Chapter - V

SUMMARY, RESULTS & CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

SUMMARY:

Usually stress is more among patients who are subjected for surgery, but when a patient is posted for surgery on heart then the stress will be in higher level. The researcher felt to study the level of stress in-depth and recommend implementing the counseling programme so that the patients who have posted for cardiac surgery will reduce the complications which are mediated through the stress. Therefore the present research investigates the effect of cardiac surgery on stress, anxiety, coping strategies and quality of life among cardiac surgical patients.

The optimum stress is a balance between excitement and relaxation that can help you to concentrate, focus and achieve what you want. The optimum stress helps you to become centered, clear and ready for action. The optimum stress releases your energy and helps you to become more effective in long term. The high stress results constant arousal, and anxiety causing the person’s body to react with heart palpitations, continual sweating, stomach acidity, muscle spasms and high blood pressure. In long term high stress can cause irreparable damage to person’s physical and mental health and wellbeing.

The stress is defined as a perturbation of the body’s homeostasis, as per medical parlance. This demand on the body-mind energy occurs when it tries to cope with incessant changes in life.
Coping behavior is a person’s cognitive and behavioral effort to manage the internal and external demands appraised as taxing or overwhelming. Coping is described as having two main components: (1) problem-focused coping, and (2) emotion-focused coping, (Lazarus and Folkman, 1984).

Stress is an experience which always arises when an individual finds it difficult to cope with the changes or challenges that arise out of his/her environmental events. Environmental events which cause or produce stress are known as stressors. These may be physical, psychological, social, political, economic and organizational etc. Every individual requires optimum amount of stress to set the goal.

The cardiac patients pose number of psychological problems due to their cardiac problems. These psychological problems implied on the body, therefore body also suffer and creates physical problems. If problems were in any other parts of the body probably the problems would not have been too depth as it has happened in the cardiac surgery patients. Therefore their mind swings between life and impeding death due to heart problems as well as cardiac surgery. The proposed study was to assess the levels of stress and coping strategies among cardiac surgical patients.

**The Problem:**

A study to assess the levels of stress and coping strategies among cardiac surgical patients.

Following are the main research issues which are studied in the present research study.
Main Research Issues

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1. Do the cardiac surgical patients differ significantly in their stress symptoms during preoperative and follow up periods?
2. Do the cardiac surgical patients differ significantly in their anxiety during preoperative and follow up periods?
3. Do the cardiac surgical patients differ significantly in their coping strategies during preoperative and follow up periods?
4. Do the cardiac surgical patients differ significantly in their quality of life during preoperative and follow up periods?
5. Is there correlation among the type of personality with stress, anxiety, coping strategies and quality of life?
6. Is there association between stress with anxiety, coping strategies, and quality of life during preoperative period?
7. Is there association between anxiety with coping strategies and quality of life during preoperative period?
8. Is there association between coping strategies with quality of life during preoperative period?
9. Is there association between stress with anxiety, coping strategies, and quality of life during follow up period?
10. Is there association between anxiety with coping strategies and quality of life during follow up period?
11. Is there association between coping strategies with quality of life during follow up period?
**Hypotheses**

On observing the above mentioned issues, the following Hypotheses are formulated and studied in the present research.

**Ha**<sub>1</sub>. Cardiac surgical patients differ significantly in their stress symptoms during preoperative period and the follow up period.

**Ha**<sub>2</sub>. Cardiac surgical patients differ significantly in their anxiety during preoperative period and the follow up period.

**Ha**<sub>3</sub>. Cardiac surgical patients differ significantly in their coping strategies during preoperative period and the follow up period.

**Ha**<sub>4</sub>. Cardiac surgical patients differ significantly in their quality of life during preoperative period and the follow up period.

**Ha**<sub>5</sub>. There is significant correlation between personality type A/B with the stress symptoms, anxiety, coping strategies and quality of life among cardiac surgical patients during preoperative period.

**Ha**<sub>5.1</sub>. There is significant correlation between personality type A/B and the stress symptoms among cardiac surgical patients.

**Ha**<sub>5.2</sub>. There is significant correlation between personality type A/B and the anxiety among cardiac surgical patients.

**Ha**<sub>5.3</sub>. There is significant correlation between personality type A/B and coping strategies among cardiac surgical patients.

**Ha**<sub>5.4</sub>. There is significant correlation between personality type A/B and the quality of life among cardiac surgical patients.

**Ha**<sub>6</sub>. There is significant association among stress, anxiety, coping strategies and quality of life of cardiac surgical patients during preoperative period.
Ha6.01. There is significant association between stress and anxiety among cardiac surgical patients during preoperative period.

Ha6.02. There is significant association between stress and coping strategies among cardiac surgical patients during preoperative period.

Ha6.03. There is significant association between stress and quality of life among cardiac surgical patients during preoperative period.

Ha6.04. There is significant association between anxiety and coping strategies among cardiac surgical patients during preoperative period.

Ha6.05. There is significant association between anxiety and quality of life among cardiac surgical patients during preoperative period.

Ha6.06. There is significant association between coping strategies with quality of life among cardiac surgical patients during preoperative period.

Ha7. There is significant association among stress, anxiety, coping strategies and quality of life, of cardiac surgical patients during follow up period.

Ha7.01. There is significant association between stress and anxiety among cardiac surgical patients during follow up period.

Ha7.02. There is significant association between stress and coping strategies among cardiac surgical patients during follow up period.

Ha7.03. There is significant association between stress and quality of life among cardiac surgical patients during follow up period.

Ha7.04. There is significant association between anxiety and coping strategies among cardiac surgical patients during follow up period.

Ha7.05. There is significant association between anxiety and quality of life among cardiac surgical patients during follow up period.
There is significant association between coping strategies with quality of life among cardiac surgical patients during follow up period.

**TOOLS USED:**

Following 10 measures were used to collect the data from cardiac surgical patients.

1. Personal Information.
2. Kindler’s Personal Stress Assessment Inventory, Somatic Symptoms (1981)
10. W.H.O-BREF. Quality of Life Scale.

**Pilot study**

The present study was conducted with the permission of the heads of the KLE Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum. The pilot study was conducted to verify the suitability of all the scales, to check the clarity of the instructions and the length of time required to complete the questionnaires in the sample groups, before the final administration of the scales on the main sample of the study. This study has included 100 subjects preoperatively, and follow ups periods. Approximately cardiac surgical patients have taken 60 to 75 minute to complete the
tools. The obtained result of the pilot study inspired the researcher to continue the study further, eventually the involved 300 cardiac surgical patients.

**Sample**

The present research has investigated into the levels of stress and the coping strategies among cardiac surgical patients. Therefore, the samples chosen for the present study were the inpatients for cardiac surgery who have been proposed for surgery, these are, preoperative patients, they have to undergo cardiac surgery and the same patients have taken after surgery, who have come back after a month for the follow-up treatment to the cardiac OPD at KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum, Karnataka State, India.

The purposive sampling technique was adopted in this study. The sample size considered for the present study is 300 cardiac surgical patients, and the same patients were considered during their preoperative period and the follow-up period respectively. Patients, whose age range is between 22 and 76 years (Mean 49).

**Method**

The investigator obtained ethical clearance and formal permission from the Medical Director and Chief Executive, Administrator, Clinical Services, and also permission from Director, Heart foundation KLE Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum, to collect data for this main study. The data was collected continuously for duration of two years. The investigator introduced him-self and explained the purpose of the study to the cardiac surgical patients. The informed oral consent was obtained from each cardiac surgical patient. The investigator requested the patients to mark on the items, as it is applicable to them. The data
included assessment of stress, the coping strategies and the quality of life. It took 60 to 75 minutes to collect the data from each cardiac surgical patient. The data was collected from the cardiac surgical patients during the preoperative period i.e. a day before cardiac surgery was performed and also collected data after four weeks of the operation as a follow up study on the same cardiac patients.

**Statistical Analysis**

Raw scores are converted into standard scores for all the tests before applying statistical techniques.

1. **Student’s t-test:** this method has been used to find the significance of difference between means of two groups’ i.e. preoperative cardiac surgical patients group and the follow up cardiac surgical patients group in all the relevant dimensions.

2. **Correlation:** Karl Pearson’s coefficient of correlation has been used to compute the linear relationship between any two groups. Here the coefficient of correlation has been applied to observe the relationship between personality and stress, anxiety, coping strategies and quality of life parameters.

3. **Chi-Square Test:** A non parametric test of statistical significance used to assess whether a relationship exist between two nominal-level variables; symbolized as $X^2$. This method has been applied to assess the relationship between stress and anxiety, between stress and coping strategies, between stress and quality of life, between coping strategies and quality of life etc.

4. **Descriptive Statistics:** This method has been used to describe and summarize the data, namely frequency distribution, percentages and graphical figures are used to present the results. All the subjects of each domain among preoperative period and the follow up period are presented in this study.
RESULTS AND CONCLUSIONS

The somatic symptoms, which were higher during preoperative period and have reduced during, follow up period. This reveals that most of the somatic symptoms are reduced as operation has brought relief of those somatic symptoms among cardiac surgical patients.

On observation of stress resilience i.e. confidence, social support and capacity to recover from negative events including social and spiritual potentials, have increased from preoperative period to follow up period. This shows that there is increase in the confidence among cardiac surgical patients recovering from cardiac disease after cardiac surgery.

The psychological symptoms were more during preoperative period due to fear of unknown prognosis and during follow up period those symptoms have reduced. They also look happy and their day today performances were better than preoperative period.

The cardiac surgical patients’ pent up anxiety has reduced from preoperative period to follow up period as operation has brought success thereby reduced the anxiety and patients have adjusted very well with the environment. It is found that stress is statistically significant highly correlated to anxiety. As stress increases anxiety also increases.

The state anger during preoperative period which was less than the follow up period and has raised during follow up period. It is due to adjustment problems in hospital and home, due to restricted movement and adjusting to a new life style.

The patients were using coping strategies to deviate from the heart problems like pain, fear of unknown, fear of new environment etc. But during follow up period
there is reduction in using these measures. They do not need to create any measures to solve the problem, neither to think positive nor negative way or blaming anybody for their problems as well as expecting social support. Statistically it is also significant that coping strategies are highly correlated to stress. As stress increases cardiac surgical patients use more coping strategies to reduce the stress.

It is interesting to note that all the dimensions of Quality of Life (QOL) have scored high during follow up period in comparing with preoperative period. All the dimensions like perception of QOL, Satisfaction with health, physical domain, Psychological domain, social relation domain and environment domain have scored less during preoperative period and during follow up period all those dimensions scored high. This shows that, the quality of life was low during preoperative period due to cardiac disease, and corrected during operation, and after operation, there is more improvement in QOL during follow up period among cardiac surgical patients. This shows that cardiac surgical patients have improved their quality of life after operation.

Overall observation of all the tables like mean tables of all dimensions, comparison tables of various dimensions of stress, anxiety, coping strategies and quality of life, show that there are observable significant improvement changes found from preoperative cardiac patients to follow up cardiac patients. Statistically there is significant correlation between personality and denial/blame in coping strategies, and again there is significant relationship between personality and environment domain in quality of life among cardiac surgical patients. It was also found significant association between stress and anxiety during preoperative period among cardiac surgical patients. Mean while it was also found significant association between stress and coping strategies during follow up period among cardiac surgical patients.
IMPLICATIONS:

On observing the stress, anxiety and more using of coping strategies among the cardiac surgical patients, which were more during preoperative period and less during follow up period. Therefore the health personnel (doctors and nurses) should counsel the patients before cardiac surgery. Doctors and nurses should prepare the patients preoperatively, in such a way that, there should be no stress and anxiety and patients should come happily for the cardiac operation. Patients need human touch and care. Therefore health personnel should establish a preoperative counseling cell for cardiac patients. This kind of implications definitely brings good results among patient

SUGGESTIONS FOR FURTHER RESEARCH

1. The levels of stress among the patients suffering with cancer.
2. An intervention study among patients suffering with various diseases particularly in relation to stress and anxiety
3. An impact of Yoga on stress and anxiety.
4. A study on effect of yoga on quality of life.
5. A study on quality of life of alcoholics
6. An intervention study between Yoga and non Yoga practicing individuals among cardiac and diabetic patients.