

## Research Article

### Effect of education on birthing in primigravida mothers in a hospital in Maharashtra

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#### Abstract

**Background and Aim:** The study was aimed to assess the effectiveness of teaching on birthing among the primigravida mothers attending the antenatal clinic of Pravara Rural Hospital Loni. **Subjects and Methods:** A quasi experimental research study, post test only design with control group and study group approach was used. Total 60 subjects (30 each control and study group) were included in the study. The data was analyzed by using descriptive and inferential statistics and presented in the form of tables and figures. **Results:** The results showed that highest percentage (40%) of primi mothers are from age group of 18-20 years. Highest percentage (50%) of primi mothers had secondary education. Highest percentage (43%) of primi mothers were housewives. Majority (67%) of primi mothers were Hindu in religion. Majority (67%) of primi mothers monthly income was less than Rs. 5000. The present study also showed that there was significant impact of education on birthing among mothers. **Conclusion:** The study concluded that education can be an important tool to increase mothers' knowledge regarding birthing.

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#### Introduction

Childbirth is one of the most memorable and rewarding event of couple's life. No matter how often a woman gives birth, each experience is an intimate and unique celebration of life [1]. Though labor and delivery are not without pain and some degree of anxiety, if mother remains confident, well-informed and fully supported by health workers and partner, she is likely to have no problem handling the awesome task of bringing a child into the world.

WHO report stated that maternal death is often not a result of technical incompetence or negligence, but also due to lack of health counselling, lack of health education of the mothers and family about labor. Limited knowledge to the primigravidae mothers about labor increases her anxiety. Since it is at first exposure to the mothers, the changes that take place in her body will create anxiety and fear. To overcome this and prevent

occurrence of anxiety in primigravidae about labor, she should be educated about labor and make her to be prepared for childbirth. This helps in reducing anxiety related maternal and foetal complications occurring during labor, which reduces maternal and foetal mortality rate [2].

It has reported that the experience of women in labor depends on the confidence in their preparation and in the support of their partners. Support of persons through the pregnancy can reduce stress related to pain. The level of anxiety may vary with the personal characteristics of a woman and socio demographic variables but some forms of anxiety arise from unknown expectations related to one's needs.

Labor is a special time to grow emotionally for each woman, it's a time of intense physical activity, stress of pain and it may prove to be a time to over it or hidden dangers. Women are usually apprehensive about the labor and delivery which may

contribute to more stress or anxiety during labor. Level of anxiety varies with the personality characteristics of an individual. As it has been seen that the level of anxiety reaches its peak when the imminent situation and women need education in that stressful period about the coming event.

Motherhood is a great responsibility and it is woman's highest crown of honor maintaining good health during pregnancy is very important especially in the present stressful life. Pregnancy and childbirth place a woman at a higher risk of morbidity and mortality, through a fair degree of success has been achieved in reducing maternal deaths and improving maternal care.

Getting education on birthing helps not only to the mother to cope up throughout pregnancy but it also helps the entire family to give proper care and support to the pregnant mother. It is unique shared experience for mother and family which can affect all aspects of family functioning in a positive way. Centering pregnancy has demonstrated effectiveness in increasing knowledge of pregnancy and perceived social support, increasing personal locus of control, decreasing anxiety, enhancing emotional care, fostering mothering skills and improving self image [3].

A childbirth education programme, developed for the Malawian context, was associated with important increases in maternal knowledge about antenatal care, labor and birth and postnatal topics. The findings have implications for midwives in other developing countries and offer an example of a midwifery-led initiative to provide formal childbirth education to these vulnerable women was concluded by Malata *et al* [4].

Childbirth psycho education program appears to be a very promising intervention for promoting learned resourcefulness and minimizing the risk of perinatal depression in first-time Chinese childbearing women. Future empirical work is required to determine the effectiveness of extending the childbirth psycho education program into the early postpartum for the promotion of maternal role competence in Chinese childbearing women [5].

## Objectives of the study

A study was planned to assess the effectiveness of education on birthing among primi gravida mothers attending Pravara Rural Hospital, OPD, Loni

### Hypotheses

**H<sub>0</sub>:** There is no significant difference in knowledge on birthing between the control group and study group.

**H<sub>1</sub>:** There is significant difference in birthing experience among control and study group.

### Subjects and methods

The quasi experimental research study, post-test only design with control group and study group approach was conducted in ante natal clinic and labor ward of Pravara Rural Hospital. It is a 935-bedded teaching multispecialty private hospital located within the campus and geographically situated in Loni (Bk) village. The population for the present study was 60 primigravida mothers who were in the third trimester attending the ANC OPD of Pravara rural hospital for the treatment.

Probability, Random sampling technique was used for selecting the primi gravida mothers. The lottery method was used for the randomization of the samples. The registered cases of primi mothers who were in the end of their second trimester were selected from Pravara rural hospital ANC, OPD, the name chits were prepared and randomly picked up. The selected chits were scrutinizing if the client fulfill the inclusion criteria. Those fulfilled were recruited in the present study. A total of 60 were selected and randomly 30 were recruited for control and 30 for study group after fulfilling the inclusion criteria: primigravida mothers who were in third trimester, attending ante natal clinic of the hospital, willing to participate, and deliver the baby in the hospital.

### 2. Method of data collection

A structured questionnaire was prepared to collect data from clients based on the study objectives.

### Development of tool

The tool was prepared in the form of questionnaires to assess the knowledge of the primi mothers; multiple choice questions with four options were prepared which had 24 items in each item out of four options one is the correct option and other three are wrong options correct option carries one score while wrong option carries zero score. An standardized Hamilton anxiety scale was used during labor to assess the anxiety of the primigravida mothers (table 1a and 1b). The checklist was prepared to check the actions related to the knowledge given to the primi mothers.

Related books, journals, articles, periodicals, news papers, published and unpublished studies were reviewed and used to develop the tool. The blue print of items pertaining to the assessment of knowledge and Anxiety was prepared as per objectives and theoretical framework. Final draft of knowledge questionnaire and standardized Hamilton anxiety scale was prepared after testing the validity, reliability and pilot study.

Table 1 a. Description of hamilton anxiety scale

SN	Areas	Number of items	%
1	Physical	08(Q7,Q8,Q9,Q10,Q11, Q12,Q13,Q14)	57
2	Mental	06(Q1, Q2,Q3,Q4,Q5,Q6)	43
	Total	14	100

Table 1b. Scoring scheme for assessment of anxiety

SN	Actual score	%	Levels/grade
1	0 – 13	23	Average
2	14 – 17	07	Mild
3	18 – 24	13	Moderate
4	25 and above	57	Severe

### Description of tool

In order to assess knowledge on birthing structured questionnaires were prepared; the tool consists of four sections: **Section I:** Socio demographic data of primigravida mothers (like age, education, occupation, income, religion, type of family); **Section II:** Structured questionnaires on assessment of knowledge on birthing in which, section A consist of the questions related to first stage

of labor, Section B consists of the questions related to the second stage of labor and Section c consists of the questions related to the third stage of labor, Section D consists of questions related to complication readiness and Birth preparedness. Each item has four options and the sample has to tick the appropriate answer to the questions. Each item score for correct answer was 1 and for incorrect answer was 0. The maximum score was 24; **Section III:** Hamilton anxiety scale, to assess the anxiety level of the primi mothers which includes a total of 14 items out of which 8 were related to the physical health and 6 were related to the mental health. the score key was, 0: None, 1: Mild, 2: Moderate, 3: severe, 4: very severe now the total of the physical score and the total of mental score will be done to rule out the anxiety level of the primi mother which is been divided as, Average if the score is between 0-13, Mild if the score is between 14-17, Moderate if the score is between 18-24, and severe if the score is 25 and above.

### Intervention

The selected intervention for the present study was the Nurse led intervention which included 1) Education: Health teaching on Birth 2) Reinforcement: Educative material like Booklet on birthing, which is entitled as "Becoming a Mother". The Nurse led intervention was implemented to the primi mothers.

### Validity and reliability of tool

The content of validity of the structured Questionnaires and Health teaching was established by consulting the experts from the various disciplines such as Department of Obstetrics' and gynecology, Department of Child Health Nursing', Department of obstetrics and gynecology nursing, Department of Statistics. The tool was modified according to the suggestion and recommendation of experts in consultation with guide.

The reliability of the tool was tested by giving the Health teaching to the primi mothers who visited the ANC OPD of Pravara Rural Hospital, Loni (Bk) other than the main

samples; Total 10 samples were selected who meets the inclusion criteria out of which 5 were of the study group and 5 were of the control group, the samples from study group were given the Health teaching and the post test was conducted immediately, whereas for control group no intervention was led but only post test was conducted. The split half reliability method was used to test the reliability of tool and the r value was 0.85.

### **Translation of tool**

The tools content i.e. health teaching and the Educative material like booklet, on Becoming a mother were translated into Marathi by language expert and then it was retranslated into English by another expert to determine its correctness of the Marathi translation as per required information.

### **Pilot study**

After the approval from the concerned authority, Pilot study was conducted on Primi mothers who visited the Antenatal OPD of Pravara Rural hospital, Loni other than samples, who fulfills the inclusion criteria's. Pilot study was conducted on total 10 samples in which 5 samples were from study group and five samples were of control group. The study group was given the teaching on birthing and the post test was conducted within 15 minutes. Duration of pilot study was of two weeks. Pilot study was carried to identify the practical and technical difficulties in the research methodology and data collection procedure. There were no difficulties and flaws were experienced.

### **Ethical consideration**

The present study was approved by the Institutional Ethics Committee (IEC) and Institutional Research Committee (IRC) of PIMS (DU) Ref No: 657/2 PIMS: CON: 2013 dated 9.03.2013. Prior to data collection, written permission was obtained from the medical superintendent of Pravara Rural Hospital, Loni (Bk).

Informed consent was obtained from all the Primi mothers who were participated in the scientific work.

### **Period of data collection**

The data was collected from 9-Dec-2013 to 24-Mar-2014. During the period the investigators collected the information by conducting health teaching and post test among the Primi mothers with the help of structured questionnaires. The Hamilton Anxiety scale was used during the time of delivery of the sample to assess the level of anxiety and Checklist was used to check the actions related to the knowledge.

### **Statistical analysis**

Descriptive and inferential statistics was planned for data analysis. The collected data was organized, tabulated and analyzed by using descriptive statistics. i.e. percentage, mean, mean percentage and standard deviation. The inferential statistics like t test, Chi-square test and Co-efficient of co relation test to be used. The t- test was used to test effectiveness of teaching on birthing among primi gravida mothers attending Pravara Rural Hospital, OPD, Loni. Chi- square test was used to find out association of teaching with selected demographic variables.

### **3. Results**

The present study showed that 40% subjects in Study group and 37% subjects in control group were in 18 to 20 and 24 to 29 age-group respectively. Least number of subjects belonged to 29-33 age-group (table 2, fig 1). It was observed that 50% subjects in study completed secondary level education; in control group it was reported to be 37%. None of subjects completed post-graduation level education in both groups (table 3, fig 2). Most of the subjects in both group were housewives while other occupation included daily wage, farming, business, and private job. None of the subjects' occupation was government job (table 4, fig 3). Most of the subjects were Hindu followed by Muslim and Christian. In both groups, monthly income was less than 5000 rupees in both groups (table 5, fig 4). The subjects in both group had either friends or health personnel as a source of health information. There was no role of media as source of knowledge (table 6, fig 5).

Table 2. Description of socio demographic data of primi mothers Age of study group and control group

Primi mothers Age (in years)	Study group		Control group	
	Frequency	%	Frequency	%
18 to 20	12	40	09	30
20 to 24	06	20	06	20
24 to 29	09	30	11	37
29 to 33	03	10	04	13

Item wise comparison of knowledge score of primi mothers in both groups in different stages of labor showed varied responses as shown in table 6 and 7.

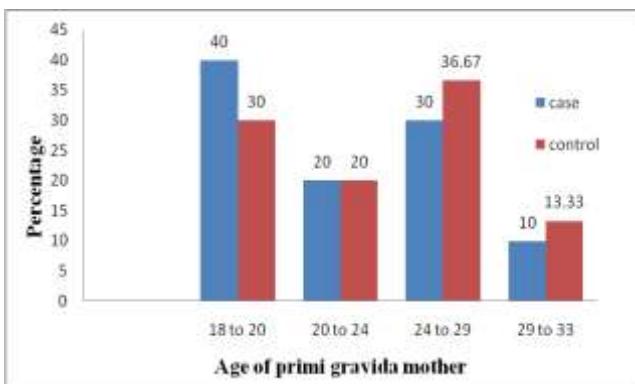


Fig. 1: Bar graph showing percentage wise distribution of age of primi mothers of study group and control group

The above Table 2 and fig 2 shows socio demographic variables of Age of primi mothers, majority of the samples were in between the age group of 18-20 yrs in study group (40%) and age group of 24-29 yrs in control group (37%).

Table 4. Description of socio demographic data of primi mothers education of study group and control group

Education	Study group		Control group	
	Frequency	%	Frequency	%
Primary	8	27	10	33
Secondary	15	50	11	37
Higher Secondary	07	23	07	23
Graduation	00	00	02	07
Post Graduation	00	00	00	00

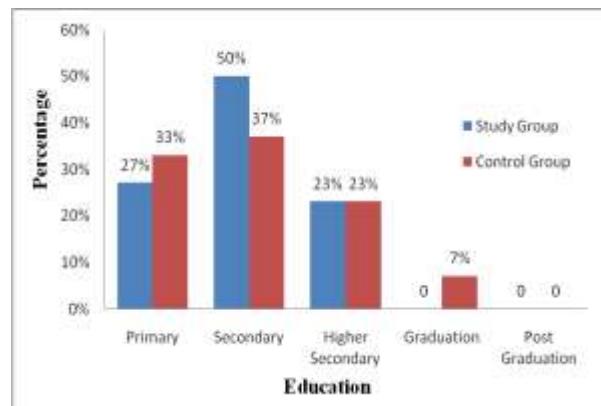


Fig 2. Bar graph showing percentage wise distribution of Education of primi mothers of study group and control group.

The above Table 4 and fig 2 shows that majority of mothers are having secondary education both in study and control group i.e.50% and 37% respectively

Table 5. Description of socio demographic data of primi mothers Occupation of study group and control group

Occupation	Study group		Control group	
	Frequency	%	Frequency	%
Housewife	13	43	11	37
Daily wages	07	23	11	37
Farmer	04	13	07	23
Private business	03	10	01	03
Government Job	00	00	00	00
Private job	03	10	00	00
Other	00	00	00	00

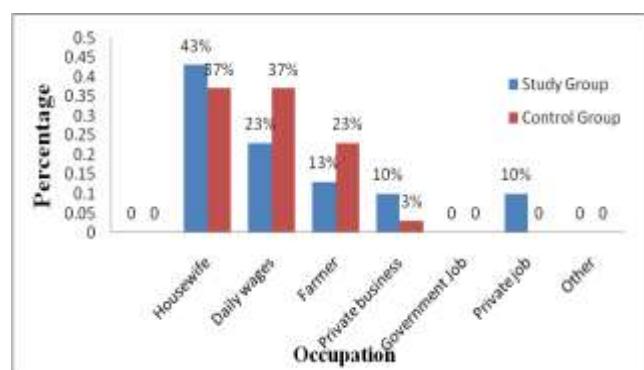


Fig 3. Bar graph showing percentage wise distribution of Occupation of primi mothers of study group and control group.

The above Table 5 and fig 3 shows that majority of mothers were housewife i.e. 43% from study group and in control group majority of mothers were on daily wages and farmer i.e. 37% and 37% respectively

Table 6. Description of socio demographic data of primi mothers Religion of study group and control group

Religion	Study Group		Control Group	
	Frequency	%	Frequency	%
Hindu	20	67	20	67
Muslim	04	13	06	20
Christian	03	10	03	10
Others	03	10	01	03

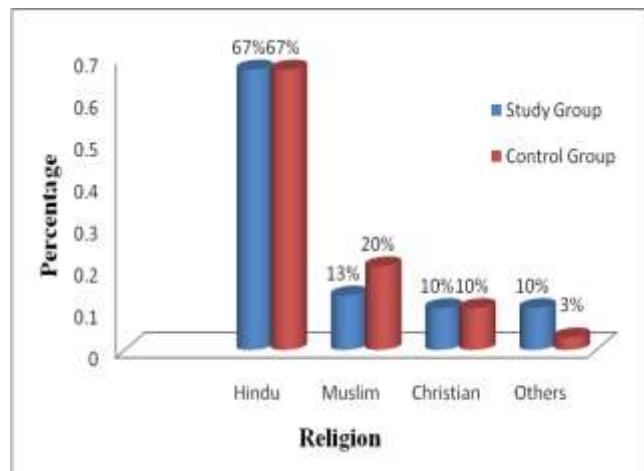


Fig 4. Cylindrical graph showing percentage wise distribution of Religion of primi mothers of both study group and control group. The above table 6 and fig 4 shows that majority of mothers were from Hindu religion i.e. 67% from Study group and 67% from control group.

Table 7. Description of socio demographic data of primi mothers Monthly family income of study group and control group

Monthly family income (in Rs)	Study group		Control group	
	Frequency	%	Frequency	%
Less than 5000	15	50	20	67
5001-10,000	15	50	10	33
More than 10,001	00	00	00	00

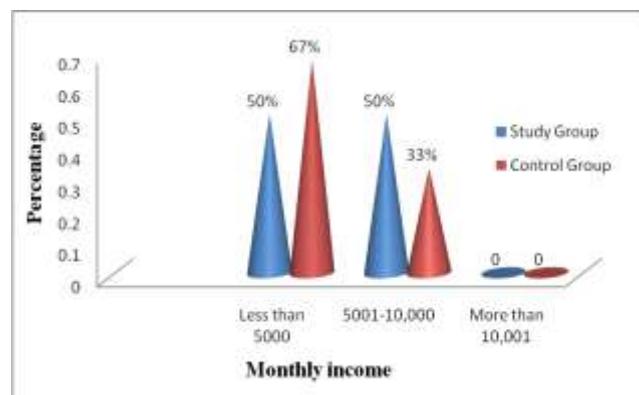
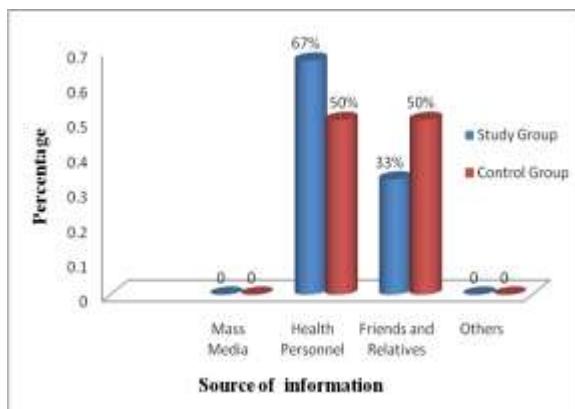


Fig 5. Cone graph showing percentage wise distribution of Monthly family income of primi mothers of both study group and control group. The above table 7 and Fig 5 shows that the monthly family income is found majority in less than 5000 and 5001-10,000 both is 50% and 50% respectively in study group and 67% for less than 5000 in control group.

Table 8. Description of socio demographic data of primi mothers Source of information of study group and control group

Source of information	Study group		Control group	
	Frequency	%	Frequency	%
Mass Media	00	00	00	00
Health Personnel	20	67	15	50
Friends and Relatives	10	33	15	50
Others	00	00	00	00



**Fig 6.** Cylinder graph showing percentage wise distribution of Source of information of primi mothers of study group and control group

The above Table 8 and fig 6 shows that the maximum Source of information for study group is health personnel i.e. 67% and for control group is 50% from health personnel and 50% from friends and relatives.

Comparison of knowledge score of primi mothers on birthing with study group and control group showed that the maximum mean (18.43) was observed in study group compared with 12.7 in control group which suggested that the knowledge score of study group was higher as compare to control group.

Group	Post intervention			't' value	'p' value
	Mean	SD	Mean %		
Study	18.43	1.54	76.79		
Control	12.7	2.27	52.97	14.69	significant

The above table shows the comparison of Mean, SD and Mean percentage of post intervention knowledge score of primi mothers of study group and control group. The unpaired 't' test was applied at 5 level of significance. The tabulated t value for ( $n_1+n_2-2=58$ ) degree of freedom was 2.91.

The calculated t value was more than the tabulated value at 0.05% level of significance which was statistically acceptable level of significance. Hence there is Effectiveness of teaching on birthing among primigravida mothers. Thus  $H_0$  hypothesis is accepted.

#### 4. Discussion

The present study showed that majority of primi mothers are having secondary education in study group 50% (Fig no. 3) It is consistent with the study conducted by Jessy Joykumar Jacob (2012) [76], who also observed that the majority of the samples were having secondary education i.e. 18 (36%) whereas minimum number of primi mothers were degree holders/ graduates i.e 7% which was also observed in the study conducted by Jessy Joykumar Jacob (2012) which shows 3 (6%) of degree holders / graduates.

Majority of primi mothers are housewives (43%) (Fig no. 4) in the study group. Similar findings were found in the study done by Sudha A Raddi, (2010) [77] maximum primigravidae 27(90%) were housewives.

Socio demographic variables of religion of primi mothers, majority of the samples were Hindus i.e. (67%) (Fig no.5) It is consistent with the study conducted by P. Kavitha (2012), [78] who also observed that the majority of primi mothers belong to Hindu religion i.e. (61.7%).

Monthly family income is found majority in less than 5000 and 5001-10,000 both is 50% and 50% (Fig no.6) respectively in study group. Highest percentage [(55%)] of the mother's family income about Rs. 3001-5000.

The present study also showed there was significant effect of education on knowledge of mothers.

#### Conclusion

The major conclusion from this study is that there was an effectiveness of teaching on birthing among the primi mothers which helped them to increase their knowledge regarding birthing and clear their doubts related to the labor process, birth preparedness and complication readiness. Due to increase in knowledge of the primi mothers it helped them to reduce their anxiety up to some extent.

#### Implications

### Nursing Practice

- ✓ This study findings provides information on effectiveness of teaching on birthing among the primi antenatal mothers
- ✓ Findings of this study will help the nursing professional working in not only in obstetrics and gynecological health services but also in community health nursing services for reinforcing their knowledge
- ✓ Nurses play a vital role in imparting knowledge to primi mothers so as to resolve the doubts of the primi mothers and their family members in order to positive outcome of the birthing process
- ✓ From the findings of the study nurses can give more emphasis on imparting knowledge to the primi mothers regarding birthing, its process, how to cope up with the situation in positive manner, how to identify the danger signs and what action should be taken, the primi mother should be made aware and should understand the right actions to be taken at right time, which will help to reduce the anxiety and fear and become confident.
- ✓ These findings will help the nursing professional to identify the needs of primi mothers and plan nursing care, supportive care and problem solving skills accordingly.
- ✓ The findings would help the nurse practitioners to develop awareness in not only the primi mothers but also to the family members in order to obtain the supportive care to the mother by the community health nursing services
- ✓ Community health nurse along with her team should also take steps to impart the knowledge not only to the mothers but also to the family members in order to get the support from family members to the mother, Importance of regular antenatal check up, proper nutrition, immunization etc should be taught to the mother and families.
- ✓ Health services which are available for the pregnant woman and infant should be told through various activities by the students like skits, role play, or health education.
- ✓ The study findings explains the importance of teaching to the primi mothers regarding birthing ,more focus should be done on providing health education to the mother and her family members and clear their doubts for positive outcome. This will help to reduce the maternal anxiety related to delivery which eventually helps to reduce the maternal complications and maternal mortality.

### Nursing Research

- ✓ The study focus on effectiveness of teaching on birthing .These findings helps the nurse researcher to develop conceptual frame work, carry out research activities on various aspects of needs of primi mothers.
- ✓ The present findings of the study can be helpful to carry out similar types of research and explore the various aspects related to primi mothers.

### Nursing Education

- ✓ Nursing personnel can identify the needs of the primi mothers and provide help to the primi mothers by providing them with necessary knowledge and skills for positive outcome of the delivery
- ✓ Nurse personnel can also obtain some modules or booklets with consideration of needs of the mother in order to impart the knowledge and create awareness of approach the appropriate health services.
- ✓ Nurse educator should educate students nurses and other health care workers to improve knowledge and able to identify the needs of primi mothers.

### Recommendations

On the basis of findings of the present study the following recommendations were made:

- ✓ A similar study can be replicated on large samples, there by findings can be generalized for a large population.
- ✓ An increased number of studies related to effectiveness of teaching to primi mothers on safe motherhood are being taken up by the nurses at various levels in the Indian settings; there is a need for research in this area so that strategies for

educating the people on birthing can be developed.

- ✓ Similar type of study can be conducted on attitudes of primi mothers towards the normal delivery process
- ✓ A comparative study can also be done between rural and urban community primi mothers knowledge on birthing.
- ✓ Study can be conducted specific to various aspects related to needs of primi mothers so as to generate more scientific data.
- ✓ Similar type of study can be conducted on child birth psycho education program for promoting learned resourcefulness and minimizing the risk of Perinatal depression in primi mothers.
- ✓

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