

ORIGINAL RESEARCH

EFFECTIVENESS OF CHILDBIRTH EDUCATION PROGRAMME ON KNOWLEDGE, INTRAPARTUM BEHAVIOR, AND PREGNANCY OUTCOME AMONG SELECTED PRIMIGRAVIDA MOTHERS AT AIIMS, JODHPUR

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ABSTRACT

Introduction: A childbirth education programme empowers the women to participate in the birthing process with complete psychological preparation, helping to preserve her energy and gain control over the birthing process. Knowledge about labor process affects possible pregnancy outcome in Primigravida mothers.

Methods: This experimental study with Non- equivalent post test only design was conducted on a sample of 200 Primigravida mothers, assigned into two groups, 100 in experimental group (implementation of child birth education programme) and 100 in control group (routine care). Data was collected at Department of Obs. and Gynae. AIIMS Jodhpur.

Results: Personal variables were comparable between experimental and control group. Significant difference was observed in knowledge score (Z score (N=200) =16.83, $p<0.05$), intrapartum behaviour (Z score (N=200) =14.80, $p<0.05$), and pregnancy outcome (Z score (N=200) =4.30, $p<0.05$) in control and experimental group. There is a Moderate positive correlation($r=0.611$) between the knowledge score and intrapartum behavior.

Conclusion: The study concluded that childbirth education programme was found to be effective in significantly improving knowledge, intrapartum behavior and pregnancy outcome among Primigravida mothers. This study recommends that childbirth education programme need to be included as an essential part of antenatal care.

Key Words: Childbirth Education Programme, Primigravida, Intrapartum Behavior, Pregnancy Outcome.

INTRODUCTION

The Childbirth education programme helping mothers and prepare them for accepting this labor process joyfully.¹

The Tamil Nadu government had achieved better results by providing companions to expectant mothers. The companion would monitor the mother's health during the time of labor too. The companion had to be a woman who had attended classes along with the expectant mothers. While the State is battling to raise the bar in providing basic health care to expectant mothers with a target of achieving an MMR of 10 to 15.²

Childbirth education was an important component of the women's health movement, advocating birth "awake and aware," natural childbirth, and the labouring woman's conscious participation in her birth experience.³

The main philosophy of prepared childbirth was based on birth being normal, natural and healthy. Childbirth education empowers women to make informed choice in health care, to assure responsibility their health and to trust their inner wisdom.⁴

NEED FOR THE STUDY

The need of childbirth education to assist pregnant woman specially Primigravida and their family members to make informed, safe choices and practice about birth and labor process and help women to understand that pregnancy and labor being a completely physiological and natural process.⁵ In a review article by Mukherjee S N on rising caesarean section rate, it was quoted caesarean section on demand in absence of any specific risk are increasing. Inadequately informed women choose caesarean sections to avoid painful natural childbirth.¹⁹ An exploratory, descriptive survey was conducted to determine the knowledge and expectations the Primigravida has of childbirth. A structured questionnaire was used to make a survey of the Primigravida knowledge and expectations of childbirth. From this research it is clear that the respondents had insufficient knowledge of childbirth and the handling of pain during childbirth. This insufficient knowledge can mainly be attributed to the poor attendance of antenatal preparation classes, inadequate professional counselling, and the mother of the Primigravida as the primary source of information on childbirth. The respondents, however, had realistic expectations with regard to their handling of labour, as well as of the role of the midwife and the doctor. From this research it is clear that a large gap exists in the primigravida's preparation for childbirth. The group participating in this research is therefore not adequately prepared for childbirth to have realistic expectations.⁶ In the light of the above facts and also the researcher's experience as a midwife, in the labour room it was observed that most of the time the Primigravida women were anxious, took more time to understand and follow the instructions given to them. Researcher attended many Primigravida mothers in labour who are not prepared mentally for labour and not able to follow the instructions that predispose them to more fear, anxiety and pain. They were not able to cope up with the normal labour process. Many a times, it led to intra-partum maladaptive coping behaviours resulting in premature bearing down efforts, maternal exhaustion, hypoxia, dehydration etc. Thus, the investigator felt the need to do an experimental study to assess the effectiveness of

a childbirth education programme on knowledge, intra-partum behaviour, and pregnancy outcome. Childbearing period is an important and precious stage in the life of women which needs a lot of care during entire period of pregnancy until the birth of the child take place. Women should have adequate information prior to labor.

OBJECTIVES

1. To assess and compare the knowledge of Primigravida mothers regarding child birth preparedness and labor process in both experimental and control group
2. To assess and compare the intrapartum behavior in experimental group and control group
3. To assess and compare pregnancy outcome in experimental and control group.
4. To determine the association of knowledge, intrapartum behavior, pregnancy outcome with selected personal variables.
5. To determine the correlation between the knowledge, intrapartum inventory, intrapartum behavior and pregnancy outcome among Primigravida mothers.

MATERIALS & METHODS

The research design adopted for this study was an Experimental Non-Equivalent Post-test only Control Group Design.⁷ Ethical clearance was obtained from the concerned authority- Institutional Ethics Committee AIIMS, Jodhpur. The study was conducted at Department of Obs. and Gynae AIIMS, Jodhpur. The accessible population for the present study was the Primigravida mothers with ≥ 37 weeks of gestation who periodically attends the antenatal OPD services of the AIIMS, Jodhpur hospital and have completed ≥ 37 weeks of gestation and met inclusion criteria of present study were taken after proper written informed consent. Taking the factor of attrition (20%) into consideration a total of 200 samples were taken out of which 100 samples were included in the control group and 100 samples in the experimental group. Data collection was done during November 2018 –January 2019. Sample of 200 Primigravida were selected from AIIMS, Jodhpur by using non-probability purposive sampling technique.⁸ Self-introduction was given to the subjects, nature and purpose of the study was explained to them. Confidentiality of their responses was assured, and their written consent was taken prior to the study. 2 sessions of 20 min. childbirth education programme were given to Primigravida of experimental group in their subsequent antenatal visits. Data was collected by the investigator using face-to-face interview method and direct observation. It was found that it took approximately 5-10 minutes to interview and 12-16 hours of observation for each individual that was done. No problem was faced during final data collection.

The reliability of self-structured knowledge questionnaire and pregnancy outcome assessment tool was established by Kuder Richardson formula 20 .it was found to be 0.88, which shows the tool was reliable as acceptable reliability range from 0.70 to 1. The Reliability of the self-structured intrapartum behavior observation checklist was determined by interrater method and it was found to be 0.97, that showed the tool was reliable

STATISTICAL ANALYSIS

The data collected by the investigators were transferred to a master sheet. Following descriptive and inferential methods were used to analyze the data

a. Descriptive statistical method such as:

- Mean
- Frequency
- Percentage
- Standard Deviation

b. Inferential statistical method such as:

- Chi square test to check the associations.
- Z test for mean difference in both the groups
- Coefficient Correlation test to check the correlation.

RESULTS**SECTION I: DESCRIPTION OF PERSONAL VARIABLES OF THE SUBJECTS. THE SELECTED PERSONAL VARIABLES WERE DESCRIBED IN TERMS OF FREQUENCY AND PERCENTAGES**

A total of 200 participants were enrolled for analysis, in that 100 participants were in control group and other 100 were in experimental group. Majority of Primigravida mothers in experimental group (44%) and control group (45%) belonged to 22-25yrs of age 55% were graduated in control group whereas 39% were graduated in experimental group. Most of the participants 48% in experimental group and 31% in control group belonged to monthly income category of (10,001to15000). 31% of participants had heard about this program in control group whereas only 29% in experimental group. Source of information was internet only. No one attended any formal education class for childbirth preparedness in both the group. The mean value of total attended antenatal visits in experimental group (1.65 ± 2.05) and in control group (1.47 ± 1.8). Personal variables were comparable in both the groups at $p<0.05$.

SECTION II: FINDINGS RELATED TO KNOWLEDGE LEVEL OF PARTICIPANTS

The post-test only knowledge score concluded that majority of participants (56%) in the experimental group had excellent knowledge regarding childbirth preparedness and labor process as compared to only (7%) in control group. (32%) in the experimental group had good knowledge whereas only (1%) in control group. Majority of participants (59%) in control group had poor knowledge as compared to only (6%) in the experimental group.

Figure 1: Level of Knowledge (N=200)



Table 1: Mean and SD difference of knowledge scores

GROUP	Mean	SD	Z score	p value
Control group(n=100)	5.73	3.49	16.839*	0.0001
Experimental group (n=100)	15.48	4.63		

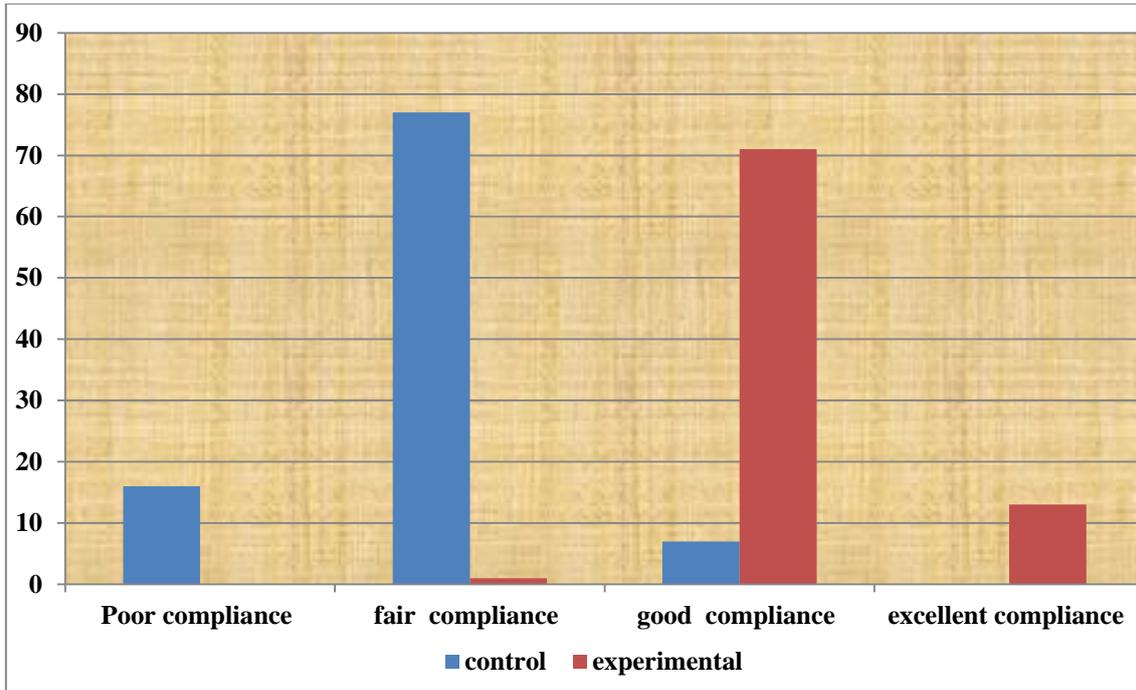
*-significant ($p < 0.05$)

SECTION III: FINDINGS RELATED TO INTRAPARTUM BEHAVIOR OBSERVATION OF PARTICIPANTS

Primigravida mothers were observed for intrapartum behaviour when they reported to the labour room for delivery to till the end of fourth stage of labour. Intra-partum behaviour was observed by self-structured intra-partum behaviour observation checklist.

Majority of participants (71%) in the experimental group had good compliance compared to only (7%) in control group. (13%) in the experimental group had excellent compliance whereas (0%) in control group. Majority of participants (77%) in control group had fair compliance in compared to only (1%) in the experimental group.

Figure 2: Intrapartum behavior observation compliance (N=200)

**Table 2: Intrapartum Behavior**

GROUP	Mean	SD	Z score	p value
Control group (n=100)	43.21	3.38	14.80	0.000
Experimental group (n=100)	51.16	4.19		

SECTION IV: FINDINGS RELATED TO PREGNANCY OUTCOME OF PARTICIPANTS

Comparison in both the groups in terms of maternal and fetal outcome, where the subjects (88%) in experimental group had excellent maternal outcome after administration of childbirth education programme whereas (57%) in control group. (9%) in experimental group had good maternal outcome whereas (13%) in control group. (3%) in experimental group had fair maternal outcome whereas (29%) in control group. (0%) in experimental group had poor maternal outcome whereas only (1%) in control group, as followed by the subjects (60%) in experimental group had excellent fetal outcome after administration of childbirth education programme whereas (56%) in control group. (36%) in experimental group had good fetal outcome whereas (9%) in control group. (3%) in experimental group had fair fetal outcome whereas (29%) in control group. (1%) in experimental group had poor fetal outcome whereas only (6%) in control group.

Table 3: Distribution of maternal and fetal outcome

Pregnancy outcome	Maternal outcome		Fetal outcome	
	Control group n=100(%)	Experimental group n=100(%)	Control group n=100(%)	Experimental group n=100(%)
poor (<2) outcome	1(1%)	0(0%)	6(6%)	1(1%)
Fair(2-3) outcome	29(29%)	3(3%)	29(29%)	3(3%)

Good (4-5) outcome	13(13%)	9(9%)	9(9%)	36(36%)
Excellent(>5) outcome	57(57%)	88(88%)	56(56%)	60(60%)

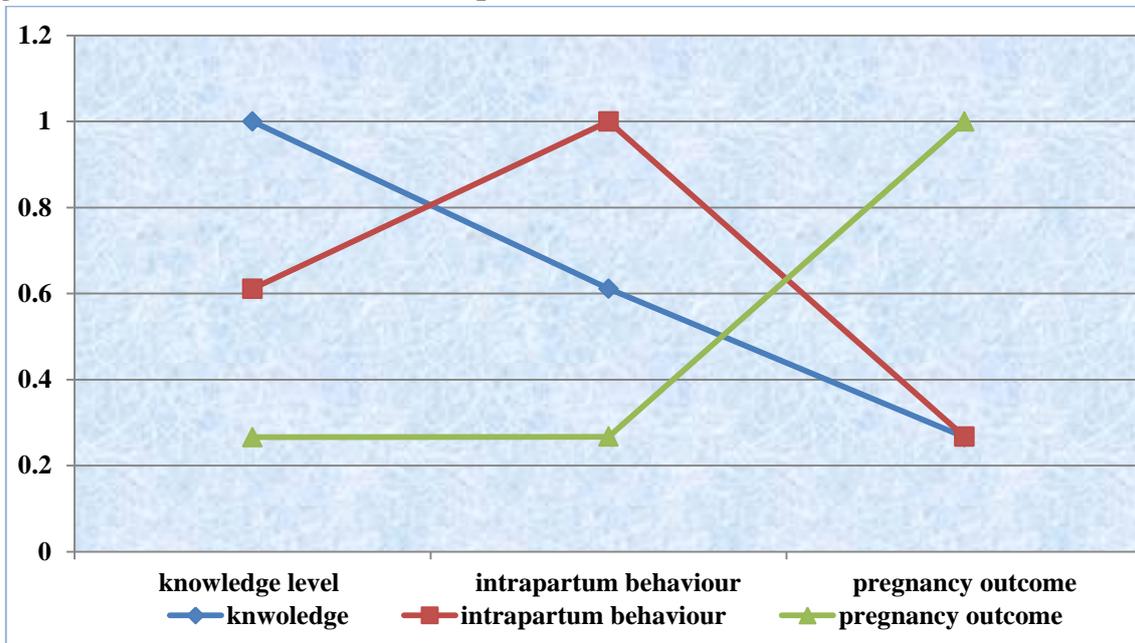
SECTION V: FINDINGS RELATED TO THE CORRELATION BETWEEN KNOWLEDGE SCORES, INTRAPARTUM BEHAVIOR OBSERVATION &PREGNANCY OUTCOME

There is significant co relation between the dependent variables of the present study. Results found that Knowledge ∞ intrapartum behavior =0.611 that is moderate positive linear correlation whereas knowledge ∞pregnancy outcome =0.266 that is low positive linear correlation.

Table 4: Correlation

Characteristics		Knowledge score	Intra partum behavior	Pregnancy outcome
Knowledge score	Pearson Correlation r value	1	.611**	.266**
	p value		.000	.000
Intra partum behavior	Pearson Correlation	.611**	1	.267**
	p value	.000		.000
Pregnancy outcome	Pearson Correlation	.266**	.267**	1
	p value	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Figure 3: Correlation between the dependent variables (N=200)



MAJOR FINDINGS OF STUDY AS FOLLOWED

- Mean knowledge score was found to be increased among experimental group (15.48 ± 4.63) as compared to control group (5.73 ± 3.49)
- Intrapartum behavior observation compliance was found to be increased among experimental group (51.16 ± 4.19) & was significant as compared to control group (43.21 ± 3.38)
- Pregnancy outcome was found to be increased among experimental group (12.36 ± 2.082) & was significant as compared to control group (10.38 ± 4.209)
- There is positive moderate linear relationship between knowledge score and intrapartum behavior.

DISCUSSION

The present study was conducted to assess the effectiveness of childbirth education programme on knowledge, Intrapartum behavior and pregnancy outcome among selected Primigravida mothers. The effectiveness was assessed by comparing with the knowledge score, intrapartum behavior observation and pregnancy outcome. Total 200 Primigravida were enrolled in the study with equal number of participants in each group. 100 each enrolled in the experimental and control group.

KNOWLEDGE REGARDING LABOR PROCESS AND CHILDBIRTH PREPAREDNESS

Findings of the present study indicated that the mothers who were exposed to Child Birth education Programme had significantly more knowledge regarding labor process and childbirth preparedness than the mothers who were not exposed to the Child Birth Education Programme. (Z score (N=200) =16.83, $p < 0.05$)

The findings are in conformity with the study conducted by Chinchpure Supriya et al. (2018) on effectiveness of educational programme regarding knowledge on birth preparedness.⁹ The knowledge score have increased after intervention in study group and did not show any significant increase in the control group also supported by study undertaken by Lily podder and tapti b (2016) has conducted study on effectiveness of video assisted child birth education programme on knowledge, intra-partum behavior, maternal and fetal outcome among Primigravida mothers.¹⁰ Significant difference was observed in knowledge score ($t(N=348) = 111.6$, $p < 0.05$). Malata, Ellen Chirwa (2011) conducted a study to assess the effectiveness of structured childbirth education programme.¹¹ Significant difference ($p < 0.05$) in the mean pre test and post test knowledge score in intervention group was observed. Therefore the child birth education programme needs to be added as an essential part of antenatal care.

INTRA-PARTUM BEHAVIOR OBSERVATION

The findings of the present study showed that there was a significant compliance to the expectant intra-partum behavior of the Primigravida mother in experimental group at the time of reporting to the labor room for delivery as well as in all the four stages of labor. Significant difference was observed in intrapartum behavior (Z score (N=200) =14.80, $p < 0.05$) This is supported by Lily podder and tapti b (2016) study, which concluded that

intra-partum behavior was much higher among experimental group mothers than the control group ($z(348) = 12.7, p < 0.05$).¹⁰ Also similar study reported by Mahalaxmi and Dr. Hepzibakirubamani (2018) a Study to assess the effectiveness of Lamaze method on Mode of labor among Primigravida.¹² The study findings concluded that childbirth preparedness class is a great way to prepare mother for labor and birth. Karkada Eva Chris, et.al. (2010) conducted a study to assess the effectiveness of childbirth preparation class in terms of behavioral responses during first stage of labor.¹³ The findings of the study revealed that there was a significant difference in the occurrence of behavioral responses between the experimental and control group at 0.05 level of significance ($t(58) = 11.858, p < 0.05$). Hence the findings of the study indicated that more women in experimental group who had attended childbirth preparation class exhibited positive responses during first stage of labor.

PREGNANCY OUTCOME

In the present study findings show that Significant difference was observed in pregnancy outcome (Z score ($N=200$) = 4.30, $p < 0.05$) these results are consistent with study conducted by Lily podder and taptib (2016) The proportion of Primigravida mothers in experimental group had significantly less maternal complications as compared to that of control group. [$z(348) = 2.95, p < 0.05$].¹⁰ Ferguson S, Davis D, Browne J who undertook a structured review of the literature to determine the effect of antenatal education on labor and birth, particularly normal birth.¹⁴ This literature review has identified that antenatal education may have some positive effects on women's labor and birth including less false labor admissions, less anxiety and more partner involvement

In the present study there is positive moderate linear relationship between knowledge score and intrapartum behavior. Similar results reported by Chinchpure Supriya et al. (2018) on correlating birth preparedness with outcome of pregnancy showed a highly significant difference in practice score among study group as compared to control group.⁹

The differences in results among previous studies and the current study may be due to research setting, small sample size, difference in characteristics of general population etc.

LIMITATIONS OF THE STUDY

The researcher could not control the environment in the labor room, such as attitudes and behavior of labor room staff and on duty doctors towards the Primigravida.

RECOMMENDATIONS FOR NURSING PRACTICE

On the basis of the findings, the following recommendations are offered for future nursing practice and research.

- Study can be conducted to assess mother's attitude towards attending childbirth education programme.
- Study can be replicated on large sample in different setting so that the findings can be generalized to large population.
- A study may be conducted on the attitude of the hospital personal regarding policy to be adopted for childbirth education programme in their setting.

- A comparative study can be done to study the effectiveness of structured childbirth education programme among Primigravida and multigravida.
- The study can be replicated in different settings i.e. in Primigravida of rural and urban settings to strengthen the findings.

CONCLUSION

The study analysis shows that there is significant increase in knowledge after intervention. Therefore, the study concluded that Childbirth Education Programme prepares the Primigravida mother for the process of labor and childbirth, provide strength and positive coping to deal with stress, anxiety and pain. Childbirth education programme improved maternal and fetal outcome as well. Majority of participants (71%) in the experimental group had good compliance compared to only (7%) in control group. (13%) in the experimental group had excellent compliance whereas (0%) in control group. Majority of participants (77%) in control group had fair compliance in compared to only (1%) in the experimental group.

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