

Effect of Childbirth Preparation Programme on Maternal Outcome among Primigravid Women

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Abstract: *The present study was a quantitative study to evaluate the effect of childbirth preparation programme on maternal outcome among primigravid at General hospital, Thrissur. The objectives of the study were to evaluate the effect of childbirth preparation programme on the maternal outcome among primigravid women and to determine the association of maternal outcome with selected variables. The study was a quasi experimental one with two group post test only design based on Roy's adaptation model. The sample consists of 66 primigravid women selected by purposive sampling. The tools used were modified WHO partograph, rating scale to assess anxiety and observation checklist to assess compliance level. Actual study was from 31-01-2016 to 14-03-2016. Childbirth preparation programme was provided to primigravid women who belonged to experimental group at the day of admission itself. The findings revealed that there was a significant ($p < 0.05$) difference in the mode of delivery ($p < 0.05$), anxiety level ($p < 0.05$) and compliance level ($p < 0.05$) and no significant difference in the duration of labour ($p > 0.05$). There was no association of anxiety and age with education of primigravid women. The study revealed that childbirth preparation can be conducted by midwives to improve the maternal outcome*

Keywords: childbirth preparation programme; primigravid women; maternal outcome

1. Introduction

Background of the problem

Pregnancy and childbirth is unique in each woman's life. It is a new experience and makes her life meaningful and complete. Since it is a new experience, every woman will be tensed and may have fear and anxiety. The women will be confident if she is prepared to handle the situation.

Childbirth is a life-turning event. It means giving birth to a new life and becoming something new: A parent. The birth of a child alters all aspects of the new parents' lives. Both their inner and outer worlds change and these changes last forever.¹

One unique aspect of childbirth is the association of this physiologic process with pain and discomfort. However, the experience of pain during labor is not a simple reflection of the physiologic processes of parturition. Instead, labor pain is the result of a complex and subjective interaction of multiple physiologic and psychological factors on a woman's individual interpretation of labor stimuli.²

Even the calmest mother will experience anxiety as she approaches to delivery. It is partly excitement, partly anticipation and partly pure fear of the unknown and it's also a time when some realistic concerns come to the forefront. It is a bit overwhelming, even for the calmest women.³

Labor is one of the important events of life experienced by a woman. Negative outcomes of this event lead to negative psychological effects for the woman and her family. Due to fear of labor pain the majority of women do not accept natural vaginal delivery at present. Active participation of the mother in labor can lead to decreasing rate of cesarean and duration of labor without deleterious effects on both the mother and fetus. Common factors for fear and anxiety are

lack of information or having wrong information about labor. In addition, elimination of fear and anxiety not only causes satisfactory labor but also increases motivation to create a good mother and child relationship.⁴

Childbirth preparation classes are common in many countries and help the women to prepare for labor. Childbirth education is a process designed to help parents to make the transition from role of expectant parents to the role and responsibility of parents of new baby. Grandly Dick-Read, an early 20th century obstetrician observed that some women experience less pain during childbirth. In 1933, he designed his theory of pain free birth in the absence of fear in his first book, Natural Childbirth. Dick-Read was a pioneer whose theories had a profound impact on childbirth education and provided the foundation for three of the childbirth education models available today: Lamaze, the Bradley Method, and Hypno birthing.⁵

Childbirth preparation improves mother's participation during labor and is associated with increased rate of vaginal delivery and reduced anxiety.

2. Need and Significance

Pregnancy and child birth are very special moment in a women's life. They are two sides of a coin. For most pregnant women, labor and birth process can be both overwhelming and joyful. Many women and their partners choose to attend child birth classes to gather information and lessen their anxiety.⁶

Childbirth education has existed as a formal structure since the 1960s and has provided preparation for childbirth with a focus on "natural" birth. Over time, the classes have continued to evolve but the underlying purpose remains the same: to provide prenatal preparation for pregnancy, labor and birth.⁷

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A prospective study of effects of psychological factors and sleep on obstetric interventions, mode of birth, and neonatal outcomes among low-risk British Columbian women reported that effective interventions to reduce women's exposure to caesarean section require particular attention to sources of women's childbirth fear. The cesarean surgery rate for nulliparas who did not attend childbirth education classes was nearly 50% or more than twice the national average primary cesarean surgery rate in Canada (Canadian Institute of Health Information, 2010).⁸

The investigator during her clinical experience witnessed that women routinely ask questions regarding the progress of labour and birthing process. Besides, the investigator noticed that considerable number of women in labour is not receiving any measures than the routine measures for comfort and reduction of anxiety. So the investigator was interested in conducting a study on the effect of childbirth preparation programme on maternal outcome in this setting.

Objectives

- 1) Evaluate the effect of childbirth preparation programme on the maternal outcome among primigravid women.
- 2) Determine the association of maternal outcome with selected variables among primigravid women.

Hypotheses

[at 0.05 level of significance]

H1: There is a significant difference in the mean score of duration of labour among primigravid women in control and experimental group

H2: There is a significant difference in the mean score of anxiety among primigravid women in control and experimental group

H3: There is a significant difference in the mean score of compliance among primigravid women in control and experimental group

H4: There is a significant association between maternal outcome and selected variables among primigravid women.

3. Materials and Methods

Research approach

Quantitative approach

Research design

Quasi-experimental design which includes two group post test only design

Variable

Independent variable: childbirth preparation programme

Dependent variable: maternal outcome which includes, mode of delivery, duration of labour, anxiety regarding childbirth and compliance level of mother during labour.

Setting of the study

Study was carried out in the antenatal ward and labour room of General Hospital Thrissur, Kerala, India

Population

In the present study the population includes primigravid women after 37 weeks of gestation, who got admitted for safe confinement in General Hospital, Thrissur.

Sample and sampling technique

In the present study, sample consists of 64 primigravid women admitted for safe confinement in General Hospital, Thrissur.

Sampling method adopted for this study is purposive sampling method. First 34 primigravid women were assigned to control group and next 32 primigravid women were assigned to the experimental group.

Tools /instruments

The following tools were used for present study

Tool 1:-Socio personal and clinical data sheet

Tool 2:-Modified WHO Partograph for monitoring the duration of labour

Tool 3:- Rating scale to assess the anxiety during first stage of labour.

Tool 4:- Observation check list to assess the compliance during labor.

Data Collection Process

After the presentation and approval of the pilot study, data collection was started. The data collection period was from 31/1/16 to 14/3/16. Researcher introduced herself and explained about the study. Clients who fulfilled the selection criteria were selected. First 34 primigravid women were selected as control group and next 32 were taken as experimental group. After making them comfortable, consent was obtained and confidentiality and privacy were assured. Childbirth preparation programme was provided to the experimental group individually at the day of admission itself. Socio personal and clinical data of the selected primigravid women were collected. Anxiety was measured using anxiety scale after the onset of labour pain. WHO partograph were maintained to assess the progress of labour. The behavior responses of the primigravid women were assessed by observation checklist to identify compliance level. Compliance level was assessed 3 times with a gap of 1 hour between each observation, during first stage of labour after 4cm cervical dilatation. When the dilatation reached 10cm client was shifted to second stage of labor. Mode of delivery was also recorded after the labor. Duration of labour was calculated by using WHO partograph.

4. Results

Frequency distribution and percentage of primigravid women based on their mode of delivery, (n=66)

Mode of delivery	Control group		Experimental group	
	f	%	f	%
Vaginal delivery	22	64.7	26	81.3
Vacuum extraction	08	23.5	04	12.5
Cesarean section	04	11.8	02	06.2

Frequency distribution and percentage of primigravid women in control group and experimental group based on their duration of labor, (n=60)

Duration of Labor (in hours)	Control group				Experimental group			
	f	%	Mean	SD	f	%	Mean	SD
6-9	04	13.3	11.1	1.8	04	13.3	10.6	1.2
9-12	16	53.4			24	80		
12-15	10	33.3			02	6.7		

Frequency distribution and percentage of primigravid women in control group and experimental group based on their level of anxiety, (n=66)

level of anxiety	Control group				Experimental group			
	f	%	Mean	SD	f	%	Mean	SD
Mild	00	-	42.24	3.97	24	80	28.19	3.78
Moderate	26	76.5			08	20		
Severe	08	23.5			00	-		

Frequency distribution and percentage of primigravid women in control group and experimental group based on their level of compliance during 3 observations, (n = 60)

Level of compliance		Control group				Experimental group			
		f	%	Mean	SD	f	%	Mean	SD
O ₁	Average	08	26.7	99.93	08.61	00	-	117.10	06.15
	Good	22	73.3			30	100		
O ₂	Average	14	46.7	97.17	08.21	00	-	112.23	04.55
	Good	16	53.3			30	100		
O ₃	Average	15	50	95.33	08.99	00	-	110.17	05.40
	Good	15	50			30	100		

Mean, standard deviation and t value of duration of labour among the primigravid women in control group and experimental group, (n = 60)

Group	Duration of labour		t value	p value
	Mean	SD		
Control	668.07	108.73	1.27 ^{ns}	0.21
Experimental	637.1	77.61		

ns - not significant at 0.05 level

Mean, standard deviation and t value of anxiety scores among the primigravid women in control group and experimental group, (n = 66)

Group	Anxiety score		t value	p value
	Mean	SD		
Control	42.24	3.98	14.68 ^{***}	<0.001
Experimental	28.19	3.78		

*** Significance at <0.001

Summary of repeated measure ANOVA of compliance level of primigravid women in the control group and experimental group, (n=60)

Source of variation	Sum of squares	df	Mean square	F	P value
Between categories	49.54	2	24.77	0.55 ^{ns}	0.57
Between groups	11076.35	1	11076.35	247.52 ^{***}	<0.001

*** Significant level<0.001

ns - not significant

Tukey's test of honest significant difference for pair wise comparison of mean scores of compliance level of primigravid women in control and experimental group at different observations, (n=60)

Pair wise comparison	Control group		Experimental group	
	Mean difference	P value	Mean difference	P value
O ₁ -O ₂	02.76 ^{ns}	0.43	4.86 ^{**}	0.002
O ₂ -O ₃	01.83 ^{ns}	0.68	2.06 ^{ns}	0.3
O ₁ -O ₃	04.60 ^{ns}	0.10	6.93 ^{***}	<0.001

** Significant level<0.01

*** Significant level<0.001

ns - non significant

Association of anxiety among primigravid women with selected variables.

There is no statistically significant association between level of anxiety and the age and education of primigravid women.

5. Discussion

The findings of the study are discussed in relation to observations made by other study findings.

The present study found that there is a significant difference in the mean anxiety score that is consistent with the findings of a study done by Arieta-Pinedo and others on the benefits of antenatal education for the childbirth process in Spain which evaluated the anxiety after childbirth preparation programme that showed a significant difference (p<0.001) in the mean anxiety score between experimental and control group.⁹

The present study findings are also consistent with the findings of a study done by Jiji George on the effect of relaxation therapy on comfort and outcome of labour among primigravid women. The result shows that the mean anxiety score of the experimental group is significantly lower than those in the control group.¹⁰

In the present study it is evident that there is no significant change in the duration of labour among primigravid women after childbirth preparation programme. This was supported by an evaluative study done by Karkada Eva Chris, Noronha and D'souza to determine the effectiveness of childbirth preparation class on outcome of labour in which they did not obtain a significant difference in the duration of labour between control and experimental group.¹¹

There are controversies also. A study conducted by Direkvand-Moghdam, A.Delpisheh, M. Rezaeian and A. Khosravi to assess the effect of non pharmacological measures on the duration of labour showed significant difference in the duration of labour after the use of massage and parturition position change.¹²

The findings of the present study revealed that there is significant difference in the compliance level which is supported in a study by Thampawiboon K, conducted to determine the effect of childbirth preparation on coping behavior among primigravid women. The study revealed that the primiparas in the experimental group had better coping behavior than those in the control group.¹³

The present study found that there is a higher frequency of vaginal deliveries among experimental group than control group which is supported by the findings of another study by Scott JR, Rose NB, which is done to assess the effect of psycho prophylaxis on labour and delivery. The study showed a higher frequency of spontaneous vaginal deliveries than the control group.¹⁴

The present study found that there is no association between (0.05) maternal age and anxiety, education and anxiety.

6. Conclusion

The following conclusions were derived based on the findings of the study.

- Childbirth preparation is effective in reducing the anxiety among primigravid women.
- Child birth preparation reduces the incidence of operative deliveries.
- Childbirth preparation is not effective in reducing the duration of labour in primigravid women when comparing with experimental group.
- Childbirth preparation brings about a significant change in the compliance level in primigravid women.

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