CHAPTER VI

SUMMARY

Labour pain is normal and natural, but it can be also managed through pharmacological and non pharmacological measures. There are many simple, effective and less expensive measures to relieve labour pain that can be initiated by the nurse, with the potential benefits of reduction in the use of medications and an increase is patient satisfaction.

Non pharmacological pain relief methods are more popular in modern medicine that can be used along with regular treatment. During labour the mother expects more from the care givers and family members that may give additional support to the mother. During childbirth the treatment which is given by the health care provider is not only to the mother but also it may receive by the unborn baby. The pain caused by the uterine contraction may be aggravated by anxiety and maternal expectations to have the safe and comfort delivery. The non pharmacological pain methods and the continuous care given by the midwife may reduce fear labour childbirth and ultimately it gives painless childbirth.

The present study was aimed to assess the effectiveness of aromatherapy and biofeedback in reduction of pain and duration of labour. Extensive review of literature, professional experience and expert guidance from the field of obstetrics and gynecology led the investigator to design the methodology. The conceptual framework developed for this study was based on modified Roy's Adaptation Model.

In day to day clinical practice, health care professionals especially midwives come across pregnancy and laboring women from different cultures. The mothers may have fear about their pain during childbirth and they are more concern about painless birth as it is becoming a trend. Safety of mother and baby is the ultimate concern of health care professionals. Invasive methods of pain relief may cause complications to the unborn baby. So it is better to deal the pain with alternative and complementary methods for pain relief during childbirth. As
a non-pharmacological intervention, it is easy to administer, cost effective, harmless, do not require much training, and appealing to the mother. This intervention may be used by health care practitioners (medical and nursing staff, student nurses) as part of their routine when providing care with women during the labor process.

The undertaken study helped to examine the efficiency of aromatherapy and biofeedback in reduction of pain and duration of labour. Previously very few studies have been undertaken in the region of Kanyakumari (Tamil Nadu) as an alternative method of pain relief during childbirth.

The present study created awareness among pregnant women about the non-pharmacological and non-invasive pain relief methods. So the trend of painless labour has become popular in the region of Kanyakumari.

The finding of the study reported that aromatherapy and biofeedback helped in reducing the duration of labour. Prolonged duration may cause complication to the mother and unborn baby. So these therapies helped the mother in promotion of labour outcomes and it gives positive childbirth experience. Pain during labour may produce fear and anxiety about childbirth that force the mother to opt for cesarean section. So this study helped to create awareness about painless childbirth as a result the rate of cesarean section can be reduced.

The present study was undertaken with the following objectives

1. To assess the effectiveness of aromatherapy in reduction of labour pain among primigravidas.
2. To find out the effectiveness of aromatherapy in reduction of duration of labour among primigravidas
3. To evaluate the effectiveness of biofeedback in reduction of labour pain among primigravidas.
4. To find out the effectiveness of biofeedback in reduction of duration of labour among primigravidas
5. To compare the effectiveness of aromatherapy & biofeedback in reduction of labour pain among primigravidas.
6. To compare the effectiveness of aromatherapy & biofeedback in reduction of duration of labour among primigravidas.
7. To associate the findings with selected demographic and Obstetric variables

Hypotheses

The study attempted to examine the following hypotheses, which was tested at 5% level of significance.

- H1- Primigravidas who receive aromatherapy during labour will experience less pain perception than who do not receive aromatherapy.
- H1- Primigravidas who receive aromatherapy during labour will have less duration of labour than who do not receive aromatherapy.
- H1- Primigravidas who receive biofeedback therapy during labour will experience less pain perception than who do not receive biofeedback therapy.
- H1- Primigravidas who receive biofeedback therapy during labour will have less duration of labour than who do not receive biofeedback therapy.
- H1- Primigravidas who receive aromatherapy during labour will experience less pain perception than who receive biofeedback therapy.
- H1- Primigravidas who receive aromatherapy during labour will have less duration of labour than who receive biofeedback therapy.

The investigator used a quantitative research approach to assess the effectiveness of aroma therapy and biofeedback in reduction of pain and duration of labour. The test designs selected for the study was post test only control group design.
The study was conducted at selected hospitals in Kanyakumari Dist, Tamilnadu. The population for the study included all the primigravida women who were admitted at selected hospitals in Kanyakumari Dist. The sample size for the study consisted of 600 primigravida women in labour who were selected based on the pre determined criteria and were randomly assigned into three groups, group I consist of 200 primigravida women who received aromatherapy massage application, Group II consist of again 200 primigravida women who received biofeedback therapy application and Group III had 200 women who were not received any special treatment. They received only routine care by the midwife. All three groups had the regular routine care according to hospital policies.

Data collection process

Data collection was done in selected hospitals of Kanyakumari Dist. A formal written permission was obtained to conduct the study from human ethical committee of selected hospitals in Kanyakumari, Tamil Nadu. Concerned obstetrician and gynecologist were informed of the purpose of the study and their cooperation was obtained. Confidentiality was assured to the respondents. In this trial the decision as to which therapy to use, was decided by the investigator according to hospital settings. They can use one of these therapies like Aromatherapy or biofeedback therapy. It was administered for the following reasons: to reduce anxiety, alleviate pain or to reduce the maternal & perinatal morbidity. The two methods of application were explained as follows:

Method: 1

**Modes of Aromatherapy application:** The oil used for aromatherapy is lavender oil. The most common application of aromatherapy during labour is by massage used with lavender oil. Essential oils are concentrated substances and in some cases can cause skin irritations; conducting a patch test on the skin can check for allergies. Aromatherapy application was done over the back and
abdomen with a slight massage. The massage was continued till the end of first stage of labour. The pain was assessed in 4 periods of intervals, the first at 4cm dilatation, 6 cm dilatation, 8 cm & the last at full dilatation of cervix. The routine intrapartum care also given for the mother. Finally a structured and self designed questionnaire was administered to get the opinion of the mother about aromatherapy application.

Method: 2

Mode of Biofeedback Application:

The investigator personally explained the purpose of the study with the participants individually. The electronic mode used for biofeedback is cardiotocograph. The mother asked to experience the fetal heart sound & also the variation in her uterine contractions. It helps her to consciously regulate both psychological and physical processes, such as pain, that are not usually under conscious control. The pain was assessed in 4 periods of intervals, the first at 4cm dilatation, 6 cm dilatation, 8 cm & the last at full dilatation of cervix. The routine intrapartum care also given for the mother. Finally a structured questionnaire will be administered to assess the opinion of the mother.

The tools used for data collection was

- Baseline Performa, it includes demographic and obstetrical profile.
- visual pain analogue scale,
- Partograph, it is a routine procedure
- Opinionnaire about the satisfaction

The content validity of the tool was done by 7 experts. Pre testing and reliability of the tools were established prior to the pilot study. Pilot study was conducted to confirm the feasibility for conducting the main study. After the pilot study little modifications were made and the main study was preceded.
The data obtained were analyzed using both descriptive and inferential statistics; frequency and percentage were used to analyze the baseline Performa. Frequencies, percentage, mean and standard deviation was used to calculate the pain and duration of labour, the comparison between two groups were made by the t test. Association of findings with demographic and obstetric variables was done by chi square test.

**Major findings of the study**

- Majority of women (45%) in this study were between the age group of 21-25 yrs. Very few 2.5% were above 35 years of age in all three groups
- Gestational age for women childbirth was between 38-40 weeks for majority of women in all three groups
- In aromatherapy the pain score is less, when comparing with other two groups. Figure shows that only 14% (28) of women had severe pain, 64.5% (129) had moderate pain and 21.5% (43) had mild pain. But in control group 28% (56) of women had severe pain, 33% (66) had moderate pain and 39% (78) had mild pain.
- In latent phase the mean pain score of aromatherapy is 6.2 and in control group mean pain score is 8.6. It was analyzed by t test, it showed that the p value is less than 0.0001 at 5% level of significance. Hence it was concluded that there is a significant difference in pain score of aromatherapy and control group.
- There was a reduction in mean duration of labour for women in the Aromatherapy & biofeedback Group when measured during the whole of labour in comparison with control group or non experimental group
- When comparing with control group in first stage of labour and third stage of labour the p value is less than 0.0001. It indicates the biofeedback therapy in first and third stage of labour is having significant relationship with duration of labour.
- It was identified that there is no significant difference between aromatherapy group and Biofeedback Group. Although more women in
aromatherapy group were satisfied with pain relief and caesarean section was reduced. No women in either group had a postpartum haemorrhage. There was not much difference between two groups.

✓ In aromatherapy group 96% of women told that they will recommend this treatment to their friends and relatives. 99% of mothers reported that they need this treatment for their next childbirth.

✓ The majority of women in biofeedback group (45.5%) of women were strongly agreed that the biofeedback change their mood from unpleasant to pleasant.

✓ Overall the investigator achieved the main aim of this study and it was proved that aromatherapy and biofeedback was effective with regular treatment in reduction of pain and duration of labour during childbirth.

The study was enriched the experience to the investigator. The satisfaction of the participants in the experimental group motivated the investigator. The constant encouragement and guidance to the study participants motivated them to cooperate with the investigator in the study contributed to the fruitful completion of the study.
CONCLUSION

Observation more than books, experience rather than persons, are the prime educators

(A B Alcot)

Effectiveness of aromatherapy and biofeedback in reduction of pain and duration of labor is the main concept of this study.

The following conclusions were drawn from the basis of this study finding

- All the women in group I (Aroma therapy), II (Biofeedback) and III(control group) were comparable with age, occupation, income, religion, age at menarche, history of dysmenorrhrea and pain perception
- Most of the women in non experimental group experiences severe pain than the experimental group.
- When doing comparison of aromatherapy and biofeedback it was found that aromatherapy is best in relieving pain and duration of labour.
- Reduction in pain and greater satisfaction was observed in aroma therapy and biofeedback therapy when compared with the control group
- APGAR score was good for the babies of group I and Group II
- History of dysmenorrhea is having association with the pain during childbirth in women of all three groups.
- The women received aromatherapy and biofeedback stated that the treatments given a sense of well being
- Majority of women in group I and II reported that they would like to have this treatment for their next childbirth.
- Most of the women in experimental group said that they wish to recommend this to their friends and relatives.
- On the whole all the women received aromatherapy and biofeedback expressed reduction of pain and duration of labour during childbirth
- Precisely the study findings reflected that aroma massage is bet in reduction of pain and duration of labour than the other two groups.
7.1 IMPLICATIONS

Knowledge is a right of every human being and every human has the right to health. Attainment of health by all is proposed by the Alma Ata declaration of WHO. This slogan should be felt by all and every individual should take the responsibility towards promoting health. The findings of the study have implication for nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

✓ The findings of the present study revealed some facts that have far reaching implications for nursing in the areas of practice, education, administration and research.

✓ Pregnancy and childbirth is an intensely pleasant experience in a women's life. Mostly labour is accompanied by severe pain, stress, discomfort and it may requires more than regular treatment.

✓ Many methods are available to relieve labour pain, it is the major aim of the midwives to alleviate pain and suffering during childbirth. If non pharmacological methods like aromatherapy and biofeedback were applied in day today practice, definitely the pain and suffering during labour will reduce and the mother will have natural, safe and positive childbirth experience.

✓ The application of aromatherapy and biofeedback not only provides pain relief but also it provides comfort, relaxation and sense of well being.

✓ Intrapartum care giver or the midwife who is attending the labour may get many opportunities to make the childbirth more pleasant and memorable one by providing a variety of comfort measures during labour.

✓ The findings of the study can be used by the health care professionals in reducing pain, promoting comfort and satisfaction to all mothers who are in process of labour. This is very simple, cost effective and safe technique it does not have any adverse outcome over mother and fetus.
**Nursing education**

- One of the important aspects in nursing is alleviation of pain, provision of comfort and quality care. The use of non pharmacological pain relieving interventions such as aromatherapy, biofeedback, acupressure, hot application, hypnosis, yoga etc can be included in nursing education.
- Midwives are more close to the mother during childbirth, when they are incorporating these techniques in the technique properly it may provide positive experience towards childbirth.
- Nurse educators must highlight all these non invasive methods of pain relief in their curriculum of basic education as a part of intranatal care during childbirth.
- The study has improved the importance of knowledge in nursing regarding the practice of non pharmacological pain relief methods.
- The finding will help the nursing student to understand about the need to be equipped with adequate knowledge.
- The finding will help the nursing faculty to give more importance for planning and organizing the alternative therapies in reduction of pain, it helps to improve the knowledge of clinical practicing students.

**Nursing administration**

- Today there is an increase in demand of quality care. Nursing administrators are in a vital position to prepare policies and its execution of quality nursing care based on research findings.
- In-service education for the staff regarding non pharmacological pain relief methods during childbirth should be conducted to update their knowledge and to educate the couples about the labour support measures.
✓ Nurse administrators should make arrangements for maintaining adequate nurse patient ratio and to make facilities for family support in the labour room. Periodic evaluation also should be made to identify the accomplishment of such programmes.

✓ The Nurse administrators should modify the behavior of the nurses to match the corporate level of clients, so that everybody will have faith in health teachings given by nurses.

✓ Nurses as administrators should take great interest in encouraging nurses to learn more about non pharmacological pain relief methods and to use their knowledge in practice.

✓ This is possible if the nurse as an administrator takes initiatives in imparting the health information through printed materials, in the form of booklets,

**Nursing research**

✓ Nursing research is the most required field to be developed and it is only through research that nurses can provide their proficiency in the field of education, practice and administration in health care aspects.

✓ Nursing researchers should be aware about the new trends and existing health care system.

✓ Emphasis should be laid on research in the area of non pharmacological measures of pain management during labour.

✓ The experimental nursing researchers should be aware about the new trends and existing health care system.

✓ The findings of the research need to be disseminated through publications so that the utilization of such research findings must be encouraged.

✓ Nursing research should be given more emphasis on student nurses and nurse practitioners to alleviate suffering of patients
7.2 Limitations

The limitations of the study were:

- The study is limited only to primigravida mothers.
- Study was limited to only two variables like pain and duration of labour.
- The study was limited to few teaching hospitals in the city.

7.3 Recommendations

On the basis of this study findings following recommendations are offered for further research.

- The study can be replicated with multi gravida mothers.
- This experimental study can be undertaken in different settings like government hospitals and PHCs.
- A comparative study can be undertaken with the other non pharmacological method of pain relief.
- The study can be undertaken to evaluate other labour outcomes.
- A similar study can be carried out in different cultures of patients.
- Descriptive study can be conducted to identify the preference of parturient about non pharmacological pain relief method.

7.4 Suggestions

- Adequate nurse client ratio should be maintained in the labour room for the provision of such type of care.
- Topics like non pharmacological methods of pain relief during childbirth can be given more emphasis in the nursing curriculum.
- There should be a hospital policy for the provision of family support during labor.
- Nursing students can conduct projects on various non pharmacological interventions during childbirth.
Summary

The investigator felt satisfaction and fulfillment for having undertaken the study. On the whole the study was enriching and provided new learning experience for the investigator in the field of research. The experimental groups who received aromatherapy and biofeedback were very much satisfied and happy with the care they received and for the memorable childbirth experience. The result of the present study shows that there is a great need for the health professionals to implement this method in their clinical field and make available to the women in labour.