CHAPTER 5
SUMMARY, DISCUSSION, CONCLUSION, IMPLICATION, AND RECOMMENDATIONS

INTRODUCTION:

“Nothing is particularly hard if you divide it into small job”.

Henry Ford

This chapter deals with the summary, conclusion, discussion and recommendations from the findings of the study and thus, it helps to put all the pieces of information together for the research study. The study is conducted with a purpose to improve the quality of care in the labour room and upgrade competency on Infection Control Practices among nursing personnel in selected Public Health Facilities.

OBJECTIVES OF THE STUDY:

The analysis of the findings was done as per the study objectives which are as follows:

1. To find out incidence of maternal mortality & morbidity rate in relation to Puerperal sepsis from records available in selected Public Health Facilities at the beginning and after 12 month of intervention

2. To assess the existing facilities, resources, protocols and information dissemination regarding Infection Control Practices in selected Public Health Facilities at the beginning and after 12 month of intervention

3. To compare the knowledge and attitude among nursing personnel in relation to selected Infection Control Practices
during Intranatal period in the labour room before and after the Competency Based Education\textsuperscript{13}

4. To compare the practices among nursing personnel in relation to selected Infection Control Practices during Intranatal period in the labour room before and after Competency Based Education\textsuperscript{13}

**DISCUSSION ON FINDINGS OF THE STUDY:**

**Section I- Findings of maternal mortality and morbidity rate in relation to Puerperal sepsis**

The incidences of Maternal Mortality and Morbidity related to Puerperal sepsis have been surveyed from the records of the District health Office (DHO), Raigad. A total of 11,177 live births out of 11,424 total deliveries were found 47 maternal deaths in the year 2015-2016. The Mean Mortality Rate during this period was 4.45/1000 live births, while in 2016-2017 there were 11,302 live births out of 11,511 total deliveries was found, 30 maternal deaths occurred. The mean Mortality rate during this period was 2.82/1000 live births.

7.2\% Morbidity Rate was discovered due to sepsis a found in the records of April 2015- march 2016 and 6.62\% Morbidity Rate was observed in the year 2016-2017 which indicates a decline of in the Morbidity Rate.

This was compared to study by JS Kumari (2018) of maternity mortality in Government hospital for one year from January 2017 to December 2017 and result reported that total 21 deaths in respective year while leading cause of death was post partum hemorrhage. A 85.7\% deaths was due to direct cause and 14.3\% of deaths due to indirect cause. The death due to sepsis was 14.3\%\textsuperscript{76}.  

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Similar study conducted by Sreekumari U et al (2018) for a period of seven year to find out trends in causes of maternal mortality in a tertiary care centre in Kerala. The total 101 deaths were occurred during that period out of 66441 live births. Majority of deaths were occurred due to indirect cause (50.49%) than direct cause (42.57%), while 7.9% deaths were observed due to sepsis in respective period. A pilot project conducted on estimates of MMR in India by State Government of India sponsored ICMR in five states. The similar observation found that main cause of maternal death were post partum hemorrhage (17%) , post partum septicemia (13%) and anemia (13%) respectively. Out of these deaths 24% occurs during antenatal period while 70% deaths are occurred in post partum period.

Section II- Findings of Nursing Audit report on Infection Control Practices in the Labour room.

A total of 40 facilities:- 1 district hospital, 5 sub district Hospitals, 7 Rural Hospitals and 27 Primary health centers were selected in consultation with the Directorate of health services and the District Health officer of Raigad district. An audit of 40 Public Health Facilities was done from March 2016 to June 2016 before intervention. All these facilities were revisited during March 2017 to July 2017.

- Findings related to Display of Existing facilities based on policy, protocols and charts in the labour room: - Majority of Public Health Centers were found with insufficient facilities with regards to policies, protocols and posters on Infection Control Practices. Policies and posters were available only in 7.4% Primary Health centres while they were not available in Sub-District Hospitals and Rural hospitals. Hand washing and Bio-medical Waste Management
posters were available in all the centres. However, the Post-Exposure Prophylaxis Poster was not displayed in any public health centers. There were no training protocols was available on Infection Control Practices. The Post exposure prophylaxis chart was also not displayed in any center.

A similar study conducted by Friday O and Okonofua F et al (2012) result supported that out of 63% health facilities, 25% facilities showed availability of documented manuals or chart on infection control procedure while 11% facilities routinely carried out audits of maternal death regularly. The study result also showed that 33% health facilities have ongoing training programme for staff on infection control in labour room33.

Another Study by Mehta R et al (2011) conducted in Gujarat district in 23 Health facilities result showed that 25% facilities was available of some form of written procedure on infection control while 35% of facilities showed availability of displayed charts on infection control and those were also faded and old17.

• Findings on Existing Hand Washing Facility in Public health facilities in the labour room – Only 18.52% of Primary Health Centres had shown an elbow operating tap facility for hand washing, while this facility was present at District Hospital and Sub District Hospitals. 40% Sub District Hospitals, 85% Rural Hospitals and only 3.70% had the availability of liquid soap for hand washing but sinks were dirty. 18.52% Primary Health Centers, 57.14% Rural hospitals and 40% Sub District Hospitals showed an availability of 24 hours water facility, while 60% centers kept water filled in big containers day to day requirements.
A similar study done by T Cooper (2016) delivering an Infection Control link on Audit and the results, showed that elbow operating taps are important and improved in number during the study period. Also the availability of soaps, paper towels, disposal of waste and alcohol-based hand products improved during the study period\(^9\).

Another study conducted by Friday O and Okonofua F (2012) on assessment of Infection control practices in health care, and the observation showed that 50% of the public health facilities were have 24 hours water facilities and 2/3\(^{rd}\) facilities only had soap and antiseptic solution availability in the labour rooms\(^3\).

- **Findings on Availability of Personal Protective Equipments as per Requirements of Public Health Facilities:** – A majority of centers i.e. 96% were equipped with masks, gowns and shoe covers and other personal protective equipment as per the guidelines of GoI. 57.14% Rural Hospitals showed an availability of shoe covers in the labour rooms while 80% District Hospitals did not have shoe covers in the labour room.

  A similar study conducted by Mehta R (2011) showed that 80% of health facilities having adequate personal protective equipment such as gloves, apron, caps, and face mask and only 5% facilities showed availability of nail brush in scrub area. None of facilities showed of shoe cover facilities in labour room\(^1\).

- **Findings on the Availability of sterile materials, to carry out labour procedures** – All the centers had adequate sterile material for labour procedures. However, availability of antiseptic solution was found insufficient in 34% Primary health centers.
Mehta R (2012) study also found that 40 - 65% facilities only have adequate sterile gowns, linen pack while 40% of facilities showed delivery packs and sterile disposal delivery kits were available. 

- Findings on Availability of materials for decontamination and cleaning of instruments and procedures in labour rooms – 66.66% centers showed to have inadequate stock of Glutaraldehyde which is commonly used for the decontamination of instruments. 28.57% Rural Hospitals showed non availability of hypochlorite powder/ solution. 18.51% Primary Health Centers showed that there was a deep pit for sharps disposable and they practiced it as per biomedical waste management protocols. They sent all collected sharps through biomedical waste management vehicle for further procedures.

A similar study by Mehta R (2011) reported that phenol, dettol, lysol and chorine powder stock were available for wiping the floor. Only 15% of facilities showed wiping of surface after each delivery in the labour room.

- Standard patient care procedures carried out by nursing personnel in Labour Rooms:– Standard procedure practices showed improvement one year after competency based education. In the 2015 Pre test audit, 44% of nursing personnel reported a routinely developed in hand washing. After the procedure which showed improved in 2016-17 post test audit record. Also, all standard practices were found to be improved in year after the post test in 2016- 2017 and those standard checklists were made available in all the centers.

A study conducted by Mehta R et al (2011) and Friday and Okonofua (2012) on assessment of Infection Control Practices in
the maternity unit, supports the finding that staff routinely washes their hands before and after the sterile procedures. 90% facilities also reported that sterile gloves are routinely used by health facilities but 11% also showed recycled of gloves due to insufficient stock for Per-vaginal examination procedure. A 70 to 80% health personnel follows surgical site preparation from the centre to outward with aseptic solution while preparing sterile field\textsuperscript{17,33}.

- **Standard practices followed by nursing personnel for Environment & Equipments cleaning in labour rooms**: Poor Labour room cleaning practices were observed during each shift in Rural hospitals and primary health centers. Nonetheless during the morning shift, the labour rooms were cleaned in a few of the centres. 44.44% of the Primary Health Centers only showed practices of culture swabbed periodically at least once in a month. The fumigation practice was good in all the centers. 66.66% Primary health centers showed a clean delivery table while only 33% centers showed clean suctioning materials.

  A study conducted by Mehta R (2011) also showed that 15% health facilities follows disinfection procedure such as fumigation with formaline-potassium permanganate combination, wiping walls furniture and floor cleaning on regular interval with disinfectant solution. A 25% health facilities reported that floor of the labour room was wiped once a day, while a 45% facility follows three times a day of floor mopping and one facility showed four times a day of labour room mopping\textsuperscript{17}.

- **Standard segregation practice followed by nursing personnel in labour room**: The segregation practices were inappropriate and
instruments were separated before boiling/autoclaving. Waste materials were also not segregated properly. However, these practices then showed improvement during the second visit.

- Findings of **Standard Decontamination practices followed by nursing personnel in labour rooms**: 42.86% Rural Hospitals showed poor practices towards cleaning of delivery tables with 0.5% hypochloride solution after the delivery in the labour room. 42.86% Rural hospitals and 44.44% Primary Health Centers failed to follow the standard practices towards blood spillage with 10% hypochloride solution. A majority of the i.e.33.30% Primary health centers and 57% Rural hospitals failed to follow standard practices for disinfection of instruments with 5% hypochloride solution. Most of the centers showed availability of sterilizers for boiling instruments if autoclaving was not in working state. 33.33% Primary health centers and 85% Rural hospitals followed cleaning of waste bins with hypochloride solution.

- **Standard Practices for disposal of sharps by nursing personnel in the labour rooms** – All practices were found adequate except that the sharp containers in 58% Rural hospitals and 40% Sub-district hospitals were found filled above 3/4th leading to overflowing.

- **Standard Practices for needle stick injuries carried out by nursing personnel in the labour rooms** – Only District Hospitals had facilities available for sharp injuries record. Nursing personnel in the remaining centers were found unaware of these facilities and guidelines as per biomedical waste management. Post Exposures Prophylaxis was available at District and Sub-District Hospitals. In
other centers the reporting system for sharp injuries and to receiving prophylaxis was yet to be established.

- One third of facilities reported non availability of wash basin with hand free tap, while most of facilities were adequate with equipment and supplies. Wiping of surface immediately after delivery practice was done in only 15% facilities while few facilities had data on infection and reported rate of 3% to 5%.

Friday O et al (2012) also reported that 68% health centers had infection control procedures in place while 25% health centers only reported documented as manual or chart. 11% of public health facilities reported practices on routine audits of maternal death. Ongoing training programme on infection control was only reported in 33% health centers. The majority of the Public Health Facilities reported good routine hand washing practices among staffs before and after sterile procedure. 50% health facilities showed availability of 24 hours water facilities, while 2/3 facilities had soap and antiseptic solution in the labour room33.

A Similar study conducted by Mehta R et al (2011) and Julia H et al (2011) in two districts of Gujarat showed that 70% respondents was followed standard infection control practices but a written procedure were available in only 5% of the health facilities. Over 70% facilities reported the reuse of surgical gloves for vaginal examination. Only 15% facilities proved to have standard practices related to the wiping of surfaces immediately after each delivery in the labour room while 3% to 5% health facilities had data on infections reported rate17.

Another study was conducted by Huskins WC, Manchanda V and Singh N (2013) performed in Rajasthan with the help of Infection
Control Assessment Tool and the result also showed poor hand hygiene practices due to the lack of awareness and supplies in health centres. The segregation of biomedical waste management also failed to meet the standard. A study conducted by Shreenivas & Suchitra R (2017) conducted environmental surveillance from labour room supports the study findings. The study results revealed that 6 sterility culture swabs was positive before implementation in labour room and also needle stick injuries rate were decreased from 12 to 3 out of 100 members among staff in labour room.

Section III- Findings of demographic profile of nursing personnel
- 53.47% of nursing personnel in the age group were of 31 – 40 years, 46.52% nursing personnel in an age group of 41 – 60 years. 73.91% nursing personnel were qualified up to ANM, followed by 22.17% qualified up to GNM, 2.61% up to PB BSc Nursing and 1.30% up to LHV. 46.53% nursing personnel had 0-10 years of experience. 60.87 % nursing personnel had the labour room experience of 0-10 years, while 17.83% had an experience between 11 to 20 years. 36.52% nursing personnel conducted between 11 to 20 normal deliveries per month, while 23.19% conducted deliveries 0-10 per month. 51.74% nursing personnel received formal training on infection control practices under various programme in different centers like 25% in Alibag training centre, 18% in Alibag district hospital, 8% in IMNCI NSSK programme, Cama Hospital, Wadia Hospital and training centre. 100% nursing personnel were not immunised against Hepatitis B during their service period and only 20% nursing personnel were exposed to needle stick injuries.
in the last 12 months of their service period and only 2 (0.86%) received prophylaxis for the same.

This results supports with the study performed by Abdalla.N & Salah A (2015) showed that majority of the nurses in the age group of 20-30 yrs and 4% were only showed in the age of 41-50 years. The 41% nurses were less than 5years of experience, while 74% had education up to the secondary diploma and 53% nurses were not attended any job training related to infection control\textsuperscript{80}.

A study by Ruta Lukianskyte et al (2011) also reported that 38.5% staff nurses and 78% of nursing student experienced needle stick injuries. Among these staff nurses and nursing student 45.9% occurrences were unreported; while for nursing students 92.0% occurrence were unreported\textsuperscript{81}.

Another study conducted by Legesse et al reported 42.8% participants had a history of needle stick injuries. Needle stick injuries were higher in outpatient departments and emergency units 59 (30%) and delivery room 40 (20.6%). The major item that cause a needle stick injuries were syringes with needles 66% and the most injured body parts were the figures i.e. 70.7%. The researcher further recommended that ongoing training and supervision should be provided to curb the situation in the study area\textsuperscript{82}.

The similar findings also showed in the study conducted by Barka D and Tamang R (2014) on knowledge and practices of aseptic technique during delivery among 60 health personnel in Sikkim. Most of the participants i.e. 60% were qualified up to GNM while 58% having more than 10 years of experience. Out of them 5% were sister Incharge, 55% staff nurses and 33% were ANM\textsuperscript{83}. 
Section IV- Findings of Knowledge in Relation to Infection control practices in labour rooms

- Distribution of the overall Knowledge score on Infection control practices interprets 88.69% nursing personnel with an average knowledge score in Pre test which later increased to good in post test I. Second post test conducted after one year for nursing personnel, the knowledge score was reduced from good to average. The similar study performed by Ghadamgahi F et al (2011) reported that 67.9% of the nursing staff had average knowledge score and 29.9% had good knowledge score about infection control. A majority of the centers (90.4%) had a positive attitude towards the perceived threats of nosocomial infections.

- Another study conducted by Barka D and Tamang R (2014) in 4 District and 60 health personnel, the results found that 63% had a good knowledge score on aseptic technique and 9% had an average knowledge score in the same.

- Comparison of Pre and post test knowledge score according to professional qualification, depicts that majority of nursing personnel were qualified up to ANM followed by GNM. Also the mean knowledge score showed an improvement in GNM, LHV and ANM after intervention.

- A study by Taneja Juhi (2009) also supported, that the graduate nurses possessed more knowledge and higher levels of practice than diploma nurses.

- Comparison of mean knowledge score on Infection control practices in labour room before and after intervention in pre test, post test I and post test II showed a significant difference in knowledge score as $P<0.0001$. 

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• Area wise comparisons of Mean knowledge score on Infection Control Practices in the labour room before and after intervention depicts a significant difference in pre test and post test knowledge score in biomedical waste management and Per-Vaginal Examination as P<0.0001.

A recent study conducted by Mahmoud M, Fatemah B, Shirin P(2014) also showed poor knowledge scores of health care workers in hand hygiene, disinfecting instrument, avoiding recapping needles and respiratory isolation precautions.

The similar results supported of the study conducted by Sanjeev R et al (2014) in Kerala and Harsha K and Devi S (2013) study conducted in Mangalore city, India. The results supported that before touching the patient 100% while after touching the patient 97% knowledge score was found. The results also found that knowledge of doctors on various aspects of hand washing was better than nurses.

Another study carried out by Barka D (2014) in Sikkim among Health profession of Government Hospitals regarding knowledge on practices of aseptic technique during delivery and result found that 87% on Biomedical waste management, 77% on aseptic technique in labour room, 59% asepsis in stages of labour.

Another study by Sharma BK and George (2014) showed that, there was a poor knowledge score regarding biomedical waste generation hazards. The study results also showed that, 36% of the nurses had extremely poor knowledge score in biomedical waste management.

Another study conducted by Sharma A et al (2013) result showed that 36% of the nursing personnel had poor level of knowledge on
biomedical waste management and legislation related to health hazards

- Association of knowledge score with selected demographic variables shows association with professional qualifications, years of experience in the labour room and number of deliveries conducted per month.

A similar study carried out by Barka D and Tamang R (2014) reported that there was no significant association of knowledge on aseptic technique with age, total clinical experience and experience of attending previous educational programmes. The knowledge regarding asepsis during delivery needs more emphasis, as lack of knowledge on practice of aseptic techniques during deliveries can increase the chances of Puerperal sepsis, leading to maternal death.

A similar study conducted by Antony R A (2015) to assess the effect of teaching plan on nosocomial infection and results showed that significant association of knowledge with gender and year of experience with application of chi square test result 1.082 and p=0.582.

Section V – Findings of Attitude in relation to infection control practices in labour room

- Finding of Attitudes score depicts a positive attitude on Infection control practices during intranatal period in pre test and post test.

- Findings related to comparison of mean Attitude score on Infection control practices in the labour room before and after Competency-Based Education indicates that nursing personnel had positive attitude towards infection control in the labour room as p value <0.0001 level of significance.
Association of attitude with selected demographic variables shows association with age, professional qualifications, years of experience and received training of Infection control practices. A study conducted by MHJD Ariyaratne (2013) among nursing student showed better attitude in 52% on hand washing.

Section VI - Findings of Practices in relation to Infection Control Practices in labour rooms

- Distribution of practice score on Hand washing in labour room showed poor practices in pre test where as 78.70% had a good practices score in post test I and II.
- Comparison of Mean Practice score on hand washing before and after Competency-Based Education depicts, that the mean score of nursing personnel on hand washing practices was less when compared to post test I and Post test II. There was statistical significant difference seen before and immediately after applying Competency-Based Education on hand washing as p value <0.001 level of significance.
- Comparison of Area-wise Mean practice score on hand washing before and after intervention. The hand washing mean score was less during and after procedure, whereas post test mean score showed a significant difference. The above findings summarize that, the Competency-Based Education had a significant beneficial impact in the hand washing procedure.

A study conducted by Harsha K, Devi D (2013) also supported, that inadequate time was spent on hand washing (12.36%), 78% the area scrubbed were not adequate.

Another study conducted by MHJD Ariyaratne et al (2013) supported that only 5.53% nursing student showed good practices
while 26.9% had moderate and 67% had poor hand hygiene practices.

- Distribution of practice score on Per-Vaginal examination in the labour room - 96% nursing personnel scored average pre test score on per vaginal examination, while 96% nursing personnel showed a good score in post test I and post test II.

- Comparison of mean Practice score on Per-Vaginal Examination before and after Competency-Based Education showed a significant increased. However the post test II mean score decreased slightly. The result also reveals that there is an urgent need for the reinforcement of Competency-Based Education.

- Comparison of Mean scores before, during and after performing per vaginal examination - Improvement was seen in preparation of the procedure & in steps of procedure after Competency- Based Education. Also, there was significant difference in the total score of pre test and post test before, during and after Per-Vaginal examination practices.

- Comparison of Mean Practice score on safe conducting labour before and after intervention. The nursing personnel practices were poor in pre test, improved significantly in Post test I and reduced slightly again in post test II with regards to conducting labour. Also, it proved that after competency based education conducting in labour practices improved.

- Comparison of Mean practice score on safe conducting labour before and after intervention - the nursing personnel practices was poor in pre test and significantly improved in Post test I and slightly reduced in post test II with regards to conducting labour.
Also it proves that after competency based education conduct labour practices are improved.

- Comparison of mean score before, during and after performing safe conducting labour practices. A significant difference was seen in the mean score of post test practices before, during and after procedure with regards to safe conducting labour procedure. This showed a significant improvement after Competency-Based Education.

- Distribution of Practice score on cleaning and waste management showed that in pre test 55.22% of nurses scored average and 44.78% scored good in cleaning and waste management. The post test I and post test II consisted of 100% nursing personnel showing good practice score in cleaning and waste management. A study conducted by Sharma BK and George S (2014) also showed similar result about mean practices (49.6%) universally precautions were lower than knowledge score (73.3%)\textsuperscript{88}.

- Comparison of Mean practice score on Cleaning & waste management before and after intervention illustrated a significant difference in post test I and post test II mean practice score on cleaning and waste management as P <0.0001 level of significance.

- Item wise comparison of mean practice score on cleaning and waste management before and after intervention showed a significant difference in preparation, decontamination, cleaning and cleaning area of the labour room in post test as p < 0.0001 level of significance. This difference was also observed in the decontamination, disposal of needles and syringes and cleaning of the labour rooms.
Similar findings were found in a study conducted by Benita D (2014) in health care personnel on effectiveness of Infection Control Standards working in the labour room in Naggercoil, Tamilnadu. The result reported that 60% had fair practices on clean birthing room environment while 60% scored excellent in storage and clean and sterile supplies. A study conducted by Mahmoud M et al (2017) supports the findings that practices score on standard isolation precaution in nurses was significantly higher.

Association of practices on hand washing practices, PV examination, conducting labour, cleaning and waste management with selected demographic variables showed an association with years of experience, formal training on infection control practices and number of deliveries conducted per month. A similar study conducted by Sharma BK and George S (2014) showed that practices of universally precaution strongly associated (p<0.002) with work experience.

A study conducted by Abdalla N & Salah A (2015) supported the above findings that significant positive correlation of 0.3 p< 0.001 (p= 0.009) between nurses number of years of experience and following hand washing steps.

**SUMMARY:**

Above discussion of study result showed significant difference in Nursing Audit and Knowledge, Attitude and Practices of Nursing personnel on Infection Control Practices during Intranatal period in the labour room. Thus study result concluded that Nursing audit and Competency based education is an effective tool be used by midwives,
health care workers and nurse researcher in improving quality care services in delivery room.

CONCLUSION
The present study assessed the effect of Nursing Audit and Competency based education on Infection Control practice during the intranatal period on Knowledge, Attitude and Practices of nursing personnel working in the labour ward of selected Public Health Facilities.

Competency Based Education has always played a crucial role in knowledge and behavioral change in nursing personnel. When infection control practices was correlated among pre and post test, it showed a significant difference in knowledge, attitude and practice score.

The study findings draw the following conclusion
- There is need to formulate and renew the Policy and procedure regarding infection control at all health centers.
- Nurses must be regularly educated in the basic and revised protocols and principles of infection control.
- There is need to formulate regulations on infection control practices and should be effectively performed to take appropriate measures in the health care settings.
- Induction and in-service sessions every 6 monthly should be planned regularly and intervals for nursing personnel.
- Skills training programs should be carried out by infection control for all health care staff.
- Nursing audit on infection control should be done at regular intervals in all health centers with standard protocols.
• Teaching may be formal or informal form should be imparted to all the health care staff.
• Labour room audit on infection control practices is essential.

Implications:
The study has several implications for the nursing personnel in various fields such as midwifery practice, nursing education, nursing administration and nursing research.

Nursing Service and Midwifery Practice:
• Role of the Nurse in labour room is critical in providing safe and effective nursing care to the mother.
• By imparting knowledge and practices through Competency Based Education, nurses will be confident while conducting delivery and will be vigilant while practicing infection control.
• These standard protocols will be available in all labour room while performing procedures.
• This will helps to improve the image of the nurses as an independent nurse practitioner as a part of health care team. This will give them their own scientific body of knowledge and scope of practice.
• Periodic reinforcement training to the nurses will improve their knowledge and skills.

Nursing Education:
• Online small training sessions for all the nurses working in labour room will maintain skills and update knowledge of nursing personnel.

Nursing Administration:
• The nurse administrator plays an important role in spreading awareness on standard precaution guideline as per CDC.
• Workshop of refining skills on regular interval can be planned on infection control.
• The nurse administrator can boost clinical nursing personnel for research activities which will help to identify infection rate.
• Every yearly and periodically nursing audit of labour room will help to reduce infection rate.
• The nurse administrator can collaborate with Government and Non-Governmental agencies to implement the policies and protocols on Infection Control practices in health care delivery system. These practices will help to reduce maternal mortality rate.

6.3.4 Nursing Research
• The findings of the study can be disseminated through National, International and online journals. Nurse Practioners and student nurses can utilize the findings to improve the standards of nursing practice.
• These findings will help the professional health care personnel and nursing students to gain in depth knowledge on Infection Control Practices in the labour unit and also available groundwork for further study.
• The similar study can be carried out in government and private sector to rule out dissemination of health care services.
6.4 RECOMMENDATIONS

- The researcher will forward the evidence of study findings to Directorate of health services, Maharashtra and will recommend the utilization of nursing audit tool and competency based education on infection control practices in the clinical settings at all public health facilities of Raigad district.
- This Audit tool can be validate to standardise and can be given to assess the Public Health Facilities and will help to improve Infection Control Practices in the labour unit. This tool will help to strengthen the quality of maternity services.
- A similar study can be performed on a larger population to generalizability of findings.
- A comparative study can be conducted in private and public health facilities to find the effectiveness of Infection Control Practices among doctors, nurses and multipurpose health worker in the labour unit.
- A similar study can be conducted in multidisciplinary professionals.
- A similar study can be performed in different states to compare the availability of resources and protocols related to Infection control.
- A study can be done to assess the barriers on organizational structure towards the infection control practices

LIMITATIONS

- Very few reviews were available related to Competency-Based Education among nursing personnel.
- Researcher went through long process of correspondence in acquiring government permission.
• Researcher found difficulty in coordinating during post test I, due to inadequate transport facilities to reach distant primary health centers.

• The study findings limited to 24/7 health facilities, so unable to generalize the study result.

PLAN FOR RESEARCH DISSEMINATION
➢ The research findings are published in the National and International journals.
➢ This finding will be also disseminated in national and international conferences.
➢ Evidence of the study will forwarded to DDHS with recommendations for utilization of nursing audit tool on infection control in all health centers as a quality indicator