likely than the control group to demonstrate higher levels of self-efficacy for childbirth ($p < 0.0001$), lower perceived anxiety ($p < 0.001$, early stage and $p < 0.02$, middle stage) and pain ($p < 0.01$, early stage and $p < 0.01$, middle

stage) and greater performance of coping behavior during labour ($p < 0.01$). The educational intervention based was effective in promoting pregnant women's self-efficacy for childbirth and reducing their perceived pain and anxiety in the first two stages of labour. [11]

NazikEvsen (2016) did a descriptive case control study to determine the effect of childbirth education classes on prenatal attachment among 246 pregnant women. The mean Prenatal Attachment score of the case group was 38.30 ± 9.64 and the control group was 34.10 ± 10.52 , and the difference was statistically significant ($p = 0.001$). It was determined that the prenatal attachment levels of the mothers participating in the childbirth education class were higher. [12]

The above study findings correlate with the present study findings and the hypothesis that there is a significant difference in the labour outcomes among women in the experimental group and control group was supported.

Chi square analysis was done to determine the association between the labor outcomes and gestational age of the mothers in the experimental and control group. It was found that gestational age has significant association with Level of coping ($X^2=0.781$ at $p=0.05$) and Standard of Experience ($X^2=1.053$ at $p=0.05$).

Similar kind of study was done by Maryam et al.,(2014) among 100 primiparous women, referring to the selected health care centers of Mashhad. Pregnant women with a gestational age of 35–41 weeks, who met the inclusion criteria, completed Cranley's questionnaire, as well as the demographic/obstetric questionnaire. There was a direct positive relationship between maternal-fetal attachment and mothers' emotional behaviors toward infants four and eight weeks after delivery. The gestational age of the mother had positive correlation with the Maternal infant bonding. ($R = -0.170, p = 0.211$) [13]

Paridhi Et. al., did a survey to assess the woman's satisfaction with childbirth services and its significant impact on her

mental health and ability to bond with her neonate in Chhattisgarh, India .In logistic regression analysis, Period of gestation in current pregnancy is associated with the child birth satisfaction at $p= 0.000$. [14]

Chi square analysis was done to determine the association between the Weight of the mothers and the Mode of Delivery of the mothers in the experimental and control group.

Similar study findings were identified with Ingegerd and Ian in their survey among 919 pregnant women to identify the proportion of pregnant women with high BMI(>30) and compare the pregnancy outcomes. Prevalence of obesity was 15.2%. High BMI was associated with labor induction and operative delivery. No difference in Birth complications, birth experience or satisfaction with the care during labor and delivery. [15]

The infant's sex and mother infant bonding was analysed to determine any association between them using Chi square analysis. It was identified that there was highly significant association between the infant's sex and the maternal infant bonding ($X^2=3.283$, $p 0.070$). Even in this 21st century, where men and women are equally educated and enjoy equal status in the society, male children are looked upon than the female children by the mothers themselves. This brings about the deep rooted cultural influence in spite of all the education, status and the advancement of the society prevailing in the region. Rizk (2012) and Abbas (2018) concluded from their study that the positive attachment between mother and child was more inclined toward boys and girls respectively that might be attributed to the effect of social and cultural differences.

Limitations

- The data was collected by the research assistants.
- The effect of all potential sources of information on child birth, such as family and friends, books, and the Internet, was not assessed.

Implications For Nursing Practice:

- The findings of the present study are an important contribution to the evidence based strategies in making child birth a positive experience through childbirth preparation courses.
- It is recommended to extend childbirth preparation classes as in developed countries, and support the participation of both antenatal mothers and the spouse to provide a more positive experience of pregnancy and childbirth.
- An assessment of maternal confidence and fear of childbirth be incorporated into existing pregnancy care guidelines for third trimester.
- Training and education to antenatal care providers in the hospital and community on childbirth education based on adult learning principles can be included as a project in the curriculum for post graduate midwifery program.
- Encourage the students for effective utilization of research-based practices in antenatal, intranatal and post natal care.
- Nurse administrators can develop strategies to move from medicalization of childbirth to a more humanistic and low intervention midwife-led care which empowers women.
- Collaborate with the obstetric team to formulate standard policies and protocols to emphasize evidence based intranatal care with minimum interventions to bring about a positive child birth experience for all women

CONCLUSION

The study revealed that the Child birth Education is an effective cost effective tool to promote healthy and safe child birth practices, reduce the medical interventions and improve the maternal and fetal outcomes. It should be a routine activity and a service to be delivered by nurses and midwives in the antenatal, outpatient department and in the in labor unit. In resource poor setting countries, video assisted Child birth Education can be adopted in the antenatal clinics to enhance the knowledge of antenatal mothers on selected aspects of childbirth and labour outcomes on mother and fetus.

REFERENCES

1. National Health Portal. Maternal Mortality. <http://www.indiaenvironmentportal.org.in/files/file/NHP%20.2018>
2. Sharma K et al. Int J Community Med Public Health. 2018 Nov;5(11):4787-4794 International Journal of Community Medicine and Public Health | November 2018 | Vol 5 | Issue 11 Page 4788
3. Rajesh P, Swetha R, Rajanna MS, Iyengar K, Mahesh SH, Gowda C. A study to assess the birth preparedness and complication readiness among antenatal women attending district hospital in Tumkur, Karnataka, India. Int J Community Med Public Health 2016;3:919-24
4. Jayasankari, "Knowledge of Antenatal Mothers on Childbirth";-Nightingale Nursing Times. Vol: XI No.9 Dec 2015.
5. Koehn ML: Childbirth education outcomes: an integrative review of the literature. J Perinat Educ. 2002 summer; 11(3):10-9.
6. Bendangnaro, "Effectiveness of video assisted teaching on knowledge and attitude regarding childbirth preparation among primi mothers in selected hospitals at Dindiguldistrict". <http://repository-tnmgrmu.ac.in/1653>
7. Devilata and Swarna, Effectiveness of pre delivery preparation on anxiety among Primigravida mothers at maternal child health centre Tirupati, AP, India, IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320-1959.p- ISSN: 2320-1940 Volume 4, Issue 6 Ver. V (Nov. - Dec. 2015), PP 19-24
8. MadhavanPrabhakaran, Girija& Dsouza, Melba &Nairy, Subrahmanya. (2016). Effectiveness of Childbirth Education on Nulliparous Women's Knowledge of Childbirth Preparation, Pregnancy Anxiety and Pregnancy Outcomes. Nursing and Midwifery Studies. inpress. 10.17795/nmsjournal32526.
9. Adams S, Eberhard-Gran M, Eskild A. Fear of childbirth and duration of labour: a study of 2206 women with intended vaginal delivery. BJOG 2012;119:1238-1246
10. Howharn, Chularat, Effects of childbirth preparation classes on self-efficacy in coping with labor pain in Thai primiparas. <https://repositories.lib.utexas.edu/handle/2152/3902>
11. WanYimIp, Catherine SK Tang, William B Goggins, An educational intervention to improve women's ability to cope with childbirth. Journal of clinical practice. 18(15):2125-35 · September 2009.doi.org/10.1111/j.1365-2702.2008.02720.x
12. NazikEvsen, Effect of childbirth education classes on prenatal attachment December 2017.doi:10.18844/prosoc.v4i2.2732
13. Maryam Montakhab Asadi. The Relationship between Maternal-Fetal Attachment and Mother-Infant Attachment Behaviors in Primiparous Women Referring to Mashhad Health Care Centers. Mar 2015. Available at https://www.researchgate.net/scientific-contributions/2082574863_Maryam_Montakhab_Asadi
14. Paridhi Jha. Satisfaction with childbirth services provided in public health facilities: Results from a cross-sectional survey among postnatal women in Chhattisgarh, India. Global Health Action. 10(1):1386932. October 2017. DOI: 10.1080/16549716.2017.1386932. https://www.researchgate.net/publication/320742755_Satisfaction_with_childbirth_services_provided_in_public_health_facilities_Results_from_a_cross-sectional_survey_among_postnatal_women_in_Chhattisgarh_India
15. Rizk SA. Factors associated with maternal-infant attachment one month postnatally. J High Inst Public Health 2012;42:103-18

How to cite this article: Jayasankari. S, Samson R, Prabhu R et.al. Effectiveness of child birth education on labour outcomes among antenatal mothers. Int J Health Sci Res. 2019; 9(8):316-325.
