CHAPTER VI
SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 SUMMARY

Breast cancer tops all cancers in women both in the developed and the developing world. The incidence of breast cancer is increasing in the developing world due to increase in life expectancy, increased urbanization and adoption of western lifestyles. Although some risk reduction could be achieved with prevention, these strategies cannot eliminate the majority of breast cancers that develop in low- and middle-income countries where breast cancer is diagnosed in very late stages.

Breast cancer survivors report a higher prevalence of mild to moderate depression with a lower quality of life in all areas except for family functioning. Treatment of depression in breast cancer women improved their quality of life and increased longevity. The researcher felt the need to install meditation among women with breast cancer subjected to mastectomy.

The objectives of the study were to:

- Evaluate the effectiveness of meditation on depression among women with breast cancer subjected to mastectomy.
- Determine the effectiveness of meditation on QoL among women with breast cancer subjected to mastectomy.
- Identify the relationship between depression and QoL among women with breast cancer subjected to mastectomy.
- Associate the selected background variables with depression and QoL among women with breast cancer subjected to mastectomy.
The formulated study hypotheses were:

**NH₁**: There is no significant difference in the depression among women with breast cancer subjected to mastectomy who participate in the meditation than those who do not.

**NH₂**: There is no significant difference in the QoL among women with breast cancer subjected to mastectomy who participate in the meditation than those who do not.

Related literature were reviewed and grouped under each category. Conceptual framework was based on Roy’s adaptation model.

The research design adopted for this study was non-randomized pre and posttest with control group. Video on meditation was prepared by the investigator on consultation with experts. It consisted of meaning, types, uses and techniques of meditation including basic (Agna, Moolathara and Thuria) and nine centres meditation (Moolathara, Swathitana, Maniporaga, Anagatha, Vishukthi, Agna, Thuria, Thurithedha and Thuvathasangam). They were explained through video presentation and demonstrated by the investigator on an individual session for 40 minutes. A total of six sessions were practised by the subjects under the supervision of the investigator.

The study was conducted after getting approval from ethical committee. The investigator got permission from the directors and medical superintendent of SRMC and Adyar Cancer Institute (WIA). The researcher introduced herself to the participants and obtained the informed consent from those who met the inclusion criteria. The participants were selected through purposive sampling technique. The sample size was 300 (150 for the study and 150 for the control group). The pretest was conducted among women through demographic and clinical variables, level of
depression and modified QoL in the study and the control groups before installing intervention with the help of research assistants.

The video assisted teaching was provided on one to one basis at bedside one day prior to surgery, 2nd and 3rd post-operative days and in action following each study participants. No such intervention was installed in the control group. The reminder call was given through telephone, every fortnight to the study group to reinforce the importance of practicing meditation to reduce depression and improve their QoL.

The posttest I and II were conducted on 30th day (28, 29, 30, 31, 32) and 90th day (88, 89, 90, 91, 92) for both the groups when they came for follow up and their level of depression and modified QoL were assessed. Then one session of video assisted teaching was shown to the control group after the posttest II.

The instruments used had 6 parts:

Part I - Background variables

Part II - Beck Depression Inventory (BDI)

Part III - Modified QoL – Breast Cancer Tool

Part IV- Meditation Intervention.

Part V- Meditation performance check list

Part VI- Meditation performance diary

The content validity was obtained from experts in the field of Nursing, psychiatry, surgical oncology, clinical psychology and yoga practioner. The feasibility of the tool was established by conducting pilot study. The reliability of the BDI was
tested by test re-test method, the value was $r = 0.94$. The modified QoL was found by test re-test reliability method, the score was $r = 0.93$. Meditation performance checklist reliability was assessed by interrater method. The score was $r = 0.81$.

A pilot study conducted with the proposed sample size helped to assess the feasibility of the instruments. Modifications were done based on the pilot study results and experts recommendations.

**Findings of the study**

- In the study group, majority of them 70 (46.7%) and in control group, 72(48%) were in the age group of 51-60 years and 17(11.3%) in the study group and 8(5.3%) in the control group belonged to the age group of 21-30 years. 107(71.3%) in the study group and 108(72%) in the control group were married and 6(4%) in the study group and 7(4.7%) in the control group belonged to the category of unmarried or separated.

- The level of depression among patients with breast cancer subjected to mastectomy between the study and the control group showed that in pretest 20 (13.3 %) women in the study group and 5 (3.3%) in the control group had minimal depression. 77(51.3 %) had mild depression in study group whereas, the control group showed 69 (46 %). 53(35.3 %) had moderate depression in the study group and the control group exhibited 76 (50.7 %). There was no significant difference between both the groups as depicted through chi square so, the homogeneity between the groups was maintained. The chi square value was 4.54 with p value of 0.103.

- Comparison of posttest I in the study group had 73 (48.7% ) with minimal depression and in the control group had 13 (8.7 %). 59 (39.3 %) had a mild
depression whereas, the control group had 85 (56.7 %). A moderate level of depression seen in the study group 18 (12 %) whereas; the control group had 52 (34.7 %). The groups had significant difference exhibited by chi square value of 63.069 with p=0.000

- In the posttest II level of depression, the study group had 102 (68 %) with minimal depression and control group had 15 (10 %). The study group had 43 (28.7 %) with mild depression while compared with control group 76 (50.7 %). The moderate level of depression in the study had 5 (3.3 %) and the control group had 59 (39.3%). The groups had significant difference exhibited by chi square value of 119.406 with p=0.000

- The QoL among women with breast cancer subjected to mastectomy between the study and the control group showed that 116 (77.3%) in the study group and 143 (95.3%) in the control group had average QoL. 34 (22.7%) in the study group and 7 (4.7%) in the control group had poor QoL. The groups had no significant difference as shown by chi square value of 4.62 with p=0.099 during pretest. Thus homogeneity between the groups was maintained

- Regarding the posttest I QoL among women with breast cancer subjected to mastectomy in the study and the control group projected that 102 (68%) had good QoL and 48 (32%) had average QoL in the study group. In control group 4 (2.7%) had good QoL and 135 (90%) had average QoL and 11 (7.3%) had poor QoL. There is a significant difference between the groups at p<0.001 which depicted that there is an improved QoL in the study group than the control group

- In the posttest II QoL among women with breast cancer subjected to mastectomy in the study and the control groups showed that 11 (7.3%) had
average QoL, 117 (78%) had good QoL and 22 (14.7%) had good QoL in the study group. In the control group 14 (9.3%) had poor QoL and 133 (88.7%) had average QoL and 3 (2%) had good QoL. There was a significant difference between the groups at p<0.001 which implied that there is an improved QoL in the study group than in the control group.

- Pretest mean depression of the study group was 18.03 with SD 4.19 and control group mean value was 19.23 with SD of 3.44. The independent t test value was 1.93 which is statistically not significant. There is no significant difference between the groups. In posttest I and II depression scores between the study and the control group, a significant difference existed which showed a significant reduction in depression at the level of p<0.001.

- Pretest level of depression of the women with breast cancer subjected to mastectomy in the study group had a mean score in the pretest as 18.03 and posttest I as14.23. There was a significant reduction in the posttest I mean score of depression than the pretest at the level of P <0.001. The mean score of the pretest 18.03 when compared with posttest II mean was 11.12 which showed a significant reduction of depression in the posttest II. Comparison of posttest I with II revealed that there was a significant difference in the mean score of both levels of assessment at p<0.001.

- In the control group mean score depression during pretest was 19.23 and posttest I mean was 18.1. There was a significant difference in the level of depression between pretest and posttest I among women subjected to mastectomy at the level of P <0.001. When the pretest was compared with posttest II, it showed a significant difference between the assessments of
depression. Comparison of posttest I and II showed there was no significant difference between the assessment

- Repeated measures ANOVA of depression among women with breast cancer subjected to mastectomy. In pretest the mean depression was 18.03, posttest I the mean depression was 14.23 and in posttest II mean was 11.12. There was a reduction in level of depression among the study group in pretest, posttest I and II which was highly significant at p<0.001, whereas in the control group, it was moderately significant between pretest, posttest I and II at p<0.01.

- In the study group overall QoL mean in the pretest was 173.99 and posttest I was 250.54. There was a significant improvement in QoL mean in the posttest I than the pretest mean at the level of P <0.001. When the pretest mean was 173.99 and the posttest II mean was 280.71, there was a significant improvement in QoL mean of the posttest II than pretest mean at the level of p<0.001. The comparison between the posttest I mean was 250.54 and posttest II mean was 280.71 at p<0.001.

- Comparison of pretest, posttest I and posttest II mean score of overall QoL women with breast cancer subjected to mastectomy. In the control group pretest QoL mean was 185.92 and the posttest I mean was 186.71. There was no significant difference in the QoL mean in the pretest and the posttest I. Pretest mean QoL was 185.92 and the posttest II mean was 188.26. The posttest I mean was 186.71 and posttest II mean was 188.26. There was no significant difference between pretest, posttest I and II in overall QoL.

- The pretest mean was 173.99 with SD 18.87 in the study group and in the control group, the mean was 185.92 with SD 14.85. There was no significant difference between the study and the control groups during pretest.
• In the study group, posttest I mean was 250.54 with SD 30.35 and in control group mean was 186.71 with SD 24.19. Posttest II mean was 280.71 with SD 35.74 in the study group and in control group the mean was 188.26 with SD 24.12. There was a significant improvement in QoL after practising meditation during posttest I and II at p < 0.001

• The QoL in the study group on various domains of physical wellbeing mean was 38.47, the psychological well being mean was 60.58, the social wellbeing mean was 38.10 and spiritual wellbeing mean was 36.70 during pretest. In the control group, physical wellbeing mean was 41.24, psychological wellbeing mean was 68.58, social wellbeing mean was 37.52 and spiritual wellbeing mean was 38.58 in the pretest. There was no significant difference between the study and the control groups in the QoL on various domains during the pretest.

• The QoL on various domains of the study group in the physical wellbeing mean difference was 13.41, psychological wellbeing mean difference was 41.23, social wellbeing mean difference was 12.65 and spiritual wellbeing mean difference was 9.39. There was a significant difference in QoL of the study group between pretest and posttest I after the meditation practice at p<0.001

• In the control group the QoL in the physical wellbeing mean difference was 0.31, psychological wellbeing mean difference was 1.54, social wellbeing mean difference was 0.55 and the spiritual wellbeing difference was -1.70. There was no significant difference in the QoL of the control group between pretest and posttest I

• Repeated measures ANOVA of QoL among women with breast cancer subjected to mastectomy shown in the Table 24 proved that there was an
improvement in QoL among the study group when compared with the control group at the level of \( p<0.001 \)

- Meditation performance among women with breast cancer subjected to mastectomy in the study group: 100\% of the participants followed core guidelines in both posttest I & II. 61\% participants in posttest I and 82\% in posttest II followed core and pre requisite guidelines. 39\% participants in posttest I and 18\% participants in posttest II followed core and not the pre requisite guidelines.

- Correlation between Overall depression and QoL among women with breast cancer in the study group. There was a strong negative correlation between depression and QoL during posttest I and II in the study group which was statistically significant at \( p < 0.001 \). There was a moderately negative correlation between depression and QoL during posttest I and II in the control group which was significant at \( p < 0.001 \).

- In correlation between meditation performance and depression among women with breast cancer in the study group: There was a strong negative correlation between meditation performance and depression during posttest I and II in the study group which was statistically significant at \( p < 0.001 \).

- The correlation between meditation performance and QoL among women with breast cancer in the control group: There was a strong positive correlation between Meditation performance and QoL during posttest I and II in the study group which was statistically significant at \( p < 0.001 \).

- The association between family income of women with breast cancer subjected to mastectomy and posttest I depression in the study group was at \( p<0.05 \). In posttest II an association between the age and family income with
level of depression in the study group among women with breast cancer subjected to mastectomy was seen at $p < 0.05$ except other variables.

- There was an association between the residence and occupation with QoL in the study group among women with breast cancer subjected to mastectomy during pretest at $p < 0.05$ except other variables. Association between QoL and family income of women subjected to mastectomy during posttest II was seen at the level of $p<0.01$.

- There is an association between depression and clinical variables
  - Stages of cancer ($p<0.01$)
  - Types of treatment ($p<0.001$)

- Association was found between QoL and clinical variable
  - period of time & stages of cancer ($p<0.05$)
  - types of treatment ($p<0.01$)

- The multiple regression combination of the eight background variables as small linear relationship to the depression was $R^2$ value = 5.6 %. An estimated 5.6 % of variance of the background variables can be accounted for multiple regression combination on predictors- age, residence, educational status, marital status, occupation, religion, income and type of family. Residence was mildly related to depression and it has got a positive gradient. Gradient for age, educational status, marital status, occupation, religion, income and type of family were negative in the study group.

- The multiple regression combination of the eight background variables has moderate linear relationship to the depression, $R^2$ value = 11.3 %. An
estimated 11.3% of variance of the background variables can be accounted for multiple regression combination on predictors - age, residence, educational status, marital status, occupation, religion, income and type of family. Educational status and occupation were strongly related to depression and it has got a positive gradient. Gradient for age, residence, marital status, religion, income and type of family were negative in the control group.

- The multiple regression combination of the eight background variables has small linear relationship to the QoL $R^2$ value = 7.9%. An estimated 7.9% of variance of the background variables can be accounted for multiple regression combination on predictors - age, residence, educational status, marital status, occupation, religion, income and type of family. Residence was mildly related to QoL and it has got a positive gradient. Gradient for age, educational status, marital status, occupation, religion, income and type of family were negative in the study group.

- The multiple regression combination of the eight background variables has moderate linear relationship to the QoL $R^2$ value = 5.2%. An estimated 5.2% of variance of the background variables can be accounted for multiple regression combination on predictors - age, residence, educational status, marital status, occupation, religion, family income and type of family. Residence and family income were mildly related to QoL and it has got a positive gradient. Gradient for age, educational status, marital status, occupation, religion, and type of family were negative in the control group.
6.2 The study conclusions are:

Meditation is effective in reducing the level of depression among women with breast cancer subjected to mastectomy.

The meditation practice decreases the level of depression and improved the QoL among women with breast cancer subjected to mastectomy.

The results also projected that depression and QoL showed strong correlation in the study group.

6.3 Implications of the study

Some of the implications derived from the present study could be applied in various practice like education, administration and research.

1. Nursing practice

The present study reveals the depression and impaired QoL among women with breast cancer subjected to mastectomy. The nurses working in clinical and community settings should try to install complimentary medicine in their practice.

Meditation practice has a definite reduction in the level of depression and improved QoL among women with breast cancer subjected to mastectomy. As a nurse, this message should be echoed in the clinical and community setting.

Nurses in the clinical setting play a vital role in disseminating evidence based CAM (complementary alternative medicine) practices to help the
women to teach one to one basis to lead a healthy environment and it reduces morbidities.

The present study strongly suggested that adequate literature support and the meditation practice improves the sense of wellbeing which influences their life style to bring peaceful environment in their family.

2. Nursing Education

In nursing education the CAM was integrated in new revised curriculum as per Indian nursing council in the year of 2006. Hence nursing education has ample opportunity to spread the knowledge of meditation to the nursing students as a continuation of the general education curricula. This can help not only the clinical setting but also help individual students to modify their life style to achieve optimum health.

In service and continuing nursing education courses for nurses should aim at orienting nurses on effective CAM practices with strong research evidence. Meditation can be conducted among nursing fraternity.

Nurse educators should plan for ample opportunity for their students to practice and bring awareness about meditation to clinical and community settings. CAM is not only helping the particular age group but it is applicable for all age groups of population existing in this world.
3. **Nursing administration**

Nurse administrator should integrate complimentary therapies in managing psychological morbidity at different levels of prevention in various areas of health care delivery system. It should be placed in policies and protocols to ensure the uniform practice by health care team members.

The administrator should encourage research activities on CAM in the clinical and community geographical areas. To provide physical facilities to practice meditation for the patients, family members and care team members.

Nurse Managers can buoy up their team members to conduct health education program on meditation in the inpatient and outpatient department in the clinical setting. Also organize mass health awareness program, rally, and camps on meditation to propagate in the community settings.

4. **Nursing Research**

The nurse can be motivated to bring innovative ideas on clinical research by inculcating various complimentary therapies in patient care. All nurses should be encouraged to participate in the research activities through evidence based nursing practice to bring laurel to the nursing profession.

Such new empirical knowledge can improve QoL and decrease depression among women with breast cancer subjected to mastectomy.
The incidence and prevalence of breast cancer are high when compared with other cancers. So the investigator felt a need in this prime area to inculcate meditation practices.

6.4 Recommendations for further study

a. A study can be replicated as true experiment design by randomizing the sample.

b. A study can be carried out through other types of complimentary therapy on patients with breast cancer.

c. A comparative study can be done on women with breast cancer with other cancers regarding psychological morbidity.

d. Studies may be replicated in other settings especially community areas.

e. Long term follow up studies can be conducted for 6 months – 3 years.

f. Psychological disorders other than depression and other physical problems could be subjected for meditation. Such researches can give an insight on the effect of meditation in various disorders.

g. A similar study can be conducted in different population.

h. Knowledge and practice of meditation among other health care team members also can be evaluated for a better understanding on CAM practices.