CHAPTER 3
RESEARCH METHODOLOGY

INTRODUCTION

‘Research design deals with a logical problem and not a logistical problem”
Yin (1989:29)

Research design is referred to as a master plan that specifies the procedure for data collection and analysis, selection of participants and how and when treatment conditions will be implemented in a research study.

In this chapter the researcher describes the methodology used to assess the effect of Nursing Audit and Competency-Based Education on Infection Control Practices during intranatal period on knowledge, attitude and practices among nursing personnel working in labour room of selected public health facilities of Raigad district13. This includes a research approach, research design, variables, study settings, population identification, sample size estimation and sampling technique. This chapter also highlighted on preparation and description of the tools, validity, reliability, pilot study, data collection procedure and plan for data analysis of research study.

Research Approach:

Research approach involves the description of the plan of study to investigate the phenomenon under study in a structured, unstructured or a combination of these two methods. The research approach adopted for the study was quantitative because study aims to assess the effect of Nursing Audit and Competency-Based Education on Infection control practices during intranatal period in the labour room13.
Research Design

METHODOLOGY

Research variable
Independent variable-
1. Nursing Audit on ICP
2. Competency based education on ICP
Dependent variable
1. Demographic Variable: Age, Education, year of experience
2. Knowledge, attitude, practices on ICP

Problem statement

Research approach - Quantitative

Research Design – Quasi experimental

Setting - Public Health facilities

Population
Target – All Public health facilities, Nursing personnel
Accessible – All Public health facilities working for 24/7, Nursing personnel working in selected public health facilities

Pilot study
Random sampling
20 Nursing personnel

Data analysis and evaluation

Reliability and validity of tool

Tool –
Existing Health Record on maternal mortality and morbidity
Audit checklist on infection control practices
Knowledge on infection control practices
Attitude on infection control practices
Practices on Infection control practices

Inclusion criteria-
• Registered in MNC as a midwife
• Working at Public health facilities
• Willing to participate in the study
• Exclusion criteria-
  Underwent the training within last 1 year
• Temporary working nursing personnel

Main study

Data collection process
Pre test: Health record on MMR related to Puerperal sepsis, Nursing Audit on ICP
Written consent, Pre test on KAP & Competency based education on ICP
Post test I (After 7 days), Post test II: on KAP & Nursing audit after 1 year

Analysis and Interpretation of data by descriptive and inferential method

Reporting the thesis

Figure No: 2 Schematic Representation of Research Methodology
Research design is the master plan specifying the methods and procedures for collecting and analyzing the needed information in a research study. Research design is a plan of how when and where data are to be collected and analyzed.

One group Pre test Post test research design was used for this study. The study was carried out in various District, Sub District, Rural Hospitals and Primary health centres, of Raigad district. Research design is illustrated by Figure No. 3

![Figure No 3: Representation of Research Design](image-url)
SETTING OF THE STUDY:

The research setting can be seen as the physical, social and cultural site in which the researcher conducts the study. This study was conducted at Public health facilities of Raigad district. Raigad district is divided into four regions Mangaon, Alibag, Panvel and Mahad, 40 public health facilities working 24/7 for obstetric services.

Figure: 4 Representation Map of Raigad district
RAIGAD DISTRICT
Health Department And District Hospital At Alibag

Four Main Division

Total Population Nursing Personnel – 443
Sample Size Calculated – 230
Sampling Technique – Stratified Random Sampling

<table>
<thead>
<tr>
<th>Regions</th>
<th>Alibag</th>
<th>Panvel</th>
<th>Mahad</th>
<th>Mangaon</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Hospital</td>
<td>Civil Hospital Alibag</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub District Hospital</td>
<td>1) Karjat Sub district Hospital</td>
<td>2) Mangaon Sub district Hospital</td>
<td>3) Pen Sub district Hospital</td>
<td>4) Roha Sub District Hospital</td>
</tr>
<tr>
<td>Rural Hospital</td>
<td>1) Panvel Rural Hospital</td>
<td>2) Uran Rural</td>
<td>3) Mahad Rural</td>
<td>4) Poladpur Rural</td>
</tr>
<tr>
<td>PHC-24/7</td>
<td>Pounada</td>
<td>Dhokawade</td>
<td>Koproli</td>
<td>Pali</td>
</tr>
</tbody>
</table>

Figure 5: Representation of survey report of Raigad district

1. Alibag district hospital – 60 – 80 bedded for maternity with 100 to 120 deliveries per month are conducted and 23 nursing personnel working in maternity area
2. 5 sub district hospital i.e. Karjat, Mangaon, Pen, Roha and shrivardhan sub district Hospital with 15 to 20 bedded for maternity and 11 midwives are working in each hospital labour room.

3. 7 Rural hospital - Panvel, Uran, Mahad, Poladpur, Murud, Jaswali and Choak – 10 to 12 bed for maternity with 7 midwives are working in labour room.

4. 27 Primary Health Centers are functioning 24/7 with 6 beds and one GNM and seven ANMs are working under each PHC Labour room.

**VARIABLES:**

Variables are qualities, properties, or characteristics of person, things or situations that changes or vary.

**Independent variable:** The independent variable in the study was Nursing Audit and Competency-Based Education on Infection Control practices.

**Dependent variable:** Knowledge, attitude and practices of nursing personnel on Infection Control Practices was considered as a dependent variable in this study.

**Extraneous variables:** Age, qualifications, designation, formal training on Infection control Practices, total years of experience in nursing services, years of experience in labour room, immunization against Hepatitis B, Exposed to needle stick injuries, and received post exposure prophylaxis.

**POPULATION**

A population is the entire aggregation of cases which researcher is interested.

**Target Population:** The target population consists of the total group of people or objects which are meeting the designated set of criteria of interest of the researcher. The target population of the study included all the public health facilities and nursing personnel working in labour room.
**Accessible population:** The population which is readily available for research is included nursing personnel working in the labour room at selected public health facilities of Raigad district.

**SAMPLE AND SAMPLING TECHNIQUE:**

A sample is a part of a larger population. Samples make it possible to accept a generalization to the intended population based on careful observation of variables, within a relatively small proportion of population. Sampling is the process of selecting a representative part of the population. Thus carefully carried out sampling process helps to draw a sample that represents the characteristics of the population from which the sample is drawn\(^74\).

**SAMPLES**

Public health facilities working 24/7 in Raigad district and nursing personnel working in these centers and fulfilled the inclusion criteria were selected as a sample for the present study.

**SAMPLING TECHNIQUE**

In this study stratified random sampling technique was used to select from selected public health facilities. This technique is used because the population was widely dispersed. The participants fulfilling the criteria were identified and with the help of random sampling method participants were allocated in the study group.
Stratified random sampling technique:

<table>
<thead>
<tr>
<th>Public health facilities</th>
<th>1 District Hospital</th>
<th>5 Sub district hospital</th>
<th>7 Rural Hospital</th>
<th>27 – PHCs 24/7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population/Public health facility</td>
<td>Midwives - 23</td>
<td>Each Sub District Midwives - 11</td>
<td>Each RH Midwives - 7</td>
<td>Each PHC Midwives - 1 ANM - 7</td>
<td></td>
</tr>
<tr>
<td>Total population</td>
<td>23</td>
<td>55</td>
<td>49</td>
<td>216</td>
<td>343</td>
</tr>
<tr>
<td>Percentage</td>
<td>6.7</td>
<td>16.03</td>
<td>14.28</td>
<td>62.97</td>
<td>100</td>
</tr>
<tr>
<td>Samples</td>
<td>15.41</td>
<td>36.86</td>
<td>32.84</td>
<td>144.81</td>
<td>229.92</td>
</tr>
<tr>
<td>Actual selected samples</td>
<td>15</td>
<td>37</td>
<td>33</td>
<td>145</td>
<td>230</td>
</tr>
</tbody>
</table>

Figure 6: Representation of sampling technique

**SAMPLE SIZE:**

Sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample. A large sample provides an opportunity to counterbalance atypical value. Total 230 nursing personnel from selected Public health facilities who fulfilled the selection criteria of the study were selected by simple random method.

Calculation of sample size with the help percentage of knowledge score

\( p = 77\% \) (Dr Tanaja 2009 & Suchitra JP 2007)

\( q = 23\% \)

Confidence level = 95%

Power = 80%

Absolute precision = 8%
\[ n = \left( \frac{Z_{\alpha} + Z_{B}}{\sqrt{pq}} \right)^2 / E^2 \]
\[ (1.96 + 0.84)^2 \times 23 / (8)^2 \]
\[ n = 216.95 \]

with additional dropout 5%

Sample size for study = 217 + 11 = 228

So the researcher have taken sample size for study was 230

**CRITERIA FOR SAMPLE SELECTION**

Sampling criteria is essential for inclusion or exclusion in the target population. In the present study, inclusion and exclusion criteria were as follows.

**Inclusive Criteria.**
- Working in labour room of selected public health facilities.
- Willing to participate in the study
- Registered in Maharashtra nursing council as a midwife.

**Exclusive Criteria**
- Having less than 3 months experiences in labour room and working on temporary basis
- Underwent the training on infection control practice within 3 months of period.

**DATA COLLECTION TOOLS AND TECHNIQUE:**

Data are the observable and measurable facts that provide information about phenomenon under study. The aim of gathering and summarizing data is to transform this into meaningful information in order to identify and measure variables, describe behavior and compute empirical evidences that are objective, reliable and valid. The present study aimed to assess the Effect of Nursing Audit and Competency-Based Education on Infection Control
Practices during Intranatal period in the labour room on knowledge attitude and practices among nursing personnel

After vigorous review of literature, collected opinion of experts, discussion with the various researchers and the personal and professional experience, the researcher ensured the adequacy, relevancy and validity of content for preparation of tool.

**SELECTION OF TOOL**

Section I of the tool developed to assess the prevalence of maternal mortality and morbidity in relation to puerperal sepsis prepared based on maternity record guideline given by GOI, Ministry of health and Family welfare, India.

Section II of the tool developed an observation Nursing audit checklist on Infection control practices in the labour room.

Section III of the tool content of structured questionnaire regarding knowledge on Infection control practices in the labour room.

Section IV of the tool consisted of three point Likert scale on attitude regarding infection control practices in the labour room.

Section V of the tool prepared an observational checklist to assess the level of practices on hand washing, per vaginal examination, conducting safe delivery and cleaning and waste management in the labour room.

**PREPARATION OF TOOL:**

Data are the observable and measurable facts that provide information about the phenomenon under study. A systematic collection and analysis of data are most vital to any empirical evidences that are reliable and validated.

A research instrument is a device used to measure the concepts of interest in a research project that a researcher used to collect data. In this study the tools selected for data collection are structured questionnaire on demographic data, knowledge, three point Likert scale to assess attitude and
an observation checklist to assess nursing audit and practices regarding Infection Control Practices during Intranatal Period in the labour room. 

The tool was prepared by the researcher in context to the nursing personnel working in labour room of Public Health Facilities. Investigator adopted following steps in the development of the tool:

a) **In depth review of literature:** Investigator has gone through various books, journals-national and international, published and unpublished research studies, newspaper articles, online thesis etc to find out empirical evidence about Infection Control Practices in the labour room. Researcher also visited to various libraries for in depth review of literature.

b) **Consultation with experts:** The study topic was discussed with experts from research and subject field. Tool was discussed with experts of subjects such as Hospital infection control committee members and obstetricians and nursing heads from Public Health Facilities. The tool was validated from Mahatma Gandhi Memorial Institute of Health Sciences (MGMIHS), suggestions were taken and tools were prepared in accordance to the opinions obtained.

c) **Development of blue print of questionnaire:**

- Blue print on prevalence of maternal mortality and morbidity rate and its causes made as per GoI, Ministry of health and family welfare guideline, India.

- Blue print of nursing audit regarding infection control practices was made which included 74 observation point and was divided under following headings: Existing facilities on policy, protocols and charts display on wall (10.8%), Hand washing facilities (9.45%), availability of Personal Protective Equipments (5.4%), Availability of equipment (8.1%), Availability of decontamination material (9.45%), Standard Infection Control Practices toward procedure (13.5%), environment and equipment (17.6%), segregation (6.75%), decontamination (8.1%), sharp handling (6.75%), sharp injury (4.05%).
• Blue print of structured questionnaire for assessing knowledge of nursing personnel on Infection Control Practices during Intranal period in the labour room was made, which included 18 questions and was divided under following headings: Hand washing technique (11%), per-vaginal examination (22%), Safe practices during conduction of labour (11%) safe biomedical waste management (56%).

• Blue print of attitude scale for assessing attitude regarding Infection Control Practices during Intranal period in the labour room which included 18 positive statements was divided under following heading: Hand washing technique (11%), per vaginal examination (22%), Safe practices during conduction of labour (11%) safe biomedical waste management (56%).

• Blue print of observation checklist was made which included 102 observation points and was divided under following heading: Hand washing technique (20.5%), per vaginal examination (27.4%), Safe practices during conduction of labour (30.3%) safe biomedical waste management (21.56%).

d) Construction of selected demographic variables: Demographic details related to nursing personnel was constructed, which included age, professional qualification, designation, total years of experience, years of experience in the labour room, Number of deliveries conducted per month, received any operational training on Infection Control Practices, any formal training on Infection Control Practices within last years and if yes, specific, immunization against Hepatitis B, any needle stick injury within last year, and if Yes, did received prophylaxis for it.

**DESCRIPTION OF TOOL**
The tool consisted of five sections:

**Section I:** Record chart of maternal mortality and morbidity
Blue print was made based on the GoI, MHFW, India guideline which includes number of deliveries occurred in last one year, number of live birth in the year, number of maternal death occurred in same year, causes of maternal death, maternal morbidity and causes of maternal morbidity in last one year. Causes of death are categorized as per WHO guideline under direct, indirect and others.

Section II: Observation Checklist on Nursing Audit on Infection Control Practices in the Labour room

Blue print of nursing audit regarding infection control practices was made which included 74 observation point and was divided under following headings: Existing facilities on policy, protocols and charts display on wall (10.8%), Hand washing facilities (9.45%), availability of PPE (5.4%), Availability of equipment (8.1%), Availability of decontamination material (9.45%), Standard infection control practices toward procedure (13.5%), environment and equipment (17.6%), segregation (6.75%), decontamination (8.1%), sharp handling (6.75%), sharp injury (4.05%).

Scoring:
Each component was scored in the form of ‘Yes’ and ‘No’ format. The score for Yes was “1” and No was "0". The total score of the checklist was "74".

Section III: A structured questionnaire was used to obtain information regarding knowledge of Infection Control Practices during Intranatal period in labour room. The questionnaire contains two parts;

- **Section A**: Demographic variables such as age, professional qualifications, designation, total years of experience in tenure of service, total years of experience in the labour room, number of deliveries conducted per month, formal training received on Infection Control Practices within last one year, received immunization against Hepatitis B, exposure to needle stick injuries any if yes, received any prophylaxis for needle stick injuries.
- **Section B**: consisted on knowledge related to Infection Control Practices during Intranatal period in the Labour room. Blue print of structured
questionnaire was made which included 18 questions and was divided under following heading: Hand washing technique (11%), per vaginal examination (22%), Safe practices during conduction of labour (11%), Safe biomedical waste management (56%). Each question had four options and responses to each option were Yes and No. Scoring: The right answer score was “1” and for wrong answer score was "0". The aggregate score of the all components was "18". This score was further converted into percentage, and interpreted the level knowledge on Infection Control Practices in the labour room.

Categorization of Score: The sums of total scores are categorized as per tertiles category for the important level of subjects.

- 13 – 18 -: Good knowledge
- 7 – 12 -: Average knowledge
- 0 - 6 -: Poor knowledge

**Section IV - Attitude related to Infection control practices in the labour room**

Three point Likert scale was made to assess attitude related Infection control practices in labour room which included 18 positive statements was divided under following heading: Hand washing technique (11%), per vaginal examination (22%), Safe practices during conduction of labour (11%) safe biomedical waste management (56%).

Scoring:

Scoring of Likert scale of agree (1), disagree (0) and not applicable (3) to choose from.

Categorizing of score: the summed score is categorized as

- Negative attitude score: 0-18
- Positive attitude score: 19-36

**Section V - The infection control practices observational check list**

consisted of 4 main components, to assess the level of practice among the nursing personnel. These practices included 102 observation points and were divided
under following heading: Hand washing technique (20.5%), per vaginal examination (27.4%), Safe practices during conducting of labour (30.3%) & Cleaning and waste management (21.56%).

Scoring:
Each observation check list point is scored in the form of yes (or) no format. The right step score for ‘Yes’ was “1” and wrong step score ‘No’ was "0". The total score of the practices was "102".

Scoring key for hand washing was poor (0-7), average (8-14), and good (15-21). Practice score for per vaginal examination was poor (0-9), average (10-19) and good (20-28). Practice score for conduction of labour procedure was poor (0-10), average (11-21) and good (22-31). Scoring key for cleaning and waste management was poor (0-7), average (8-14), and good (15-22).

VALIDITY:
Validity refers to the extent to which the item truly measures what it intends to measure. Face validity refers to the overall structure of an instrument looks as though it is measuring the appropriate content. Content validity concerns with subject matters whether it covers and clearly represents all the aspects of content.

The content and face validity of the tools used in the study to assess incidence of maternal mortality and morbidity(Checklist) Nursing Audit checklist on infection control practices in labour room, Semi structured self reported questionnaire on knowledge, two point attitude scales and observation checklist regarding practices in the labour room was ascertained through following method:

First the tool was corrected by the guide and co-guide. Thereafter it was presented twice in the tool validation review committee of MGM Institute of health sciences, Navi Mumbai. The expert committee members were from nursing – 4, preventive and social medicine – 03, physiotherapy -02,
The Committee advised to add three items in demographic variable. It was also suggested to modify Nursing audit checklist under specific heading such as policy protocol, availability of facilities, standard procedure, standard practices toward decontamination and sharp injury.

There were total 25 knowledge questions in the beginning from which four questions those not relevant to labour room infection control practices were advised to delete. In attitude scale committee advised to modify the rating scale in two point rather than three point scale. The committee also suggested limiting the observation items in infection control practices in observation checklist. The opinion from experts had been incorporated in the tool and final tool was pretested.

**RELIABILITY:**

Reliability is the degree of consistency and accuracy with which an instrument measures the attribute for which it is designed to measure. The main aspects of reliability include stability, internal consistency and equivalence.

1. **Nursing audit:** To assess the reliability of Nursing audit checklist interrater method was used. The checklist was observed by two trained observers and reliability was computed as $r = \frac{\text{Number of agreements}}{\text{Number of agreements} + \text{Number of disagreement}}$.

2. **Knowledge questionnaire of ICP** - the reliability of knowledge questionnaire was ascertain using test retest method. Researcher administered the tool twice on different occasions by keeping 7 days gap. The score was calculated by using Pearson’s correlation formula and reliability was estimated. The internal consistency of tool was also
assessed by split half method. Kuder- Richardson formula 20 was used to calculate the reliability.

3. **Attitude on ICP**- To find the rating scale stability test retest method was used on two different occasions by 7 days gap. The r value was calculated by using Pearson’s correlation coefficient formula.

4. **Observation checklist on ICP** – Interrater method was used to compute the reliability.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Result</th>
<th>Inferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing audit</td>
<td>Interrater</td>
<td>0.86</td>
<td>Reliable</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Test retest/ split half</td>
<td>0.85/0.89</td>
<td>Reliable</td>
</tr>
<tr>
<td>Attitude</td>
<td>Test retest</td>
<td>0.75</td>
<td>Reliable</td>
</tr>
<tr>
<td>Practices</td>
<td>Interrater</td>
<td>0.82</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

The result of the reliability interpreted coefficient ranges between -1.00 through 0.0 and + 1.00 and the tools were acceptable for further utilization as all the scores were above 0.70.

**PILOT STUDY**

A pilot study is referred to a small scale preliminary tryout of the method to be used in an actually large study. Pilot study helps to test feasibility and practicability of the tools. Pilot study was conducted at Khopoli Zilla Parishad Hospital, Raigad. After getting formal permission from Zilla Parishad office, the study was carried out in the month of December 2015 for a period of 10 days. The investigator used random sampling technique to select the 20 nursing personnel who fulfilled the sample selection criteria.

The researcher gave brief introduction about topic and the study purpose to the entire participant. The confidentiality regarding the data was assured to win their cooperation during data collection. Written informed consent was also obtained from participant. Pre test was assessed on
knowledge; attitude was assessed and practices were observed in the labour room for two days on 20 participants. The investigator took 30 to 40 minutes for each participant to assess the practices. The lecture cum discussion was done by using flex chart and power point presentation which took 30 to 40 minutes. The practices were divided in two days. First day hand washing and per vaginal examination was demonstrated followed by redemonstration is carried out in the labour room. On second day safe conduction of labour and cleaning and waste management was demonstrated with the help of dummy.

The post test was carried out on 7th day for the nursing personnel in 2 days. Knowledge and attitude and was assessed on first day, while practices was observed on second day by using the same tools. The result of the pilot study showed the feasibility and practicability of the study. After the pilot study, the plan for actual study was made. The analysis of the data and the result of the pilot study showed the evidence that, the tool was reliable, feasible and practicable to use in the main study.

**FEASIBILITY OF THE STUDY:**

Investigator found the study was feasible because of good support of the medical officer’s, Sister in charges of all hospitals and cooperation of the nursing personnel.

**DATA COLLECTION:**

Data collection is the process of gathering information on targeted population in an established system, which then enables one to answer relevant questions and evaluate outcomes. The goal for the data collection is to capture quality evidence that allows analysis to lead to the formation of convincing and credible answers to the questions that have been posed. A structured questionnaire on knowledge, attitude and observation checklist on nursing audit and practices on infection control were used to collect data from participants.
a) **Permission from concerned authorities:**
Official permission was taken from the DGHS, Mumbai, DHS Raigad and civil surgeon Raigad to conduct study. Written consent is obtained from the study participants after explained regarding research and assured to maintain confidentiality throughout the study period and while also communicating the study findings.

b) **Period of data collection:**
The data collection process started from 1/03/2016 to 30/06/2018. After taking official permission from each center and the dates were planned. Each participant of the study was explained about the study and its purpose and importance. The data collection was done strictly under the standards laid down conditions with concern to the heads of all health centers.

c) **Methods of data collection:**
The participants were selected as per the laid down criteria and data collection was done after completion of all following formalities:
- Annexure I - Approval of ethical committee report of university
- Annexure II - Permission from the concerned authority of selected Public health centre
- Annexure III - Written informed consent from each subject

**Technique for data collection:**
Pre test I-: Observation of Labour room, Record of labour room and consent of participant
Pre test I-: Pretest on knowledge attitude and practices
Intervention -: Group teaching on Infection control practices and live demonstration of skills on Infection control such as medical and surgical hand washing, Per vaginal examination, conducting safe delivery and cleaning and waste management\(^{13}\).
Post test I -: Post test (first After 7 days)
Post test II: Second post test (After one year)

Procedure for data collection:
It is a standardized plan that is followed similar with every study subject to collect empirical data and fulfill the purpose of research study. Official administrative permission was obtained from the Institutional ethical committee for conducting the final study. The data collection process began from 01/03/2016 to 30/06/2018. The participants who met inclusion criteria were determined. The nature and the purpose of the study were explained and it was also ensured by the investigator that the normal routine of the health centers is maintained. Then stratified random sampling was used to assign subjects. Survey format was used to collect Nursing audit data of all labour rooms of health center. Written Consent was taken from the study participants, explained about the pre test, post test questionnaire, time duration needed and the scoring system to the subjects. They were also given assurance regarding confidentiality of their scores. Investigator approached the subjects after official appointment and less crowd of labour room. Using interview technique questionnaire was filled followed by competency based education was given by power point and flex charts and live demonstration was taught in labour room. Redemonstration was done for two days for all procedure. Follow up was kept and post was taken approximately after 21 days. Second post test was obtained after one year. Data was recorded in the format developed for the purpose.

PLAN FOR DATA ANALYSIS:
The analysis of data means to arrange the raw data meaningful or to draw some results from the data after proper statistical treatment. In the present study both descriptive and inferential statistics were applied. Data analysis was done keeping in mind the objectives and hypothesis of the study.
Collected data was entered into Microsoft excel sheet. Data analysis was done by using the SPSS (Statistical Package for the Social Science) software Version 17 for window. The demographic variables, mortality and morbidity data, audit data, assessment of knowledge, attitude, practice data were calculated with no and percentage. Mean, standard deviation was used to present comparison of knowledge, attitude and skills on Infection Control Practices during intranatal period in the labour room\textsuperscript{13}. The Wilcoxon test was used to find significant difference of knowledge score, attitude score, and practice score between before and after intervention. ANOVA test was used to find the significance difference of knowledge, attitude, practice score according to age, professional qualification, total years of experience, years of experience in the labour room, deliveries conducted per month, designation, Immunization against Hepatitis B, and any prophylaxis for needle stick injuries. The Paired ‘t’ test and Mann Whitney test was used to find the significance difference of knowledge, attitude, practice score according to receive any operation training on Infection Control Practices, formal training on Infection Control Practices within last yrs, needle stick injury in the last 12 month. Linear regression test was used to find the association of knowledge, attitude and practices with selected demographic variable. A probability value of 0.05 was accepted as the level of statistical significance.

**SUMMARY:**

This chapter on research methodology deals with the research design, research approach, setting of the study, description of population, sample and sampling technique, developing and testing of the tool, feasibility and pilot the study along with reliability and validity, method of data collection and plan for data analysis.