CHAPTER III

METHODOLOGY

Sample

Sample for the study was cancer patients. Newly detected and current cases undergoing treatment, patients who have completed various modalities of treatment for cancer like surgery, radiotherapy, chemotherapy and patients under palliative care were included as the sample study. The patients in the age group 35 years to 65 years were chosen as sample.

There were 70 patients in the control group and 75 patients in the experimental group. Of the control group 6 patients discontinued and 4 patients died. In the experimental group 1 patient died and 2 discontinued. Finally, there were 60 patients in the control group and 72 patients in the experimental group.

The sample was constituted by a total number of 132. Of this, 60 patients were taken as the control group and 72 patients were taken as the experimental group. Patients selected for this study were categorized into four broad categories, as Head and Neck cancers, cancers of Gastrointestinal tract, cancer breast and cancer lung. Both males and females are included in the study as experimental and control group of the sample.

Pre test - post test design was used for this study.
Inclusion Criteria

Cancer patients in the age group 35-65 years. Both males and female cancer patients with different types of cancers of head and neck, gastrointestinal tract, breasts and lungs. Patients, who were not seriously ill. Patients who are willing to do the guided somato psychic relaxation at home with the help of audio tape and also willing to undergo health education and counselling.

Exclusion Criteria

Severely ill patients were excluded from the study. Patients, who were not seriously ill. Patients who are not willing to do the guided somato psychic relaxation at home with the help of audio tape and not willing to undergo health education and Counselling were excluded from the study.

Also, patients who default from the psychological intervention programme and those died were excluded.
Table 3.1
Distribution of the Sample based on age

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Age in Years</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35 to 50</td>
<td>25</td>
<td>31</td>
<td>56</td>
</tr>
<tr>
<td>2</td>
<td>51 to 65</td>
<td>35</td>
<td>41</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>72</strong></td>
<td><strong>132</strong></td>
</tr>
</tbody>
</table>

Distribution of the Sample based on age

Bar diagram
Table 3.2
Distribution of the Sample based on Sex

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Sex</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>21</td>
<td>33</td>
<td>54</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>39</td>
<td>39</td>
<td>78</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>60</strong></td>
<td><strong>72</strong></td>
<td><strong>132</strong></td>
</tr>
</tbody>
</table>

Distribution of the Sample based on Sex

Bar diagram
Table 3.3

Distribution of the Sample based on Religion

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Religion</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hindu</td>
<td>37</td>
<td>52</td>
<td>89</td>
</tr>
<tr>
<td>3</td>
<td>Muslim</td>
<td>5</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>Christian</td>
<td>18</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>72</strong></td>
<td><strong>132</strong></td>
</tr>
</tbody>
</table>

Bar diagram
### Table 3.4

Distribution of the Sample based on food habits

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Food habit</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vegetarian</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Non Vegetarian</td>
<td>59</td>
<td>70</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>132</strong></td>
<td><strong>72</strong></td>
</tr>
</tbody>
</table>

Distribution of the Sample based on food habits

**Pie Diagram of Experimental Group**

- Control Group, 98%
- Vegetarian
- Non Vegetarian
Pie Diagram of Control Group

Table 3.5
Distribution of the Sample based on personal habits

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Personal Habit</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Smoking</td>
<td>12</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>Chewing / Snuffing</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Nil</td>
<td>41</td>
<td>47</td>
<td>88</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
<td>72</td>
<td>132</td>
</tr>
</tbody>
</table>
Distribution of the Sample based on personal habits

Bar Diagram

Table 3.6
Distribution of the Sample based on Family H/o Cancer

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Family No. Cancer</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>8</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>No.</td>
<td>52</td>
<td>60</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
<td>72</td>
<td>132</td>
</tr>
</tbody>
</table>
Distribution of the Sample based on Family H/o Cancer

Bar Diagram

Table 3.8

Distribution of the patients based on site of cancer

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Site of Cancer</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Head and Neck</td>
<td>13</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>Gastro Int, Tract</td>
<td>9</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Breasts</td>
<td>32</td>
<td>30</td>
<td>62</td>
</tr>
<tr>
<td>4</td>
<td>Lungs</td>
<td>6</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>60</strong></td>
<td><strong>72</strong></td>
<td><strong>132</strong></td>
</tr>
</tbody>
</table>
Distribution of the patients based on site of cancer

Bar Diagram

Table 3.9

Distribution of the patients based on Marital Status

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Marital Status</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Single</td>
<td>9</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>Married</td>
<td>51</td>
<td>59</td>
<td>110</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
<td>72</td>
<td>132</td>
</tr>
</tbody>
</table>
Distribution of the patients based on Marital Status

Bar Diagram

Control Group  Experimental Group

0 10 20 30 40 50 60

Single  Married
### Table 3.10

**Distribution of the Sample based on Treatment**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type of treatment</th>
<th>Experimental Group</th>
<th>Control Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SR</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>RT</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>CT</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>PC</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>SR, RT, CT, PC</td>
<td>29</td>
<td>24</td>
<td>53</td>
</tr>
<tr>
<td>6</td>
<td>SR, PC</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>SR, CT</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>CT, PC</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>RT, CT, PC</td>
<td>15</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>10</td>
<td>SR, CT, PC</td>
<td>10</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>11</td>
<td>PC</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>RT, CT</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>RT, PC</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>CT</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>SR, RT, PC</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>SR, RT, CT</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>RT</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>72</td>
<td>60</td>
<td>132</td>
</tr>
</tbody>
</table>
Tools

The investigator used the following tools to collect data

1. Stress Check List (SCL):- Alice P Mathew (1996), Mahatma Gandhi University, Kotayam.


10. Counselling: Done by a clinical psychologist and trained counsellor. Individual Counselling was given to each patient at the centre and later one follow up Counselling with in the first month after collecting the data in the prescribed performa. Counselling included problems related
to the physical, psycho social, personal habits and treatment related problems and wellbeing of the individual. Care and support of the patient by the family also was looked into.

1. **Stress Check List**

   The Stress Check List (SCL) was prepared by Alice P Mathew (1996) based on review of literature and consultation with experts. Exclusive review of literature contributed fifty items describing sings and symptoms of stress on human body. These items included strain. These fifty items were listed from one to fifty in a table. The checklist was designed in such a way that the client can mark ‘yes’ or ‘no’ response in the boxes provided against the questions. Stress checklist was in Malayalam. This was used to collect the stress before and after psychological intervention.

   **Scoring**

   A score of one was given to each ‘yes’ response. When a person got a score of 10 or more he was considered to be under stress. General instructions for giving response by putting (✓) mark in appropriate columns (boxes) were included in the checklist.

   A model of the stress check list with boxes to mark answer is given as appendix I or II.

2. **State – Trait Anxiety Inventory (STAI)**

   State – Trait Anxiety Inventory developed by Spielberger, Gorsuch and Lushene (1968) was adapted into Malayalam by Das and Kumar (1994). This was used to collect data on state and trait anxiety of patients both in experimental and in control groups. The inventory comprised separate self-
report scales for measuring two distinct anxiety concept namely state anxiety and trait anxiety.

The STAI – state anxiety consists of eighteen statements that ask people to describe how they feel at a particular moment. The STAI – Trait anxiety scale also consists of eighteen statements. These statements require the subject to indicate how they generally feel. These two scales are printed on a sheet with specific directions to the patients how to mark the response. It is printed in Malayalam and English in the same sheet.

Reliability

Split – half Reliability

The split half reliability of the inventory was found to be 0.89 for state anxiety and 0.79 for trait anxiety. The test-rest reliability obtained was 0.81 for state anxiety and 0.70 for trait anxiety.

Validity

The co-relation co-efficient for state inventory was 0.84 and that for trait inventory was 0.86. These validated against the rating made by the progress scores show that the test has high validity.

The test can also claim face validity, since the final scale of the inventory was prepared after item analysis.

A model of the STAI is given as Appendix.

Scoring

The range of possible scores of STAI varies from minimum score of twenty to a maximum score of eighty in both state and trait sub scales.
Clients respond to each STAI items by rating themselves on a four-point scale as described below.

<table>
<thead>
<tr>
<th>State Anxiety</th>
<th>Trait Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Not at all</td>
<td>1. Almost never</td>
</tr>
<tr>
<td>2. Some what</td>
<td>2. Some times</td>
</tr>
<tr>
<td>3. Moderately so, and</td>
<td>3. Often</td>
</tr>
<tr>
<td>4. Very much So</td>
<td>4. Almost always</td>
</tr>
</tbody>
</table>

3. **Depression Inventory (DPI)**

The present inventory was developed on the basis of the Beck’s depression inventory and his cognitive theory of depression. The cognitive theory proposed by Aaron Beck is based on the relationship between thought and effect in human beings. Beck and co-workers suggested that errors in thinking cause depression. He noted that depressed people seem to hold a negative triad of belief that include.

1. A view of self as unworthy and deficient.
2. A view of the world as cruel and aversive, and
3. A hopeless view of the future.

The negative triads of beliefs lead to cognitive distortions in the depressed patients including problems such as:

1. Arbitrary influence, a conclusion drawn in absence of sufficient information.
2. Selective abstraction, a conclusion on the basin of but are of many elements.
3. Over generalization, an overall sweeping conclusion drawn on the basis of single, perhaps trivial events, and
4. Magnification and minimization, or gross errors in evaluating performance.

Thus depressed people tend to think in distorted ways. These distortions precipitate new problems and exacerbate old ones, leading to a vicious circle in which depression is continually increased.

The present inventory was designed to measure that depth of depression. Its items were based on observations of attitudes and symptoms characteristic of depressed patients most of the symptoms and attitudes associated with depression were accounted for, since the numbers of reported symptoms were found to be associated with the depth of depression. Some of those symptoms and attitudes are sadness, sense of failure, dissatisfaction, self-dislike, work inhibition, sleep disturbance, loss of appetite and loss of libido.

**Final Scale:**

Of the 18 items in the draft scale, 15 items were elected for the final tool. The instructions and the scoring procedures for the final scale was exactly the same as that of the draft scale. Copy of the final scale is presented as Appendix–10.

**Reliability**

The test-retest method was used to find out the reliability of the depression inventory. The final tool, after the item analysis has been administered to the subjects for collecting data. From this, 70 subjects have been selected at random for calculating the test-retest reliability. After a week, the test was again administered to the identified 70 subjects and a
second set score were obtained. The correlation coefficient thus obtained for the depression was 0.91. The high correlation value shows the higher rate of reliability of the depression inventory.

Validity

To find out the validity of the depression inventory concurrent validity method was used. For this the scores of depression inventory were validated against the concerned medical parishioners rating of the patients on depression, using a give 5 point rating scale. The correlation value thus obtained was 0.73.

This final form of the depression inventory was prepared by K.A Kumar and S.Vinodkumar it is printed in Malayalam.

4. **Subjective Well Being Inventory (SWBI)**

Nagpal and Sell developed subjective well-being inventory in 1992. Inventory consists of 40 items, which measure feeling of well-being or ill-being as experienced by an individual or a group of individuals, in various day to day life concerns.

The inventory measures 11 factorial dimensions. They are (1) general well being positive affect, (2) expectation achievement congruence (3) confidence is coping (4) Transcendence (5) Family group support (6) social support (7) Primary group concern (8) inadequate mental mastery (9) perceived ill health (10) Deficiency in social contracts (11) General well-being negative affect.
Reliability and Validity

The test was administered to different samples and the response were subject to factor analysis. The result of final analysis explained 65.5 percent of the variance.

The scale used for the study was; the adapted modified and translated version of Sell and Nagpal (1992) subjective were being inventory. The scale consists of for factors under two main categories Viz, positive congruence and negative congruence. The ten factors are:

a) Positive congruence
   1) Expectation – Achievement Congruence
   2) General well-being – Positive support
   3) Confidence in coping
   4) Family group support
   5) Social support

b) Negative congruence
   1) Inadequate mental Mastery
   2) Primary group concern
   3) General well-being – Negative support
   4) Deficiency in social contacts
   5) Perceived ill health.

This Self administered or interview administered test consist of 25 items with a single scoring method and can be scored by attributing values 3, 2 and 1 to the response categories of positive items and 1, 2, 3 to the negative
items. The number of positive items ranges from 1 to 15 and negative item ranges from 16 to 25. The sum total values are considered to the total score of the person.

**Reliability and Validity**

The split half and alpha reliability of the test (using Spearman – Brown formula) were estimated and found to be 0.70 and 0.54 respectively.

Concurrent validity with quality of life questionnaire with Malayalam adaptation by S.Laiju and Sam Sanandraj 2002 was found and the same was 0.71 (N = 65). The subjective wellbeing inventory used for this study was the one revised by Suhany. BT and Sam Sanandaraj of Kerala University (2002).

5. **Check list of physical symptoms of the patients**

The check list of physical symptoms of the cancer patients was prepared by the investigator after extensive reference to the standard text books of medicine and oncology. The present study includes four categories of cancer patients viz, head and neck cancers, cancers of gastro intestinal tract, breast cancer and lung cancer. Common symptoms of cancer patients including the main symptoms during and after various modalities of treatment like surgery, radiotherapy and chemotherapy were listed out and of which fifteen symptoms were selected for the present study after discussion with experts in medicine and oncology. Some of the symptoms are common to all cancer patients some are related to surgery, radiotherapy, chemotherapy, and some due to psychological problems associated with cancer. The checklist was prepared in Malayalam with specific instructions and printed in single sheet provision was made to mark the answer against each question in ‘Yes’ or ‘No’ response.
6. Psychological Intervention programme

There are three important components in the package. Health education related to cancer, Counselling and Guided smato psychic relaxation. This programme was designed after extensive reference and discussion with experts in the respective fields.

Psychological intervention package

This includes health education, counselling and guided somato psychic relaxation. This package was developed by the investigator under the guidance of experts in the field of cancer care, clinical psychology, counselling psychology and health education in cancer prevention and treatment. Printed format for health education prepared by the investigator with reference to the materials used by RESPO of Regional Cancer Centre, Thiruvananthapuram. Counselling done individually by a clinical psychologist and a counsellor. Guided Somato Psychic Relaxation done by providing pre-recorded audio tape.

a. Health Education Material (Brochure)

Health education material was prepared with the support of RESPO – of Regional Cancer Centre – Thiruvananthapuram.

This material was adapted and reproduced from the various health education materials of RESPO meant for cancer patients. This covers the major indicators for suspecting cancer, various aspects about the cancer prevention and control. Salient scientific aspects about cancer in general, oral cancer, cancer breasts, cancer stomach, cancer cervix and lung cancer are incorporated.
Even after knowing the diagnosis many patients continue, or fail to stop the personal habits which have definite influence on causation and progression of cancer. For example, pan chewing, tobacco use, smoking, and their role in aetiopathogenesis cancers of mouth, tongue, oesophagus, stomach and lungs. Hence, the health education material will be beneficial to such patients; which can lead to a behavioral modification. Hence, the health education material was designed and included in the psychological intervention package. The health education material is printed in Malayalam.

b. “Counselling” as a tool of treatment accepted for psychosomatic problems of various diseases.

In the present study counselling was given by clinical psychologists or counsellor. Initial counselling covered salient aspects psychosomatic problems of the cancer patients and helped them to cope with the situation. Follow up counselling was given within three weeks to one month.

c. Guided Somato Psychic Relaxation (GSPR)

Guided somato psychic relaxation developed by Sreedhar K.P 1996, is popular for its simplicity, its unambiguous and definite smooth steps. It is famous for its effectiveness in giving mental relaxation along with physical relaxation. In GSPR the relaxation is a totally guided one, starting from the soma to the psyche. GSPR is found to be very practical and simple for cardiac surgical patients (Alice P.M, 2005) and even cancer patients to practice since it does not involve any strenuous sudden movement of body parts. The movements are slow and steady and systematic is GSPR.

The purpose of GSPR is to reduce the stress, anxiety, depression and physical symptoms and to improve subjective well being of cancer patients.
GSPR is a modified form of Jacobson’s Progressive Muscular Relaxation (JPMR). In JPMR, mental relaxation is not given much importance though it is very effective in giving physical relaxation. But in GSPR much attention is paid to mental relaxation.

7. **Personal Data Sheet (PDS)**

Personal data sheet for this study was prepared by the investigator. This contained details to be collected about the patients both in experimental group and control group. Age, sex, martial status, food habits, habits of tobacco use, family history of cancer, diagnosis, staging of cancer, different types of treatment used and response to treatment. This was mainly aimed for collecting data on socio demographic variables and this was printed in English.

8. **Procedure**

The investigator has undergone a training course of national level at the institute of palliative care Thrissur. Conducted by Indian Association of Palliative Care (IAPC) and qualified a certificate course.

The investigator has also undergone training on Guided Somato Psychic Relaxation techniques and Counselling under Prof. Dr. Krishnaprasd Sreedhar. These trainings helped in administering the tools.

The investigator obtained permission from the Superintendent District Hospital Palakkad and the Director, Institute of Palliative Care, Thrissur for collecting data and conducting the intervention study Got the approval of Ethics Committee.

The sample was collected from among the cancer patients attending Palliative Care Department of the District Hospital Palakkad and Institute of Palliative Care, Thrissur; observing the inclusion and exclusion criteria.
Patients were categorized into experimental group and control group. Those who received the psychological intervention programme constituted the experimental group and those who did not receive constituted the control group.

Option was given to the patients either to undergo the psychological intervention or to continue with the treatment as advised from the center. Hence, the patients who had facilities to use a tape recorder for GSPR and willing to do relaxation at home were included in the experimental group.

Written consent in printed proforma was obtained from the individual patients of the sample included in the study. The investigator explained about the programme to the patients. In the entries were made in the personal data sheet by the nurse of the center the printed tools were given to the patients and the responses were recorded by them. After this Counselling and GSPR were administered to the patient at the center. Printed health education material was given to the patients with instruction to read it. The family members were also instructed to help and encourage the patients to do the relaxation at home for three weeks. For which pre-recorded audio cassette was supplied by the investigator free of charges with direction to return the same after use. This was an intervention study with experimental design pre test-post test-delayed post test design. The pre test assessment of the different variable were made by using standard tools for both the control and experimental groups. The psychological intervention package in the form of health education, Counselling and relaxation was administered to the experimental group of cancer patients. Psychological intervention package was not administered to the control group. Patients in both control and experimental groups were followed up at the end of first month and third month and assessment was made using the same standard tools. Printed
response sheets for marking the relaxation done at home were given to the patients in the experimental groups.

9. **Steps followed in GSPR**
   
   a. The patients are instructed to be down or a comfortable cot in a supine position with head slightly raised on a pillow.
   
   b. The patient is informed that the relaxation has both physical and mental stages. In the physical stage these are ten steps.
      
      In the mental stage, there is a visualization process.
   
   c. All doubts of the patients were clarified before starting GSPR.
   
   d. The investigator demonstrated and described the following ten steps for physical relaxation.

2. **Physical Relaxation Steps Used**

   The patient is instructed to close his/her eyes from the beginning fill the end of GSPR and listen only to the directions given and to avoid other distractions.

   Step – I : Bring both the fact parallel to each other and feet towards the body at ankles. Feel the tension, feel the relaxation by bringing the feel to normal position when directed to relax…

   Step – II : Bring the fact parallel of each other, and push the toes away from the body as if pointing towards the wall. Feel the tension, feel the relaxation by bringing the feel to normal position when directed to relax.

   Step – III : Bring the feet parallel to each other, push the feels vertically downwards, without bending the know, feel the tension,
relax by putting the legs into normal position when directed to relax.

Relax the body parts from hip to toes when directed to do so.

**Step – IV** : Clench both the fists as if trying to squeeze, water out of a sponge, Feel the tension, relax by putting hands to normal position by opening the fists slowly when directed to relax.

**Step – V** : Clench both the fists again and bend the elbows and let the fists to touch the shoulders and press down on the shoulders. Feel the tension. Relax by putting hand back to normal position after opening the fist when directed to relax.

**Step – VI** : Arch both the shoulders backwards by raising the chest and breathing normally, fell the tension, relax and assume normal position when directed to do so.

**Step – VII** : Arch both the shoulders to the front, feel the tension. Relax by assuming the normal lying position when directed to do so.

Relaxation body parts from shoulders to tip of fingers as directed.

**Step – VIII** : Bring the chin a little down and push back the head downwards, feel the tension, relax, by assuming normal natural position when directed to relax.

**Step – IX** : Raise the eyebrows and form wrinkles on the forehead without opening the eyes. Feel the tension, relax by assuming normal position when directed to relax.

**Step – X** : Close the eyes tightly, feel the tension of eyelids. Relax by removing tension from eyelids slowly when directed to do so.

Relax the body parts from head to toes when directed to do so.
3. **Relaxation of Mind**

For relaxation of mind, the patient was instructed to visualize as detailed below.

1) Visualize a beautiful pond, filled with clear water in a very calm and peaceful environment deriving the dusk. The water in the pond is clear, pure, serene, and tranquil and absolutely stand still.

2) Like the water in the pond now, the mind is also becoming clearer and clearer.

3) Now the mind is extremely pure, serene, tranquil, and transparent and absolutely stands still.

4) Let your awareness get into deeper and deeper layers of your mind. Deep down the mind, there exists a total silence. Be in that silence until I call you, Relax (for 2 mts.).

5) The mind and body are now complete relaxed.

4. **Instructions for coming out of relaxation**

The patient is instructed to come out of relaxation by counting 1 - 5 and by making him gradually open his eyes.

1. Open your eyes gradually and slowly when you hear counting from one to five.

2. Place your hands on the stomach with fingers held together.

3. Bring the toes together and relaxation.

4. Turn your head to the left side and then to the right side.

   Free the hands and slowly sit up as used the heart rate of the patients was monitored before and after the relaxation to assess whether the patient
had relaxed well. It was found that the heart rate was considerably reduced by guided smootopsychic relaxation.

Counselling was done by the clinical psychologist at District Hospital Palakkad and by a practicing counselor at Institute of Palliative Care, Thrissur. Follow up counselling was done within three weeks. Follow up relaxation was done at the centre with the support of the trained nurse. Patients in the experimental group and control group were instructed to attend the center at the end of one month. All the printed tools were administered to the individual patients and response obtained. They were advised for the continuation of treatment advised from the Palliative Care Center and to come for regular review as advised.

After the completion of the third month, a second follow up is done and all the tools are administered to the individual patients in the experimental group. The reposes are obtained in the printed format as done previously.

The printed proforma and tools were administered to the patients in the control group at the first visit; at the end of first month and at the end of third month. And responses were recorded by the individual patients. They were also advised for the continuation of treatment advice from the Palliative Care Center and to come for regular review. But the psychological intervention package was not administered to the any of the patients of the control group.

Six patients defaulted at Palakkad and one patient defaulted at Thrissur centers during the study period. Four patients expired at Palakkad and two patients at Thrissur during the study period. The defaulted and expired cases were deleted from the sample. Altogether 60 patients were in
the control group and 72 patients in the experimental group. Thus, the sample of the study comprised 132 cancer patients.

**Statistical analysis of the data**

The data collected was scored as per the manuals. With the support of an expert using approved statistical software the data was compiled and analyzed by standard and approved statistical tools. The sample comprised of four different types of cancer patients, five different variables for study; namely stress, anxiety, depression, subjective well being and physical symptoms, pre test, post test and delayed post test for the experimental groups and follow up at the end of first month and third month. Hence, the statistical tools used were one way ANOVA, repeated ANOVA, analysis of covariance(ANCOVA) and Multivariate analysis of variance (MANOVA).

The data were analysed based on the objectives and hypotheses by employing appropriate statistical methods using SPSS as given by Brace et al. (2003).

The test for Least Significant Difference (LSD) for pairwise comparisons. The critical difference was calculated as per the procedure given by Broota, (1989).