CHAPTER 4

METHODOLOGY

4.1 Design of the Study
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4 METHODOLOGY

This chapter outlines the details about the methodology followed in this research. The design of the research adopted, the locale of the study, the sample and sampling procedure, selection of the sample for counselling intervention, description of the tools, administration of the tests, scoring and processing of the data, outline of statistical techniques and the approach adopted for counselling intervention are explained under appropriate heads.

4.1 Design of the Study

A factorial cum quasi-experimental design has been adopted for the present study. In a factorial design it is possible to test the effect of two or more independent variables on a dependent variable.

4.2 Locale of the Study

The locale of the present investigation is Kottayam Taluk (Kottayam District) and Kozhencherry Taluk (Pathanamthitta District) of southern part of Kerala State.

4.3 Sample and Sampling Procedure

The sample for the study consisted of 300 home-living elderly (156 males and 144 females) in the age group 60-79 years from Kottayam and Kozhencherry Taluks of Kottayam and Pathanamthitta Districts (Kerala)
respectively. The sample covered 100 elderly each from the three living arrangements chosen for the study. The living arrangements were: 1) The elderly living with spouse and children, 2) The elderly living with spouse alone, and 3) The widowed elderly living with children.

**Inclusion Criteria**

1. Persons, male or female (60 to 70 years), residents of Kottayam and Kozhenchery Taluks, living in their own homes.

2. Persons who were living with spouse and children, spouse alone, or the widowed living with children. Persons who have their children living within calling distance were also included in the category of people who were living with spouse and children and the widowed with children.

3. Persons who had reasonable level of communication.

**Exclusion Criteria**

1. Persons, male or female aged below 60 years and above 80 years.

2. Persons aged 60 - 80 years who were not residents of Kottayam and Kozhencherry Taluks.

3. Persons with a diagnosis of mental illness or serious health problems.

4. Persons who were living alone at home.

5. Persons who were re-married.

6. Persons who had no children.

7. Persons who were residing with a relative's family.

8. Persons who were having aged parents.

9. Persons who were living with four generations.
Sampling Procedure

A multi-stage random sampling method was adopted for drawing a sample of 100 elderly each from the three living arrangements chosen for the study. Kottayam Taluk includes three Community Development Blocks namely, Pampady, Pallam and Ettumanoor and also Kottayam Municipality. Kozhenchery Taluk covers three Community Development Blocks, namely, Elanthoor, Konni and Kulanada, and also Pathanamthitta Municipality. Kottayam and Pathanamthitta Municipalities constituted the urban area for the study and the six Community Development Blocks formed the rural area. The sample selection was done in three stages.

The first stage of sampling was the selection of the Municipalities and Panchayats. Since there were only two Municipalities both were selected. In the rural area, from each Community Development Blocks one Panchayat was selected at random, thus making a total of six Panchayats, three each from Kottayam and Kozhenchery Taluks respectively.

Selection of wards from the chosen Municipalities and Panchayats was the chief concern of the second stage of sampling. Kottayam Municipality has 32 wards and Pathanamthitta 24 wards. The wards were geographically divided into four clusters of eight wards each in the case of Kottayam Municipality and six in the case of Pathanamthitta Municipality. One ward was chosen at random from each cluster, thus making a total of eight wards, four from each municipality. For rural area, two wards each from the six Panchayats were chosen at random, thus constituting a total of 12 wards, i.e., six wards.
each from Kottayam and Pathanamthitta Taluks. Thus, the second stage of sampling provided 20 wards, 10 each from the two Taluks for the selection of the sample.

The next stage was the preparation of the final sample from the three living arrangement groups for the two Taluks, the latest electoral rolls providing the sampling frame. The electoral rolls of the selected wards were then compiled. From this, all the males and females aged 60 to 79 years were numbered serially as they occurred in the compiled list so that their family units could be identified. The family units were then arranged serially according to the living arrangement pattern of the elderly, observing the nature of family composition obtained from the electoral rolls. Those elderly with children living within calling distance were considered under the living arrangement of elderly living with children. This was identified with the help of the electoral rolls. Ward members and local religious leaders were also of great help in identifying the living arrangement pattern of the elderly. Thus, separate lists were made for each of the three living arrangement groups from the two Taluks.

Using exclusion and inclusion criteria, a sample of 50 elderly was selected from each of the living arrangement groups in the two Taluks. Thus the final sample comprised of 300 elderly, 100 each from the three living arrangement groups. Among those living with spouse (LA1 and LA2), only one of the spouses from each family unit was included in the sample. This was ensured by selecting the alternate male and female elderly from the concerned random lists of family units.
The following figure shows the procedure adopted for the sampling.

**Figure 1**  
Figure showing the sampling procedure
A break down of the sample according to living arrangement and other socio-demographic variables under consideration are given below. This gives an idea of the constitution of the sample.

Table 1 Distribution of the sample according to living arrangement and sex

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sex</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>LA1</td>
<td>59</td>
<td>41</td>
</tr>
<tr>
<td>LA2</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>LA3</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>144</td>
</tr>
</tbody>
</table>

Table 2 Distribution of the sample according to living arrangement and age

<table>
<thead>
<tr>
<th>Groups</th>
<th>Age</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60-69</td>
<td>70-79</td>
</tr>
<tr>
<td>LA1</td>
<td>62</td>
<td>38</td>
</tr>
<tr>
<td>LA2</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>LA3</td>
<td>43</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>165</td>
<td>135</td>
</tr>
</tbody>
</table>

Table 3 Distribution of the sample according to living arrangement and location of residence

<table>
<thead>
<tr>
<th>Groups</th>
<th>Location of Residence</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>LA1</td>
<td>58</td>
<td>42</td>
</tr>
<tr>
<td>LA2</td>
<td>52</td>
<td>48</td>
</tr>
<tr>
<td>LA3</td>
<td>58</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>168</td>
<td>132</td>
</tr>
</tbody>
</table>
Table 4  Distribution of the sample according to living arrangement and family income

<table>
<thead>
<tr>
<th>Groups</th>
<th>Income Level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low (&lt; Rs. 2000)</td>
<td>Middle (Rs. 2001 - 5575)</td>
</tr>
<tr>
<td>LA1</td>
<td>22</td>
<td>47</td>
</tr>
<tr>
<td>LA2</td>
<td>25</td>
<td>51</td>
</tr>
<tr>
<td>LA3</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>148</td>
</tr>
</tbody>
</table>

Table 4 shows the classification of the sample from the three living arrangement groups according to their monthly family income. The cut off points for low, middle and high-income groups were calculated by dividing the income distribution at the first and the third quartiles. They were:

1) Low – below Q1 = Rs 2000; 2) Middle – between Q1 and Q3 = Rs 2001-5575; 3) High – above Q3 = > Rs 5576

Table 5  Distribution of the sample according to living arrangement and educational status

<table>
<thead>
<tr>
<th>Groups</th>
<th>Educational Status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Illiterate (Edn1)</td>
<td>Prim/Middle (Edn2)</td>
</tr>
<tr>
<td>LA1</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>LA2</td>
<td>7</td>
<td>37</td>
</tr>
<tr>
<td>LA3</td>
<td>9</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>131</td>
</tr>
</tbody>
</table>

Table 5 shows the categorisation of the sample from the three living arrangement groups according to their educational status. They are illiterate (Edn1), primary and middle school (Edn2), high school/under graduates and
diploma holders (Edn3), and those having graduation and higher qualification (Edn4).

**Selection of the Sample for Intervention**

Selection of the sample for counselling intervention was done partially by the investigator himself and partially by the respondents. In most of the cases members of the pre-tested sample offered themselves for selection. This type of sampling is often named as 'self-selected sampling (Reddy, 1987). However, in a few cases the investigator motivated them to enter into the counselling process. Accordingly, a total of 42 aged individuals voluntarily expressed their desire to discuss their problems. Out of these, five respondents (four males and one female) were referred for psychiatric help. Thus the intervention sample consisted of 37 clients. It was observed that some of the clients, whose total adjustment was not very low, also sought counselling help. This is due to their maladjustment in one or two areas of adjustment, mostly in the area of emotional adjustment. Hence we could not draw a criterion for the selection of the sample relating to their total adjustment scores.

**4.4 The Tools**

The researcher utilised the following tools to elicit data in order to fulfil the stated aim and objectives of the study.

1. **Schedule for Socio-Demographic and Background Information**
2. **Adjustment Inventory (Subramanian, 1989)**
3. **Mathew Materialism-Spiritualism Scale (Mathew, 1973)**
4. Family Life Satisfaction Inventory for the Elderly (developed by the present investigator)

Description of the Tools

Schedule for Socio-Demographic and Background Information.

The socio-demographic data was elicited using a preformatted schedule, comprising of items that deal with data on taluk, living arrangement, gender, age, location of residence, family income and education. For the specific purpose of counselling, items eliciting family composition, religion, duration of widowhood, children's visit to parents, parent's visit to children, proximity of children's stay and leisure time activities were also included. Malayalam version and English translation of the Schedule for the Socio-Demographic and Background Information are given in Appendix I and Appendix II respectively.

Adjustment Inventory

This inventory was constructed and standardised in Kerala by Subramanian (1989), to the measure adjustment of elderly people, which yielded data on five areas of adjustment, namely, home, social, emotional, self and health.

A total of 74 items were constructed for the preliminary analysis. After item analysis on 370 elderly, 66 items were retained in the final inventory. Each item had two alternative responses, 'Yes' or 'No'. The Items were grouped on theoretical grounds into sub-scales A, B, C, D and E with 14, 13, 15, 13 and 12
items respectively. High score indicated good adjustment and low score, poor adjustment. The author defined and interpreted the sub-scales in the following manner.

**Concept Interpretations:**

**Home Adjustment (A)**

General satisfaction with one's own home, love and affection among family members, presence of feelings of integration, belongingness and interdependence, absence of disagreements, conflicts and quarrels.

**Social Adjustment (B)**

Ability to interact freely without undue inhibitions, participation in social activities, social sensitivity, good relationships with others, sense of belonging to the group, a desire for social interaction, insight into and awareness of social etiquette, respect for conventions, role playing in key positions and a feeling of being liked by others.

**Emotional Adjustment (C)**

Freedom from worry, anxiety, feeling of guilt, absence of abnormal fears, a general feeling of satisfaction, a calm and unperturbed temperament by and large and emotional integration.

**Self Adjustment (D)**

Positive feelings of self regard and of being useful to family and society, confidence in activities, zest for living and a feeling of belongingness.
Health Adjustment (E)

Safety with present health, an energetic, confident attitude and lack of complaints of illness.

Reliability and Validity

The reliability of the inventory was found by ‘test-retest’ as well as by ‘split half method’. It was calculated on a sample of 60 elderly (male N=33; female N=27) of the age group 55-80 years. The test-retest reliability coefficient using Spearman-Brown prophecy formulae was estimated as 0.95 and odd-even reliability was found to have a correlation coefficient of 0.77. The validity of the inventory was evaluated by correlating the scores of the inventory on a sample of 30 elderly (male N=18; female N=12) with those scores obtained from them using the English version of the Adjustment Inventory of Ramamurti (1968). The inventory yielded a correlation coefficient of 0.73. Malayalam version and English translation of the Adjustment Inventory are given in Appendix III and Appendix IV respectively.

Mathew Materialism–Spiritualism Scale

To measure the beliefs (belief in God, belief in religion and belief in moral character) of the subjects, Mathew Materialism - Spiritualism Scale was used (Mathew, 1973). This test measures the materialism-spiritualism orientation of people. Materialism regards matter or perceived reality as the ultimate basis of everything while spiritualism accepts extra-sensory realities. In the test, materialism spiritualism is conceived by the author as a basic
orientative facet of personality, influencing an individual’s moral values; dominant interest, motives and social attitudes.

The test measures six different aspects of the materialism-spiritualism orientation, namely, belief in God, belief in religion, belief in mysticism, belief in spirits, belief in moral character and belief in psy. Test manual defines the six aspects of materialism-spiritualism as follows: (Mathew, 1973)

**Score Interpretations:**

1. **Belief in God:** Belief in a supernatural power, i.e., Belief in God
2. **Belief in Religion:** Belief in the value of religions, religious practices and beliefs
3. **Belief in Mysticism:** Belief in the genuineness of mystic experience.
4. **Belief in Spirits:** Belief in the existence of spirits and the survival of human personality after bodily death.
5. **Belief in Moral Character:** Belief in the direct personal value to the individual of altruism, unselfishness, celibacy, kindness, morality etc.
6. **Belief in Psy:** Belief in the genuineness of paranormal phenomena like ESP, PK, control over vital physiological functions and so on.

In the present study, only three sub-scales, i.e., Belief in God, Belief in Religion and Belief in Moral Character were used. The other three sub-scales were not used on the ground that the two sub-scales related to Belief in Mysticism and Psy were found, by an investigation in Kerala regarding religiosity of the aged, to have items incomprehensible to most of the subjects of its sample (Joseph, 1991). The sub-scale Belief in Spirit was also not used in
the present study since some elderly found it difficult to comprehend some of the items in the scale.

Reliability and Validity

The odd even reliability (corrected for attenuation) of the test was estimated on a sample of 50 men and 50 women. Reliabilities for men and women were calculated separately and averaged by a Z transformation.

<table>
<thead>
<tr>
<th>Table 6</th>
<th>Odd-even reliabilities for men and women of Mathew Materialism-Spiritualism Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale</td>
<td>Men (N=50)</td>
</tr>
<tr>
<td>A</td>
<td>.90</td>
</tr>
<tr>
<td>B</td>
<td>.74</td>
</tr>
<tr>
<td>C</td>
<td>.79</td>
</tr>
<tr>
<td>D</td>
<td>.90</td>
</tr>
<tr>
<td>E</td>
<td>.63</td>
</tr>
<tr>
<td>F</td>
<td>.81</td>
</tr>
<tr>
<td>Total</td>
<td>.92</td>
</tr>
</tbody>
</table>

The distribution of the raw scores on the sub-tests as well as the total scores were found to be normal. The inter-correlation among the six subjects of the scale for both men (N=100) and women (N=100) were also found and it was fairly impressive.

For estimating the validity of the scale, the total scores in the scale were correlated with scores in a 'Study of Values' (Allport, 1951) among a sample of 200 postgraduate students. The correlation between the total score in the 'Mathew Materialism-Spiritualism Scale' and scores in the 'Study of Values' was found. The correlation coefficients found on the sub scales were:
(1) Theoretical- 32, (2) Economic-.55, (3) Aesthetic-.13, (4) Social-.80, and (5) Religion-.60. The scores in the sub-sets of the Mathew Materialism Spiritualism Scale differentiated a group of seminarians from college students at a higher level of significance as the author stated. Malayalam and English versions of the Mathew Materialism-Spiritualism Scale are given in Appendix V and Appendix VI respectively.

In the present study, the test scores of the subjects were classified as high, medium, and low belief groups on the basis of Mean (M) and Standard Deviation (SD). The scoring and cut off points thus obtained for the three belief groups are given below:

**Table 7 Means, SDs and cut off points of belief groups**

<table>
<thead>
<tr>
<th>Belief Groups</th>
<th>Mean</th>
<th>SD</th>
<th>High M + 1 SD</th>
<th>Medium M + 1SD</th>
<th>Medium M - 1SD</th>
<th>Low M - 1SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief in God</td>
<td>31.39</td>
<td>4.48</td>
<td>35.87</td>
<td>35.87 - 26.91</td>
<td>26.91</td>
<td>26.91</td>
</tr>
<tr>
<td>Belief in Moral Character</td>
<td>44.63</td>
<td>11.83</td>
<td>56.46</td>
<td>56.46 - 32.8</td>
<td>32.8</td>
<td>32.8</td>
</tr>
</tbody>
</table>

**Family Life Satisfaction Inventory for the Elderly**

Family life satisfaction of subjects was measured using a standardised test developed by the investigator for the purpose of the present study. A detailed description of the development of the test is given below.
Preliminary Stage

As a preliminary work, contents of the items for the draft inventory were collected on the basis of an extensive review of relevant literature related to family life satisfaction of the elderly. Those items included details, such as family relationships in later life, family support, family interaction, intergenerational relationship or attitudes as well as reported experiences of elderly. In addition to this, the investigators’ counselling experience with older people also helped him in the process of pooling of items. Based on theoretical, observational and experiential understanding thus gathered, the inventory was given a preliminary shape and content. The items were phrased in such a way that the elderly could easily recognise the feelings described by the items. These items were personally administered to a range of elderly subjects. They were subsequently requested to comment / modify / suggest new items that they thought appropriate. After taking into account some of these modifications and additions, a draft inventory consisting of 72 items was developed. The items were also grouped into sub-scales FLS1, FLS2 and FLS3 on theoretical and logical grounds. Care was taken to retain more or less equal number of items in each sub-scale. In each sub-scale, an attempt was made to intermingle positive statements with negative statements.

Sub-scales: Description

FLS 1

FLS1 indicates general satisfaction with one’s own relationship to the spouse, children, grand children and in-laws. It includes presence of mutual
sharing, mutual availability, listening and understanding, freedom in relationships, acceptance, enriching behaviour and absence of ill treatment from other members to a certain extent.

**FLS 2**

FLS 2 indicates satisfaction derives out of role activity as a parent, grand parent, father-in-law or mother-in-law. It also indicates the satisfaction received from meeting physical, emotional, spiritual and other needs, the availability of family environment to enrich interests and freedom from dissatisfaction caused by unfinished tasks.

**FLS 3**

FLS 3 indicates satisfaction in terms of freedom from guilt, anxiety and fear related to family matters. It also includes anticipated worries related to relationship among children, their character, marriage and their settlement, spouse's health, hurtful familial experiences of both past and present, and a general feeling about family life.

The statements were subjected to scrutiny by five judges from the fields of psychology, psychiatry, counselling psychology and community medicine. They were requested to evaluate the adequacy of the items in each area in terms of positive and negative satisfaction given for each item. Based on their comments, a few vague and unsuitable items were eliminated and a few were modified. Language was also modified for a few items to ensure clear communication. Thus, an inventory of 64 items with the sub-scales FLS 1,
FLS 2, and FLS 3 having 20, 22, 22 items respectively was formulated. Malayalam version and English translation of the Family Life Satisfaction Inventory for the Elderly (Preliminary form) are given in Appendix VII and Appendix VIII respectively.

The items were prepared in such a way that the subjects could respond 'YES' or 'NO' to the items. Instructions were given on the facing sheet of the inventory. The subject had to mark ‘✓’ if the statement was right and ‘✗’ if it was wrong with regard to him/her in the separate space given for each statement.

Sample

The sample for the preliminary investigation consisted of 420 elderly individuals aged 60 years and above from different places of Kerala state, excluding Kottayam and Kozhenchery Taluks. Attempts were made to select a sample more or less equal representation of the elderly population for whom the inventory was designed. This sample included elderly from different living arrangements, religious and socio-economic strata. Their educational level varied from illiterate to degree holders and above.

Administration of the Inventory

The test was administrated individually. The subjects were tested at their own homes. Maximum effort was taken to avoid distraction and presence of third persons while testing. After establishing a good rapport, background information of the subject was collected as a first step. The instructions were
given to the respondents. Then they were requested to go through the specific instructions given on the facing sheet of the inventory, which read thus:

"Some statements are given below in relation to family life of the elderly. You are requested to read the statements carefully. If you agree with it, put a ‘✓’ mark in the specified space allotted along with each statement; if you do not agree, put a ‘X’ mark. Please try to answer all the statements and do not waste time pondering over any particular item. Kindly answer the statements as you feel right at the first instant. Your responses will be kept confidential. The term 'family members' refers only to your spouse, children, grand children, sons-in-law and daughters-in-law."

In the case of illiterate subjects and whose reading and writing abilities were affected by aging, slight change was made in the method of administration. After establishing good rapport, the general information and specific instructions were given by the investigator. Then the statements were read out to them slowly and their responses were carefully recorded for them.

**Scoring**

The scoring was done as follows: The statement which indicated dissatisfaction or acknowledgement of a problem was given a score of Zero, whereas the statements indicating satisfaction or no problem was given a score of One point. All the scores thus obtained in each sub-scale were then added to get the Family Life Satisfaction Score (FLS Total).
Item Analysis and Item Selection

In the present inventory, item analysis was done on the responses of 400 subjects out of 420 collected. The remaining 20 response sheets were rejected, picking out the response sheets at random. For the item analysis, various techniques are currently used in psychological research. But the test that can be most profitably employed in a particular context largely depends upon the type of tests and the purpose of testing (Anastasi, 1976). Use of 'extreme groups' (Kelley, 1939, Ebel, 1972;) is one of the most common and traditional approaches for item analysis.

The family life satisfaction scores of the 400 subjects varied from 10 to 61. The response sheets were arranged in the order of the scores, so as to select the top and bottom 100 subjects (25% of the sample). The scores obtained by them for each of the items were calculated. Based on the extreme groups and the scores obtained by them for each of the subjects, item analysis was done with the help of the directions given by Mathew (1982). Accordingly, items with the discrimination index 0.18 and above and within the difficulty index range of 0.33 to 0.83 were included in the final form of the inventory. Thus, all the items used in the final form had statistically significant value (at .01 level), indicating that all these items had a high discriminating power. Item Analysis Table is given in Appendix IX. On the basis of discrimination and difficulty indices, 54 out of 64 items were retained in the final form. Thus the Inventory has 18, 19 and 17 items in the sub-scales FLS1, FLS2, and FLS3 respectively.
Malayalam version and English translation of the Family Life Satisfaction Inventory for the Elderly are given in Appendix X and Appendix XI respectively.

**Reliability**

The reliability coefficient of the inventory was determined by two methods of reliability estimation. A sample of 120 elderly (male, N=60; female, N=60) who were 60 years and above from different living arrangements was used for this purpose. They belonged to Hindu, Muslim and Christian communities and different socio-economic positions. However, bachelors or spinsters and those who were living alone or in institutions were not included in this sample. The Cronbach's Alpha as the index of the internal reliability of this instrument was 0.89 and split-half reliability obtained by applying Spearman-Brown prophecy formula was 0.82.

**Validity**

The validity of the measurement is established by the extent to which it adequately samples the content. The content of some the items in the inventory was collected from the items of other scales or inventories related to family life (Family Interaction Scale (Bhatti, et al., 1986); Problem Inventory (Ramamurti, 1969); Home Adjustment (sub-scale) in the Adjustment inventory (Ramamurti, 1968b; Subramanian, 1989)) and Social Support Inventory (Subramanian, 1989). Moreover, as the inventory was developed after the judgement of each item by a panel of five experts from different fields, such as psychology, counselling psychology, community medicine and psychiatry, it may be said to possess 'content validity'.
Both coefficients related to reliability and validity are highly significant and therefore, the inventory is a reliable instrument for measuring the family life satisfaction of the elderly in India.

In this study the sample was divided into high, medium and low family life satisfaction groups on the basis of Mean (M) and Standard Deviation (SD) of family life satisfaction score. The Mean (M) of family life satisfaction score for the sample is calculated as 25.94 with a Standard Deviation (SD) of 9.58. The cut-off point for high family life satisfaction was taken as 35.52 (M+1SD) and that for low family life satisfaction was taken as 16.36 (M-1SD). The scores in between high and low family life satisfaction formed the medium family life satisfaction group.

4.5 Administration of the Tests

Administration of the tests was conducted by personal interview. Each individual was contacted at his/her residence. After having explained the purpose of the visit and the study, the cooperation of the subjects was sought. Testing was done at the first interview itself, if the individuals were free and willing. However, if they were not free, an appointment was fixed for a later date. In some cases the researcher had to explain to the rest of the family members about the purpose of the visit.

While testing, maximum care was taken to avoid the presence of a third person and external distractions. In the case of subjects with no marked deterioration due to aging and with reading and writing abilities, the test-booklet and pen were handed over. After giving the general information, details
regarding age, gender, living arrangement, location of residence, income, education and the like were collected in the schedule for socio-demographic and background information sheet. In certain cases it was collected after the test. Followed by this, the inventories were given one by one. The instructions given in the facing sheet of the test material were read out to the subjects. The investigator illustrated the procedure for furnishing necessary responses with the help of an example. Doubts or clarifications, if any, while answering, were cleared to the subject.

In the case of illiterates and those who had difficulty in reading or writing or having some physical or other handicaps, the investigator read out the items one by one and recorded the responses for them after giving a general idea of the tests. As a rule, completion of the test materials was done in one sitting. Each interview usually lasted for one hour and thirty minutes. But whenever the subject found it difficult to proceed at one sitting, due to lack of time or physical weakness, another session was arranged so that the subjects could complete the test materials leisurely. The total duration of data collection was approximately one year and two months.

4.6 Scoring and processing of Data

Scoring of the data of each test was done as per the instruction given by the test constructors. Scoring of data was carried out in the following manner.
Adjustment Inventory

For the Adjustment Inventory, the statement indicating a problem was given a score of Zero and the statement indicating no problem was given a score of One. The scores obtained from each sub-scale were then added together to get the total adjustment score. In each area a high score is an indication of good adjustment, whereas, low score shows mal-adjustment.

Mathew Materialism-Spiritualism Scale

The test provides a detailed account of the scoring procedure. In each section of the test, firstly, the number of encircled answers in each column were counted and then these numbers were entered on the line provided at the end of each section under the answers. A comma was put after each number to separate the answers. The numbers in each sub-scale was then added. For the actual calculation of the scores, the number of encircled answers only in the first four columns were considered. The number of encircled answers in the first four columns were then entered in the brackets of the scoring table, which is given at the end of the test. After this, the products of the numbers and the weights were recorded. Accordingly, the number in column I gets multiplied by 4, the number in column II by 3, the number in column III by 2 and the number in column IV by 1. The products were then added, and the sum is ‘Raw Score’. The test recommends that in statistical operations involving the mean, raw scores are to be used. The present study used raw scores in each section to test the beliefs of the subjects.
Family Life Satisfaction Inventory for the Elderly

The statement in the inventory indicating dissatisfaction or a problem was given a score of Zero, whereas the statement indicating satisfaction or no problem was given a score of One point. The scores obtained in each sub-scale were added up to get the Family Life Satisfaction (FLS Total) score.

After the completion of the codification of data, it was transferred on to a master chart. Based on the entries in the master chart, a card design was made with the view to facilitate application of computer for data analysis. Then the data was punched in to a floppy disc using dBase III Plus software package for file format. Subsequently, it was transferred directly to statistical packages for data analyses. Thus the data was processed to subject them for the next major activity of research, the statistical analyses, in order to fulfil the aim and objectives of the study.

4.7 Statistical Techniques

1. Analysis of Variance

Since the present study considers three of the independent variables at a time to investigate their independent effects as well as their combined effect (interactions) on the dependent variable Adjustment, a Three-Way Analysis of Variance was used.

2. Test of Least Significance Difference (LSD)

The test is applicable when an ANOVA has resulted in the rejection of the overall null hypothesis that all 'k' means are equal. When 'F' value is found
to be significant, an investigator may wish to determine which of the pairs are different from each other. There are several techniques for determining such pair-wise comparisons. The most popular of these are: Duncan's multiple range test, Tukey's Honesty Significance Difference test, Scheffe's Procedure and Least Significance Difference (LSD) test. In the present study for multiple pair-wise comparison Least Significance Difference test was employed.

3. Paired 't' test

Paired 't' test is one of the statistical methods of testing the hypotheses about differences in means especially when it involves Twin Studies. Experimental studies with Before and After designs, which study one group of subjects at two points in time or two levels of treatment, or two comparable groups of matched subjects like twins. In the study, 'Paired 't' test' is used to compare the mean scores of before and after treatment. In this study 'paired 't' test was employed to access the effect of counselling intervention.

4.8 The Approach Adopted for Counselling Intervention

The counselling approach adopted for the intervention was of an 'eclectic model' - a model which utilises different types of approaches in the process of counselling. In the present intervention programme the counsellor made use of various approaches, such as Client-centered approach, Reminiscence and Life review therapy, Behavioural approach, Logotherapy, Biblio therapy, Grief therapy and to a certain extent Transactional Analysis. In certain cases the clients were asked to do some relaxation exercises along with counselling. A counselling format devised by the present counsellor was used in
the counselling process. The format was developed on the basis of the counselling models of Rogers (1951), Carkhuff (1993) and Egan (1994). An English version of the Counselling Format is given in Appendix XII.

The counselling sessions were arranged in the following manner. In most of the cases, individual sessions were conducted. However, in a few cases, the couple was met to facilitate the counselling process. Each client was offered 3-5 individual counselling sessions spread over two months. Each session covered 45–90 minutes. The date for each session was fixed in advance. The first two sessions were positively conducted within an interval of two weeks. Every remaining session was arranged after an interval of two weeks. But in a few cases due to sickness or non-availability of the clients the last sessions were conducted after an interval of three weeks. After a lapse of a minimum of one month and a maximum of six weeks clients were post-tested on the tests: Adjustment Inventory and Family Life Satisfaction Inventory for the Elderly.

In this chapter we have presented the methodology of the present research. Such a detailed description provides a sound framework for the presentation and analysis of data organised by the present study. The analysis and discussion is done in the next chapter.