

## **CHAPTER - III**

### **METHODOLOGY**

The research methodology includes the strategies to be used to collect and analyze the data to accomplish the research objectives. It has crucial implications for the validity and credibility of the study findings. The methodology of research indicates the general pattern for organizing the procedure of gathering valid and reliable data for an investigation. The present chapter deals with a brief description of methodology adopted for the study. The contents included in this chapter are research approach, research design, variables under study, the setting, population, the sample and sampling technique, development and description of tools, data collection procedure, description of the treatment, pilot study and the plan for data analysis for the present study.

### **RESEARCH APPROACH**

The choice of the research approach constitutes one of the major decisions, which must be made in conducting a research study as the approach taken on a research project can greatly affect its outcome.

The research approach is the broad basic procedure for collecting data in a particular research situation.

Research approach is a systematic, objective method of discovery with empirical evidence and rigorous control. The research approach spells out the basic strategies that the researcher adopts to develop information that is accurate and interpretable. The control is achieved by holding conditions constant and varying only the phenomenon under study.

In order to achieve the desired objectives of the study quantitative research approach was considered appropriate.

**Quantitative research is the** research based on traditional scientific methods, which generates numerical data and usually seeks to establish causal relationships between two or more variables, using statistical methods to test the strength and significance of the relationships.<sup>102</sup>

## **RESEARCH DESIGN**

Research design refers to strategies that the researcher adopts to develop information that is accurate, objective and meaningful. The selection of research design is the most important step as to provide the framework for the study. The research design incorporates some of the most important methodological decisions that the researcher makes in conducting the study.

It helps the investigator in the selection of subjects, manipulation of independent variables, observations to be made and the statistical analysis to be used to interpret the data.

According to Polit and Hungler (1999)<sup>37</sup> "research design refers to the researcher's overall plan for obtaining answer to the researcher's questions or for testing the research. It incorporates some of the most important methodological decisions that the researcher makes in conducting a research study."

The research design adopted for this study was a **Quasi Experimental Non Equivalent Pretest, Posttest Control Group Design.**

"Experimental research is research study in which the investigator controls or manipulates the independent variables and randomly assigns subjects to different conditions. It provides a systematic and logical method for analysis of what will happen under completely careful and controlled conditions" as stated by Polit and Hungler (1999).<sup>37</sup>

Polit and Beck<sup>33</sup> defines quasi experimental design as a design for an intervention study in which subjects are not randomly assigned to treatment conditions.

**Non equivalent Pretest Posttest Control Group Design**

Keeping the hypothesis and objectives in mind, this design was selected for the present study. In the experimental approach the investigator studied the cause and effect relationship by exposing experimental group to the treatment.

The design adopted can be represented as:

<b>Group</b>	<b>Pre Test</b>	<b>Treatment</b>	<b>Post Test</b>
Experimental	O <sub>1</sub>	X	O <sub>2</sub>
Control	O <sub>1</sub>	----	O <sub>2</sub>

The interpretation of the **symbols** is as follows:

- O<sub>1</sub> : Pre-test to the experimental and control group
- X : Administration of video assisted child birth education programme to the experimental group only.
- : No treatment.
- O<sub>2</sub> : Post-test to the experimental and control group.

**Figure-6: Symbolic Representation of the Research Design**

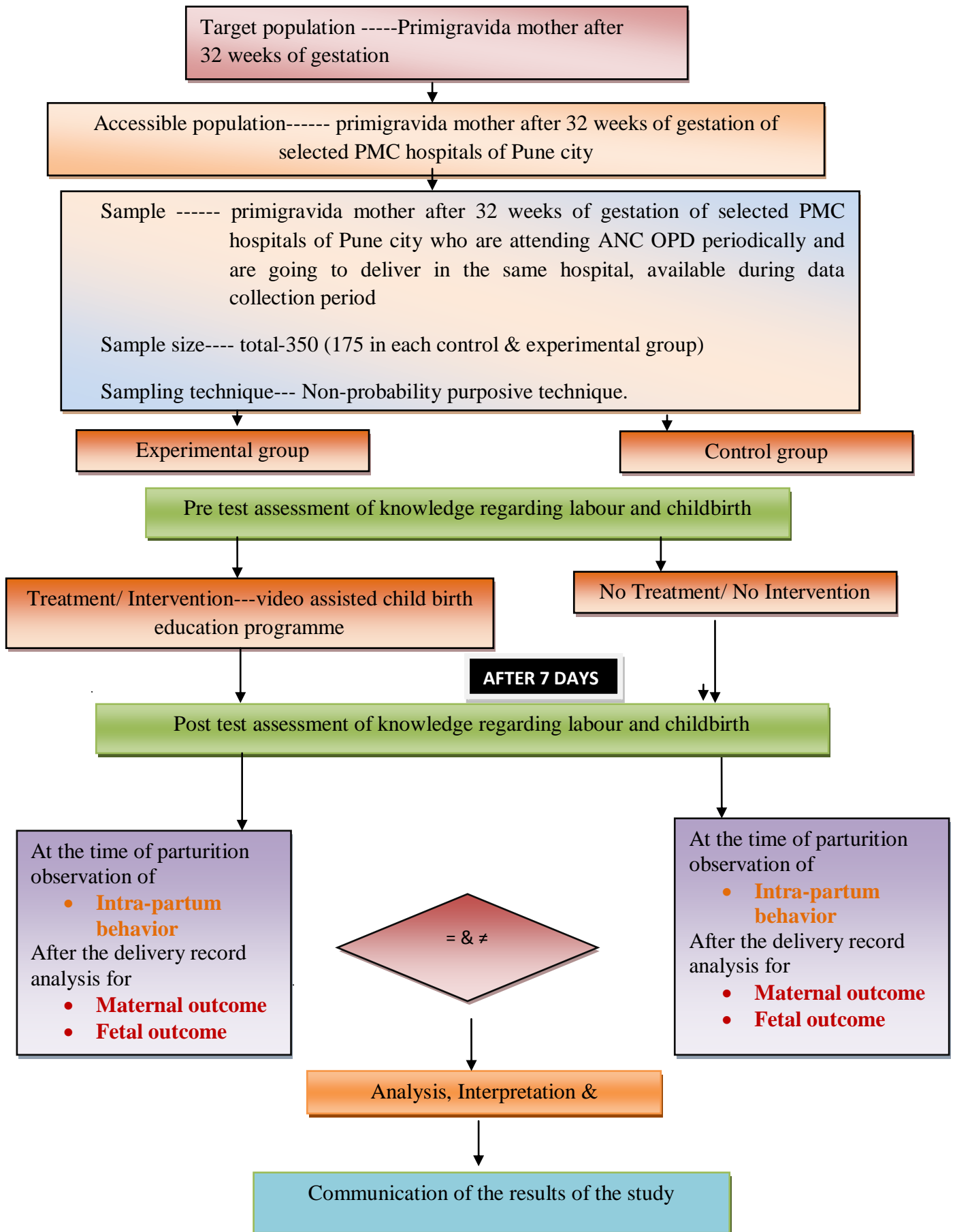


Figure-7: Schematic Representation of the Research Design

## VARIABLES UNDER STUDY

"A variable is, as the name implies, something that varies. A variable is quality of an organization, group or situation that takes different values" as stated by Polit and Hungler (1999).<sup>37</sup>

**Independent Variable:** The independent variable is the condition or characteristic that the experimenter manipulates or controls in an attempt to ascertain their relationship to observed phenomena. In the present study the independent variable was a **video assisted child birth education programme**.

**Dependent variable:** The dependent variables are the conditions or characteristics that appear, disappear or change as the experimenter introduces, removes or changes the independent variable. In the present study the dependent variables were the followings-

1. Primigravida Mothers' **knowledge regarding labour and childbirth**.
2. Primigravida Mothers' **intra-partum behaviour**.
3. **Maternal outcome** in terms of
  - Duration of labour
  - Use of pain relieving drugs.
  - Mode of delivery.
  - Maternal complications.
4. **Fetal outcome** in terms of
  - Apgar score.
  - Birth injury.

## RESEARCH SETTING

Research setting refers to the place where the research was conducted in order to collect the data. In this study data was collected in the municipality maternity Hospitals/Home in Pune namely Kamla Nehru Hospital and Sonawane Maternity Home. The maternity unit included the outpatient department in-patient department and the labour room. The OPD of this hospital functions from morning 09:00hrs till afternoon 17:00hrs and the labour room is functional 24X7.

The antenatal clients who utilize the ANC OPD services are from urban and rural areas of Pune district. The records maintained in the antenatal OPD indicate that on an average, there are 20 - 30 new cases being registered on any given antenatal OPD day. The statistics from the labour room records indicate that on an average in a given month, 100 - 150 low risk primigravida women, befitting the criteria of the study samples, undergo normal vaginal delivery.

The rationales behind doing the study in the selected hospital were:

- \* Familiarity with the setting.
- \* Availability of the subjects.
- \* Feasibility of conducting the study.
- \* Convenience for the researcher to access.
- \* Administrative approval and expectation of co-operation for the study from various personnel.

## POPULATION

**Population** refers to the entire population in which the researcher is interested and to which he or she would wish to make generalization of the study results.

The term **target population** refers to any definable group of individuals who are experiencing a problem or need.

In this study target population were the primigravida mothers nearing term i.e after completion of 32 weeks in Pune city.

**The accessible population** refers to the aggregate of cases that confirm the designated criteria and that are accessible as subjects of the study.

The accessible population for the present study was the primigravida mothers nearing term who periodically attends the antenatal OPD services of the Municipality Maternity Hospital / Home in Pune.

The population was easily accessible to the investigator as she was the posted as clinical supervisor for undergraduate and postgraduate nursing students in the municipality hospitals where the study was conducted.

#### **SAMPLE**

A sample is a subset of the population being studied. It represents the larger population and is used to draw inferences about that population.

In the present study the sample were the registered term primigravida mothers of selected municipality hospitals who had completed 32 weeks of gestation, who planned for vaginal delivery and subsequently delivered in the same maternity unit.

#### **Sample size:**

It refers to the number of sample elements from which data is collected in order for evaluation findings to be statistically significant. The size of the sample depends on a number of factors including the indicators chosen, the baseline values of the indicators in the study population and the amount of change one wants to be able to measure accurately.

The approximate sample size for an observational study is determined by the following factor:

- 1) The estimated prevalence of the variable of interest -----  
in this study this is the delivery rate of low risk primigravida mother
- 2) The desired level of confidence.
- 3) The absolute precision (acceptable margin of error)

The required sample size calculated applying the below mentioned formula:

$$N = \frac{Z^2 P (1 - P)}{d^2}$$

Where:

N = required sample size

P = estimated delivery rates of low risk primigravida is 30% (0.3)

Z = table value at 0.05 level of significance is 1.96

D = absolute precision (acceptable margin of error) was assumed to be 5% (0.05)

So,

$$N = \frac{1.96^2 [0.3 \times (1-0.3)]}{0.05}$$

$$= \frac{3.8416 [0.3 \times 0.7]}{0.0025}$$

$$= \frac{3.8416 \times 0.21}{0.0025}$$

$$= \frac{0.80674}{0.0025}$$

$$N = 322$$

So required sample size for the present study as per calculation was 322.



Taking the factor of attrition (10%) into consideration a **total of 350** samples was included in the study. Out of which 175 samples were included in the control group and 175 samples in the experimental group.

### **Sampling technique:**

Sampling technique refers to process of selecting subset of population in order to obtain information regarding a phenomenon in a way that it represents the entire population.

Sampling is necessary because it is more economical and efficient to work with a small group.

In the present study a **non-probability purposive sampling** was chosen for sample selection.

**Polit and Beck**<sup>33</sup> defines non-probability purposive sampling as a strategy in which researcher handpick the cases or type of cases that will best contribute to the information needs of the study.

### **Sampling Criteria:**

Women were selected according to the following criteria:

#### **Inclusion criteria:**

The criteria that specify the characteristics that the people in the population must possess are referred as inclusion criteria.

In this study the inclusion criteria were:

Registered term primigravida women who

- Can read and/ or write and/ or understand English/Marathi
- Have completed 32 weeks of gestation.
- Are willing to attend video assisted childbirth education programme session conducted by the researcher.
- Are going for vaginal delivery.

- Are going to deliver in the maternity unit of the selected study setting

#### **Exclusion Criteria**

- Primigravida mother with Bad obstetrical history and /or complications (medical/surgical)
- Primigravida mother reporting to labour room with cervical dilatation more than 6-7 cms.

#### **TOOL & TECHNIQUE OF DATA COLLECTION**

The phenomena in which a researcher is interested must ultimately be translated into data that can be analyzed. The most important and crucial aspect of any investigation is the collection of information, which provides necessary data for the study.

A tool is an instrument used to gather the actual information desired by the investigator.<sup>36</sup>

It is developed scientifically to record the precise quantity/quality of the phenomena under investigation.

A valid & reliable data collection instrument is considered important to yield high quality data

A survey of both research and non-research literature on the effect of child birth education on knowledge, intra-partum behaviour and labour outcome was done to decide upon the tools to be selected and developed for the present investigation undertaken by the researcher.

Based on the objectives of the study the following data collection tools were selected and developed in order to obtain necessary data.

1. A structured questionnaire regarding labour process and childbirth preparedness.

2. Intra-partum behavioural observation checklist

3. Record analysis proforma for maternal and foetal outcome

The summary of the data collection tools and techniques is depicted below in Table 1.

**TABLE 1**

**Summary of Data Collection Tools and Techniques**

<b>Tool</b>	<b>Section of the tool</b>	<b>Purpose</b>	<b>Data collection technique</b>
STRUCTURED QUESTIONNAIRE TO ASSESS KNOWLEDGE REGARDING LABOUR PROCESS & CHILDBIRTH PREPAREDNESS	Section-I- socio-demographic data  Section-II  Knowledge questionnaire regarding labour process & child birth preparedness	To collect background data  To assess the antenatal primigravida mother's knowledge regarding labour process and childbirth preparedness	By paper and pencil method  By paper and pencil method
INTRAPARTUM BEHAVIOUR OBSERVATION CHECKLIST (IPBOC)	Section-III Intra partum Behaviour Observation Checklist <b>Part A</b>  At the time of reporting to the labour room  <b>Part B</b> During the entire process of delivery	To observe individual study sample for the expected behavioural changes at the time of reporting to the labour room.  To observe individual study sample for intra-partum behaviours adopted by primigravida women. The observation commences in all the stages of labour (stage 1, stage-2, stage-3 and stage 4)	Direct observation (Non concealed-participation)

Tool	Section of the tool	Purpose	Data collection technique
STRUCTURED RECORD ANALYSIS PROFORMA FOR MATERNAL AND FETAL OUTCOME.	<p><b>Part-I</b></p> <p>Maternal outcome in terms of</p> <ul style="list-style-type: none"> <li>• Duration of labour</li> <li>• Use of pain relieving drugs</li> <li>• Mode of delivery</li> <li>• Maternal complications</li> </ul> <p><b>Part-II</b></p> <p>Fetal outcome in terms of</p> <ul style="list-style-type: none"> <li>• APGAR score</li> <li>• Birth injury</li> </ul>	<p>To collect data regarding maternal outcome in terms of duration of labour, use of pain relieving drugs, mode of delivery and maternal complications.</p> <p>To collect data regarding APGAR score and birth injury.</p>	<p>Records analysis.</p> <p>Record analysis.</p>

#### **Development of structured questionnaire:**

A structured questionnaire was prepared for collecting demographic data and to assess the knowledge of the primigravida mother regarding labour outcomes and child birth preparedness. For the selection of the items and preparation of the tools the following steps were adopted:

- \* A review of research and non-research literature done in the areas.
- \* Opinion of experts was sought to ascertain the clarity and appropriateness of the items.
- \* Informal discussion was held with mothers, nursing staffs. This helped to identify the items to be included.
- \* Professional experience of the researcher in the obstetrical nursing field helped in determining the areas

to be included.

The major steps taken for the development of the structured questionnaire were:

- \* Planning of the questionnaire.
- \* Define the construct to be measured.
- \* Item construction.
- \* Assess the items for content validity.
- \* Develop instructions for respondents.
- \* Pretest and pilot test the items
- \* Establishing validity and reliability of the tool.

**Description of the structured questionnaire:**

It was composed two sections:

**Section I** comprised of seven items on personal data such as age, gestational weeks, type of family, religion, education, and occupation and monthly family income, previous knowledge regarding labour and child birth and its source.

**Section II** comprised of twenty five (25) knowledge items regarding labour, its phases, onset, characteristics, duration, breathing techniques during labour, techniques of bearing down, childbirth preparedness questions and breast feeding.

**Scoring:** All correct responses are given 1 (one) mark and incorrect responses are scored 0 (zero).

Total score is **25 (Twenty Five)**.

- 18 - 25 - Good knowledge
- 09 - 17 - Average knowledge
- 0 - 08 - Poor knowledge

The structured questionnaire is presented in Appendix - XII

## **Description of Intra-partum Behavioural Observation Checklist (IPBOC)**

IPBOC had two parts. The tool was used for control and experimental group in a uniform manner. The details of the sections were as given below.

**Part-A:** Intra-partum behavioural observation checklist part A includes 10 dichotomous response items. It measured one-time observation made to assess the behavioural compliance to the childbirth education given. The observation is made at the time of reporting to the labour room. Scoring: All appropriate expected behaviors is given 4 (four) mark.

**Total score is 40.**

Good compliance	:	31 - 40
Average compliance	:	21 - 30
Poor compliance	:	11 - 20
Non compliance	:	0 - 10

**Part B:** Intra-partum behavioural observation checklist part B describes statements representing expected behaviours done by the primigravida mother during all the four stages of labour. The checklist comprised of 35 items. The behaviours were rated on a score of 1-4 to quantify behaviours. The behaviours in item no 4, 6, 7, 9, 28, 29, 32 were negatively stated thus those were reversely marked during compilation of data.

<b>Total score</b>	=	<b>35 X 4</b>	=	<b>140</b>
Good compliance	=	106 - 140		
Average compliance	=	71 - 105		
Poor compliance	=	36 - 70		
Non compliance	=	35		

**Nature of the instrument-** It helps to assess only the compliance to the expectant intra-partum behaviour in all the four stages of labour.

**Groups to which applicable** - This checklist was designed to assess the child birth behaviours of primigravida mothers during intra-partum period in the study setting only.

**Practical features-** The Intra-partum behavioural observation checklist can be administered by any qualified childbirth attendant (Doctor, Midwife) who has observed the parturient throughout four stages of labour. The observer should have knowledge of childbirth preparation and child birth behaviours and should be trained to use the checklist.

**Time required-** Part A of the tool can be administered at the time a parturient is admitted to the labour room and the child birth behaviours can be scored as each stage of labour commences. Approximate time to complete the checklist depends upon the duration of labour for each individual sample.

The intra-partum behaviour observation checklist is presented in Appendix - XII

#### **Development of Structured Record Analysis Proforma for Maternal and Fetal Outcome:**

A structured record analysis proforma was prepared by the investigator to assess the maternal and fetal outcome. For the selection of items and preparation of tool a review of research and non research literature was done in the area. Opinion of experts were sought to ascertain the appropriateness of the items. Informal discussions were held with the staff nurses and doctors working in the labour room.



**Description of the structured record analysis proforma for maternal and fetal outcome:**

The **record analysis proforma** consisted of two parts:

**Part - A** of the structured record analysis proforma consisted of 9 areas regarding maternal outcome.

The areas are as follows:

1. Nature of progress of labour.
2. Use of pain relieving drugs.
3. Mode of delivery.
4. Nature of vaginal delivery.
5. Total duration of labour.
6. Duration of each stages of labour separately
7. Nature of expulsion of placenta.
8. Maternal complications.

**Part B** of the structured record analysis proforma comprised of 5 areas regarding fetal outcome.

The areas are as follows:

1. The birth of the newborn whether alive, or dead or asphyxiated.
2. Whether cried immediately after birth or not.
3. Apgar score at birth.
4. Apgar score at 1 minute and five minutes after birth.
5. Presence of any complications/ birth injury

The structured record analysis proforma for maternal and fetal outcome is presented in Appendix - XII

**DEVELOPMENT AND DESCRIPTION OF THE VIDEO ASSISTED  
CHILDBIRTH EDUCATION PROGRAMME**

The purpose of the researcher in the current study was to apply a patient centered intervention to enhance knowledge and a change in intra-partum behaviour and thus to improve the labour outcome by means of a tailor-made video assisted childbirth education programme.

The instructional content for the class included

- l) Important physiological changes in third trimester pregnancy.
- m) Impending signs of labour,
- n) How to recognize true labour pain
- o) Nature of true labour pains.
- p) When and where to report for childbirth
- q) Preparation of antenatal kit
- r) Overview of stages and phases of labour
- s) Expected intra partum behaviours and relaxation exercises during all the four stages of labour.
- t) Bearing down technique
- u) Breast feeding
- v) Maternal and fetal outcome

The researcher had taken guidance from a practicing Childbirth educator on teaching first time mothers regarding self care activities, intra-partum behaviours and relaxation exercises. Animated video is incorporated regarding childbirth, episiotomy and breastfeeding. Video is also prepared on relaxation

exercises, comfortable positions during labour and bearing down technique and incorporated in the teaching.

**Conduction of the teaching programme:** - As per research design, it was decided to conduct a video assisted childbirth education programme for primigravida mother included in the study. The session was conducted in a room provided for childbirth education in the OPD complex. This room was equipped with a bench with seating capacity of 5 and a table to keep computer. It also had a well ventilated waiting lounge with a seating capacity of 5 where another batch of participants used to wait for the next session of classes. A good rapport was established with the participants.

Participants were encouraged to practice all these techniques regularly so that they were prepared to use the technique during the labour and delivery. Then, the researcher and the pregnant women worked together to solve any problems identified. Participants were made to recollect impending signs of labour, differences between true and false labour, reporting for delivery, contents of antenatal kit, self care activities during labour, labour positions etc. and they practiced breathing and relaxation techniques. The researcher provided support and compliments when they were responding and or doing these techniques correctly. The class ended with a concluding remark urging the participants to approach the researcher for any informational or technical assistance regarding childbirth at any time. All the participants were given the researcher's telephone number and the researcher also collected all the participants contact No. for better communication.

## CONTENT VALIDITY OF THE TOOLS

**Validity** refers to the degree to which inferences made in a study are accurate and well-founded; in measurement, the degree to which an instrument measures what it is intended to measure.

**Content validity** concerns the degree to which an instrument has an appropriate number of items to adequately cover and measure the construct design.<sup>37</sup> The developed structured questionnaire, intra-partum behaviour observation checklist, structured record analysis proforma for maternal and fetal outcome was given to 29 (Twenty nine) experts from the field of Obstetrics and Gynaecology, Nursing, Child birth education and statistics for content validity. The tool was received from 21 experts. Among the validators 05 (Five) experts were doctors who were teaching and practicing for a long time in the field of Gynaecology and Obstetrics, 14(Fourteen) experts were from different fields of nursing education and clinical expertise in Gynaecology and Obstetrics, 01 (One) child birth educator and 01 (One) bio statistician. Experts were requested to judge the items for their clarity, relatedness meaningfulness and content. A few changes were made according to their suggestions, considering the practicability of the tool. Re-organization of the item of the tools was done after discussion with the guide. Finally the validated tools were ready to ascertain the data from the samples (primigravida mothers). The final tool was translated in Marathi language and was validated by Marathi language expert. The Marathi tool was again translated into English language and validated by English language expert.

## RELIABILITY OF THE TOOLS

**Reliability** refers to the consistency with which it measures the target attribute. A reliable measure maximizes the true score component and minimizes the error component. For scales and tests that involve summing item scores are evaluated for their internal consistency.<sup>33</sup>

To establish reliability the tools were administered to 10 mothers.

**Internal consistency** reliability of the tool was established by statistically computing the coefficient alpha by a test re-test method. The Chronbach's alpha score of the tool was 0.87 which reflects a higher internal consistency.

**Equivalence** concerns the degree to which two or more independent observers agree about the scoring of an instrument. In the present study since the observers rated the participants behaviours, establishing equivalence was assured by inter rater reliability test. The IPBOC reported an inter rater correlation coefficient of 0.97 which represents an excellent agreement (97%). Considering the **Practicality** of the IPBOC, it can be used only during intra-partum period and can be done only by a trained observer who had been physically present through-out all the intra partum stages of the observed. The reliability of the structured record analysis proforma for maternal and fetal outcome was also established by inter-rater reliability and the percentage agreement was 98%.

Thus, the tools with these sections were found to be reliable.

### **PILOT STUDY**

According to **Treece and Treece**<sup>36</sup> "Pilot study is the miniature trial run of the methodology planned for major project. The purpose of the pilot study is twofold: To make improvement in the research project and to detect any problem that must be eradicated before the major study is attempted".

After obtaining formal permission from the Medical Officer of Health Division in Pune Municipal Corporation the pilot study was conducted from 15/10/13 to 15/12/13 in Kamla Nehru Hospital, Pune. 20 mothers in each group (control & experimental) were selected who met the sample criteria by using non probability purposive sampling technique. Every even number mother was included in experimental group and given the code no as "E" and every odd numbered mother was included in control group and given the code no as "C". IPR was established, Purposes of the study were explained to the mothers and confidentiality was assured. Willingness was asked and informed written consent was obtained from each participant. Data collection was done according to the research design. No problem was faced during the pilot study. There was full co-operation from the staff and administration. The findings of the pilot study revealed that it is feasible to conduct the study.

### **PROCEDURE FOR FINAL DATA COLLECTION**

The task of developing appropriate method for collecting data and translating it to a measurable construct that can be analysed is called a data collection method. These methods decide the accuracy and robustness of the conclusions of the study.<sup>33</sup>

The setting for this study was the Municipality Maternity Home/Hospital of Pune, which included the antenatal OPD and labour room. Both the hospital is situated in central area of

Pune. The Antenatal clinic in the OPD is conducted all the days in a week from 9:00 AM to afternoon 5:00 PM. Fundamental obstetric care services provided during the visits are as per norms laid down by Ministry Of Health And Family Welfare Of India. Obstetricians, OBG residents, nursing residents, midwives render obstetric care to the pregnant women who avail the services of this hospital. There are between 150 - 200 continuing cases and 20 - 30 new cases each day. All pregnant women are examined by the obstetrician once in a month till completion of 28 weeks of gestation, following which, every fortnightly till 36 weeks and thereafter every week or as and when the pregnant woman would want to report for her ailments. General information provided to pregnant women included antenatal diet, preparing self for breastfeeding, and monitoring fetal movement counts. A waiting room at the antenatal OPD was used by the researcher for recruiting and imparting video assisted childbirth education to participants. When these primigravida women went into labour their intra-partum behaviours were observed in the labour room of the hospital. After the delivery the record analysis was done for maternal and fetal outcome.

A letter seeking permission to conduct the study was forwarded to the Medical Officer of Health (MOH), Pune Municipal Corporation. Permission was obtained and the applicable fees paid.

The final study was conducted from January 2014 to December 2014 in Kamla Nehru Hospital and Sonawane Maternity Home of Pune. A total of 350 and 175 mothers in each group (control & experimental) were selected who met the sample criteria by using non probability purposive sampling technique. The selected samples were assigned to experimental and control group. Every even number mother was included in experimental group and given

the code no as "E" and every odd numbered mother was included in control group and given the code no as "C". IPR was established, Purposes of the study were explained to the mothers and confidentiality was assured. Willingness was asked and informed written consent was obtained from each participant.

Structured observation is an important method of data collection, particularly for systematically recording aspects of people's behaviour. Observation and interpretation are demanding tasks, requiring attention, sensation, perception and conception. If assistance is utilized as good instruments for collecting observational data they must be trained to observe in such a way that accuracy is maximized and biases are minimized. Considering the feasibility of the data collection the researcher was advised by the subject experts to take assistance of trained personnel during data collection period. Hence the researcher had taken assistance from 02 (Two) trained nurses from the study settings who willingly consented to be participant observers. The observers were given training and had practice sessions to equalize the observations. The training programme began with explanation of study objectives and variables to be observed in the study. They were also explained about the principles of observation. The intra partum behavior observation checklist was explained to them and queries were solved. The observers were made to practice the observation in the labour room of the study settings. The difficulties in the observation checklist were resolved through discussion and further practice. Their degree of agreeability was established by inter-rater reliability.

On an average data was collected from 30 - 40 samples in a month. The approximate time spent for each study sample by the researcher is 8 to 10 hours. No such problem was faced during the data collection period. There was full co-operation from the



staff and administration. The difficulty faced was attrition of the sample due to observers change in shift; prolong intra partum period and emergency caesarean section.

The final data were tabulated, organised and analyzed as per the plan for analysis. Master data sheet is prepared.

**Table 2: PROCEDURE FOR DATA COLLECTION (EXPERIMENTAL GROUP)**

Day	Status of the Sample	Activities
<b>Obtained administrative approval</b>		
1 <sup>st</sup>	Primigravida Mothers completed 32 weeks of gestation	<ul style="list-style-type: none"> <li>• First contact with sample</li> <li>• Detail explanation about the study was provided.</li> <li>• Informed consent was obtained</li> <li>• Pretest (knowledge) was taken.</li> <li>• <b>Video assisted child birth education programme was conducted</b></li> </ul>
7 <sup>th</sup>	Primigravida Mothers with one week advanced gestation as compared to the first contact (e.g. pretest at 33 weeks & posttest at 34 weeks)	Post-test (knowledge) was taken
	Whenever the Mother is in labor	<ul style="list-style-type: none"> <li>• Observation on intra-partum behavior was done</li> </ul>
	After the delivery	<ul style="list-style-type: none"> <li>• Record analysis of maternal and fetal outcome was done</li> </ul>

**Table 3: PROCEDURE FOR DATA COLLECTION (CONTROL GROUP)**

Day	Status of the Sample	Activities
<b>Obtained administrative approval</b>		
1 <sup>st</sup>	Primigravida Mothers completed 32 weeks of gestation	<ul style="list-style-type: none"> <li>• First contact with sample</li> <li>• Detail explanation about the study was provided.</li> <li>• Informed consent was obtained</li> <li>• Pretest (knowledge) was taken.</li> </ul>
7 <sup>th</sup>	Primigravida Mothers with one week advanced gestation as compared to the first contact (e.g. pretest at 33 weeks & posttest at 34 weeks)	Post-test (knowledge) was taken
	Whenever the Mother is in labor	<ul style="list-style-type: none"> <li>• Observation on intra-partum behavior was done</li> </ul>
	After the delivery	<ul style="list-style-type: none"> <li>• Record analysis of maternal and fetal outcome was done</li> </ul>

**Procedure of rendering the education programme**

\* The session was conducted in a room of the OPD complex of Sonawane Maternity Home and Kamla Nehru Hospital.

- \* The room was having seating arrangements with benches, adequate ventilation.
- \* A good rapport was established with the participants with detail explanation of the purpose and schedule of this program.
- \* Video assisted child birth education programme was conducted in Marathi language.
- \* Animated videos were shown on the process of labour, episiotomy and breast feeding
- \* Video was shown on relaxation exercises, comfortable positions to be adopted during labour, appropriate technique for bearing down effort.
- \* Expected intra-partum behaviours during all the four stages of labour, maternal and fetal outcome was also shown.
- \* Participants were encouraged to express their concerns about labour and delivery.
- \* Participants were also encouraged to discuss any problems encountered.

#### **ETHICAL CONSIDERATION**

The study was examined and approved by ethical committee of the institution i.e. Bharati Vidyapeeth Deemed University. The nature and purpose of the study was described in detail to each participant being included in the study. A written informed consent was obtained from each participant of both the group before commencement of the study. Each participant had a liberty to ask questions, refuse to answer the questionnaire and withdraw from the study at any point of time, if they so wish to. Anonymity and confidentiality of the participants was ensured by coding the data and the findings were presented as group data with no personal respondent information being

reported in the compilation sheet. Information acquired from the participants was used only for the purpose of the study and were kept confidential. The list of participants' name were destroyed on completion of the study

#### **PLAN FOR DATA ANALYSIS**

According to the objectives and hypotheses of the study and opinion of the experts it was planned to organize, tabulate, analyze and interpret the data by using both descriptive and inferential statistics. The following plans of analysis were developed:

- \* Frequency and percentage distribution of the demographic characteristics of the sample subjects.
- \* Mean, standard deviation and range of knowledge score of both experimental and control groups.
- \* 'z' value to find out the significance of mean difference between mean pretest and mean post test knowledge scores of experimental and control group mothers (paired/ intra group).
- \* 'z' value to find out the significance of mean difference between mean pretest and mean post test knowledge scores between experimental and control group of mothers separately (unpaired/ intergroup).
- \* Mean, standard deviation and range of intra-partum behaviour score of both experimental and control groups.
- \* Wilcoxon Mann Whitney test was used to find out the significance of mean difference between mean pretest and mean post test intra-partum behaviour score of experimental and control group mothers
- \* Mean and standard deviation of mothers' total duration of labour and Apgar score of the baby at birth.

- \* Proportion test to determine the significance of difference in duration of labour and Apgar score at birth in both experimental and control groups.
- \* Fisher's Exact test to test the significant association between the findings and selected demographic variables.
- \* A 'p' value <0.05 was considered as significant

### **SUMMARY**

This chapter dealt with methodology adopted for the present study. It includes the research approach, the research design, variables under study, the setting, population, sample and sampling technique, selection, development and description of tools, validity and reliability of the tools, pilot study, and procedure for data collection and plan for data analysis.

Next chapter contains analysis and interpretation of data.