Methodology is a systematic way to solve research problems. It helps the researcher to project a blue print of the research undertaken. According to Abdellah (1979) research methodology involves the systematic procedure by the researcher which starts from the initial identification of the problem to its final conclusion. The study conducted was to assess knowledge, attitude and practice regarding breast feeding of urban and rural community mothers.

This chapter includes the research approach, research design, the setting and sampling technique, development and description of the tool, procedure for data collection and plan for data analysis.

3.1 Research Approach

According to the Treece and Treece (1986) the approach to research is the umbrella that covers the basic procedure for conducting research. This study was intended to assess the Knowledge, Attitudes and Practice of Urban and Rural Community Mothers Regarding Breast Feeding.

The descriptive study provides detailed factual information that describes the existing phenomenon, leads to identification of problems with justification for current condition and practices, forms a basis for making judgments, is particularly suitable for conducting early stages of a comprehensive programme. It is mandatory to assess knowledge,
attitude and practice of urban and rural community mothers. Hence the researcher chose the descriptive approach for this study.

3.2 Research Design

Polit and Hungler (1997) state that a research design incorporates the most important methodological decisions that a researcher makes in conducting a research study. It depicts the overall plan for organization of scientific investigation. It helps the researcher in selection of subject manipulation of independent variables, observation of a type of statistical analysis to be used to interpret the data. The selection of design depends upon purpose of the study, research approach and variables to be studied. The research design selected for the present study was descriptive survey design. Keeping in view the objectives of the study, a design was developed to enable the investigator to assess knowledge, attitude and practice of lactating mothers from urban and rural community mothers in selected areas of Karnataka.

3.3 Variables Under Study

3.3.1 Independent Variables

Mothers' profile, Mothers with children -1 year of age, Socio-economic study of the mothers, Health facility, Mass media communication.
AREA MAP OF GAVIPURAM GUTTAIHALLI SHOWING THE PLACES WHERE THE STUDY WAS CONDUCTED

SCALE

Guttahalli main road
Cross Roads
Drainage
Trees
Family Welfare Centre
Maternity Hospital
Anganavadi

Kempambudhi Tank
Dhobi Ghat
Sanyasi Huts
Ramakrishna Huts
3.3.2 Dependent Variables

Health care behaviour, knowledge, attitude and practice of mothers towards breast feeding.

3.4 Setting of the Study Area

The study was conducted in two main areas that is urban community and rural community in selected areas of Bangalore district. The urban community consists of Gavipuram Guttahalli, Bangalore which is 3 kms away from Government College of Nursing. The rural community area includes Bidadi which is 33 kms away from Government College of Nursing, Bangalore.

3.5 Population

Polit (1997) refers to population of the entire set of individuals (or) objects having some common characteristics, sometimes as universe. Talbot (1995) refers to a population as a group whose members possess a specific attribute that a researcher is interested in studying.

In the present study the population was lactating mothers from the rural and urban communities in selected areas of Bangalore district, Karnataka.

3.6 Sample and Sampling Technique

3.6.1 Sample

In the present study the sample consist of 400 lactating mothers (200 from urban community and 200 from rural community).

3.6.2 Sampling Technique

Sampling technique is the process of selection of the samples. The samples were lactating mothers from urban and rural communities. In the present study, the use of purposive sampling technique was adopted.
As per Polit and Hungler (1997) purpose of judgmental sampling derives from the belief that the investigator's knowledge about the population and its element can be used to handpick the cases to be included in the sample. The researcher might decide to purposely select the widest possible variety of respondents or might choose subjects who are judged to be typical of the population in question.

3.7 Criteria for Including and Excluding Subjects in the Sample

3.7.1 Inclusive Criteria

a) Lactating mothers willing to participate in the study.

b) Lactating mothers who have a minimum of one living child who has completed one year of age.

3.7.2 Exclusive Criteria

a) Lactating mothers who are not willing to participate in the study.

b) Lactating mothers who do not have any living children within one year of age.

c) Lactating mothers with complications.

d) Lactating mothers admitted into hospital.

3.8 Development of the Tool

An instrument in research refers to the tool or equipment used for collecting data. It may take the form of a questionnaire, an interview
schedule, attitude scale, observational checklist, a projective device or some other type of tool for eliciting information.

Interview is the verbal exchange between researcher and respondent to obtain information from the respondent. The interview method was selected by the researcher in order to obtain answers from both urban and rural community mothers.

Interview helps in direct observation and helps in getting first hand information.

The tools were prepared after going through related literature and with the guidance of experts in research field.

**Drafting the Schedule:** Sequence of questions, wording were carefully monitored. Translation of the tool from English to Kannada was completed.

**Revision and Pretesting of the tool:** The tool was given to 10 experts in the field of obstetrics, pediatrics, community health, doctors and nursing personnel. They were selected on the basis of their qualification, experience and interest in the problem area.

Establishing reliability of the instrument reliability co-efficient was estimated statistically by test retest method.
3.9 Description of the Tools

The tools used for data collection were:

a) Structured interview schedule

b) Attitude test 5 points scale (Likert’s scale)

c) Observational Checklist:

Developed by the investigator after careful library search and consultation with experts.

The tools are structured into four parts

a. Background Information:

Part-I: Deals with age of the mothers, educational status of the mother and husband, religion, occupation of the mothers and husband, family income, type of the family, family size, pattern of house, type of house, source of water supply and mass media communication status.

b. Specific Information:

Status and number of antenatal visits, number of deliveries, number of children, prenatal problems, type of delivery, sex of the baby, weight of the baby, condition of baby.
Structured Interview Schedule:

Part – II: Knowledge Aspect

Describes the existing knowledge of urban and rural community lactating mothers regarding breast feeding. This covers suitable prelacteal feed, initiation of breast feed, position of the mother and baby during breast feeding, signs of good attachment of the baby during breast feeding, factors influencing on increased/decreased breast milk secretion, importance of feeding colostrums, advantages of breast feeding for the baby and mother, frequency and duration of breast feeding and care of the baby after breast feeding.

There were 20 statements covering the knowledge of lactating mothers on breast feeding aspect with four options out of which one is the correct response. For each correct response a score of ‘one’ and for every wrong response a ‘zero’ was awarded. The knowledge aspect was measured in terms of knowledge score. The total attainable knowledge score was zero and maximum twenty.

PART – III: Attitude Aspect

This highlights the attitude scale test on positive and negative opinion of lactating mothers regarding various aspects on initiation of breast feeding, importance of feeding colostrums, indication and contra indications of breast feeding, duration and factors influencing the secretion of breast milk. Attitude on breast feeding was administered on 5
points Likert’s Scale. The total statements comprised 20 questions. The scoring pattern followed is as follows:

<table>
<thead>
<tr>
<th>Statement Response</th>
<th>Scoring Pattern for Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>Positive : 5</td>
</tr>
<tr>
<td>Agree</td>
<td>Positive : 4</td>
</tr>
<tr>
<td>Undecided</td>
<td>Positive : 3</td>
</tr>
<tr>
<td>Disagree</td>
<td>Positive : 2</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>Positive : 1</td>
</tr>
</tbody>
</table>

**PART – IV: Practice Aspect**

The observer was instructed to tick mark the option in the given columns either (a) Performs (b) Does not perform. Description breast feeding practice on covering the position of the mother and baby during breast feeding, duration and interval of breast feeding and care of the baby after breast feeding. Ten statements were prepared to assess the practice aspect.

**3.10 Content Validity of the Tool**

To ensure content validity of the tool it was submitted to nine experts in the field of Nursing, Obstetrics, Pediatrics, Sociology, Community health. Five experts for nursing, four from medical, one from sociology were selected on the basis of their qualification, experience and interest in the problem area.
The experts were requested to judge the items for relevance, clarity, appropriateness of the title, and content area.

The investigator met the experts to clarify any points the tools and their organization. Most of the items had cent percent agreement by the experts. Minor modifications were done in the tools in consultation with the advisors. The tools were translated in to Kannada by language experts and translated back into English. There was cent percent agreement on all the items.

Pretesting of the Tool

After obtaining formal administrative approval from Director of Medical Education and Director of Health Services and area leaders of the Urban and Rural Communities, the tool was pretested. It was done to check the clarity of items, ambiguities at language, the feasibility in conducting the study and to decide upon the plan for data analysis. The tools were administered to 50 lactating mothers in the study setting. The tools were found to be appropriate and valid for data collection. The items were also found to be clear and unambiguous.

3.1.1. Reliability of the tool

Reliability refers to the accuracy and consistency of the measuring tools. The reliability co-efficient for the knowledge test in the structural interview schedule attitude scale and observational checklist were calculated by using the rank order co-relation method.
The reliability was found to be $P = .99$ found highly reliable.

3.10 Pilot study

In order to test the feasibility and practicability, the study was conducted among 50 participants, 25 from urban community and 25 from rural community. The urban community includes Kengari urban, Bangalore, The rural community includes Kenchanakuppa. These villages were not included in the main study. The pilot study findings showed that the study was feasible.

Data Collection Procedure

A formal letter was submitted to Director of Medical Education and Director of Health Services for Urban and Rural Community, Bangalore seeking permission for the study.

Permission was granted to get maximum co-operation from community health personnel working in Urban and Rural Community Health Centres and Communities, local leaders of urban and rural communities were approached.

The study was conducted from 1997 to 1998.

The objectives of the study were explained to each subject and confidentiality was assured. Lactating mothers were selected from Urban Community, Bangalore, from Gavipuram Guttahalli and Rural
Community Bidadi, Bangalore District. The investigator trained four interviewers and one observer for data collection.

25 to 30 interviews were conducted in the urban community and rural community and inter-rater reliability established. There was cent percent agreement. On an average 55 to 60 minutes were spent by the researcher with each mother for collecting information on demographic profile, interview schedule

- To assess the knowledge structured Interview schedule was used.
- To ask opinion attitude scale was used.
- To observe the practice observational checklist was used.

**Observation checklist**

After interview researcher had conducted Health Education on

- Importance of breast milk and breast feeding
- Harmful effects of prelacteal feed
- Correct technique of breast feeding
- Factors influencing on effective breast feeding practices.

There were role plays were demonstrated in the rural communities.

It was not possible to give teaching to all mothers at the same time. Daily 25 to 30 mothers were available in each group.

Discussion and demonstration by role play were given. Return demonstration on correct technique of breast feeding taken.
Lactating mothers seemed to be interested in taking part in the discussion as they were in need of knowledges, attitude and express their problems regarding breast feeding.

All the health education session and demonstration were done by researcher herself with the help of IV year B.Sc. Nursing student of Government College of Nursing.

The visual aids were used for health education are enclosed in the Appendices and a photo copy of role play on harmful effects of prelacteal feeds has been enclosed in the study.

3.14 Plan for Data Analysis

1. **Percentage**: Worked out for background information of rural and urban characteristics for comparison of data.

2. **Mean**: This measure was used to find the mean knowledge, attitude and practice of mothers regarding breast feeding of both rural and urban respondents.

   \[
   \text{Mean} \ (X) = \frac{\sum X}{n}
   \]

3. **Standard Deviation**: This was used to find the variation in the mean knowledge attitude and practice score of mothers regarding breast feeding of both rural and urban respondents.
\[ SD = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2} \]

4. Chi-square ($X^2$) Test: It is used to measure the association between characteristics and respondents of rural and urban sample.

\[ X^2 = \sum \left[ \frac{(O-E)^2}{E} \right] \sim X^2(n-1)(c-1) \text{ degrees of freedom} \]

Where, \( O \): Observed frequency, \( E \): Expected frequency
\( N \): Number of rows, \( C \): Number of Columns

If the calculated $X^2$ value is greater than table $X^2$ value then the result is found to be significant.

If the calculated $X^2$ value is less than table $X^2$ value than the result is found to be non-significant.

5. t-test: It is used to measure the significant difference between mean knowledge, attitude and practice between rural and urban respondents on breast feeding aspects.

\[ \frac{\bar{X}_1 - \bar{X}_2}{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)} \sim t(n_1 + n_2 - 2) \text{ degrees of freedom} \]

\( \bar{X}_1 \): Mean of I Group
\( \bar{X}_2 \): Mean of II Group
\( S_1 \): Standard deviation of I Group
\( S_2 \): Standard deviation of II Group
\( n_1 \): Sample size of I Group
\( n_2 \): Sample size of II Group
If $t$ - calculated value is greater than the $t$ - table value then, the result indicates the significant difference between the two groups under study. If the $t$ - calculated value is less than the $t$ - table value then, the result indicates non-significant difference between the two groups under study.

6. **F - Test**: It is used to test the significant difference between characteristics studied with respect to mean knowledge, attitude and practice of respondents on breast feeding aspect. The technique of analysis of variance (ANOVA) is employed under F-test.

$$ F = \frac{S_1^2}{S_2^2} = \text{.............................................} $$

Variance within Groups

If $F$ - calculated value is greater than $F$-table value then, the result is significant. If $F$ - calculated value is less than the $F$-table value, then the result is non-significant.

7. **Correlation co-efficient ($r$)**: It is one of the efficient measures which is used to measure the relationship between dependent variables and independent variables.

$$ \text{Correlation coefficient (r)} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}} $$

If the value of correlation coefficient is positive, then, the result indicates the positive relationship between variables. If the value of correlation coefficient is negative, then, the result indicates the negative
relationship between variables. Further, to test the significance of

correlation coefficient (r) t-test is employed for findings.

\[ t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} \sim t (n-2) \text{ degrees of freedom.} \]

If 't' calculated value is greater than the t-table value then the result

of correlation coefficient is significant.

If t - calculated value is less than t-table value then the result of
correlation coefficient is non-significant.