Chapter -3

This chapter focuses on the research design and methodology of the study. It highlights the processes the researcher went through the designing, compiling and documenting of the study.

3.1 THE RESEARCH DESIGN

It is a crucial step to decide the appropriate design for the research. The present study used descriptive research design, which describes “a design as one which examines the conditions or relationships that exists, opinions that are held, processes that are going on, effects that are evident or trends that are developing”(Best & Kahn, 1992).

3.2 SAMPLE

1. Kudumbashree members

In this study the subjects were selected from the Ernakulam district, which have good track record in the functioning Kudumbashree in Kerala. The subjects of the present study consist of 304 women Kudumbashree members in Kerala who belong to different status, different positions, doing different enterprises, and having different tenure in Kudumbashree. Multi stage sampling technique was used for the selection of the subjects. This is a sampling procedure carried out in several stages.
2. Members in Non Governmental Organization (NGO)

The comparison group was selected by considering the membership in self help groups. The researcher selected a Non-Governmental Organization from the Directory of NGOs by using simple random sampling technique. Ernakulam Social Service Society (ESSS) was the selected NGO. This agency carries out their activities through self help groups same as Kudumbashree. The simple random sampling technique was used to select the sample.

3. Daily wage workers

The comparison group of this study, viz., daily wage workers, was selected with maximum care to see that the group is matched with Kudumbashree group. Several important factors had to be considered in the selection of comparison group to ensure group matching, as far as possible. They are age, sex, income, marital status, place of residence, and not a member in any self help groups. The researcher ensured that the subjects in comparison group were from the same location of Kudumbashree members. Snowball sampling was used to select the sample.

4. Details of classification of the subjects:

The above three groups of subjects were classified on the basis of various criteria. The details are given below:
A) Age-wise classification of subjects

The age of the subjects were categorized under four subgroups based on age, viz, 20 to 30 years, 30 to 40 years, 40 to 50 years, and 50 to 60 years. The details are given in Table 3.1.

Table 3.1. Age-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Age in years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-30</td>
<td>30-40</td>
</tr>
<tr>
<td>Kudumbashree members</td>
<td>32</td>
<td>124</td>
</tr>
<tr>
<td>Daily wage workers</td>
<td>25</td>
<td>119</td>
</tr>
<tr>
<td>Members in NGO</td>
<td>35</td>
<td>113</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>356</td>
</tr>
</tbody>
</table>

Table 3.1 shows that the majority of the Kudumbashree subjects are in the age group of 40 to 50 years.

B) Locale-wise classification of subjects

The subjects were classified on the basis of their locality.
Table 3.2 Locale-wise classification of subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Slum</th>
<th>Panchayath</th>
<th>Municipality/Corporation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>49</td>
<td>207</td>
<td>48</td>
<td>304</td>
</tr>
<tr>
<td>Daily wage workers</td>
<td>30</td>
<td>67</td>
<td>103</td>
<td>200</td>
</tr>
<tr>
<td>Members in NGO</td>
<td>14</td>
<td>40</td>
<td>197</td>
<td>251</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>314</td>
<td>348</td>
<td>755</td>
</tr>
</tbody>
</table>

Table 3.2 shows that majority of Kudumbashree subjects are residing in Panchayath.

C) Religion-wise classification of subjects

The subjects were classified according to their religion.

Table 3.3 Religion-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Hindu</th>
<th>Muslim</th>
<th>Christian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>115</td>
<td>91</td>
<td>98</td>
<td>304</td>
</tr>
<tr>
<td>Daily wage workers</td>
<td>57</td>
<td>28</td>
<td>115</td>
<td>200</td>
</tr>
<tr>
<td>Members in NGO</td>
<td>89</td>
<td>35</td>
<td>127</td>
<td>251</td>
</tr>
<tr>
<td>Total</td>
<td>261</td>
<td>154</td>
<td>340</td>
<td>755</td>
</tr>
</tbody>
</table>
Table 3.3 indicates that the majority of the Kudumbashree subjects belong to the Hindu religion.

D) Type of Family-wise classification of subjects

The subjects were classified on the basis of their type of family

Table 3. 4. Type of Family-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Nuclear family</th>
<th>Joint family</th>
<th>Extended family</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>174</td>
<td>21</td>
<td>109</td>
<td>304</td>
</tr>
<tr>
<td>Daily wage workers</td>
<td>119</td>
<td>57</td>
<td>24</td>
<td>200</td>
</tr>
<tr>
<td>Members in NGO</td>
<td>121</td>
<td>83</td>
<td>47</td>
<td>251</td>
</tr>
<tr>
<td>Total</td>
<td>414</td>
<td>161</td>
<td>176</td>
<td>755</td>
</tr>
</tbody>
</table>

The above table indicates that the majority of Kudumbashree subjects belong to nuclear families.
E) Income-wise classification of subjects

The subjects were classified according to their income level.

Table 3.5. Income-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Below Rs.2000</th>
<th>Rs 2000-3000</th>
<th>Rs 3000-4000</th>
<th>Rs 4000-5000</th>
<th>Rs 5000 above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>14</td>
<td>135</td>
<td>95</td>
<td>52</td>
<td>8</td>
<td>304</td>
</tr>
<tr>
<td>Daily wage workers</td>
<td>50</td>
<td>37</td>
<td>99</td>
<td>5</td>
<td>9</td>
<td>200</td>
</tr>
<tr>
<td>Members in NGO</td>
<td>10</td>
<td>105</td>
<td>89</td>
<td>38</td>
<td>9</td>
<td>251</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>277</td>
<td>283</td>
<td>95</td>
<td>26</td>
<td>755</td>
</tr>
</tbody>
</table>

The above table shows that majority of Kudumbashree subjects are in the income group of Rs. 2000-3000. A small number of women come above Rs.5000.
5) Classification of Kudumbashree members based on various criteria

Kudumbashree subjects under study were classified as follows:

a) Occupation-wise classification of subjects

The subjects were classified on the basis of their occupation

Table 3.6. Occupation-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Daily labour</th>
<th>Self employed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>99</td>
<td>205</td>
<td>304</td>
</tr>
</tbody>
</table>

The above table shows that majority of the Kudumbashree members are self employed.

b) Position-wise classification of subjects

The subjects were classified on the basis of their position in kudumbashree.
Table 3. 7. Position-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Ordinary member</th>
<th>Office bearing member</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>159</td>
<td>145</td>
<td>304</td>
</tr>
</tbody>
</table>

From the above table it is clear that there is approximately equal proportion of Kudumbashree members in each group.

c) Enterprise-wise classification of subjects

The Kudumbashree members were classified based on doing enterprises functioning under Kudumbashree. Enterprises included Individual enterprises and Group enterprises.

Table 3. 8. Enterprise- wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Individual Enterprises</th>
<th>Group Enterprises</th>
<th>Not a member</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>105</td>
<td>104</td>
<td>95</td>
<td>304</td>
</tr>
</tbody>
</table>

The above table shows that approximately equal number of subjects included in each group.
d) Community Based Organization Structure-wise classification of subjects

The Kudumbashree members were classified based on their status in Community Based Organization Structure of Kudumbashree.

Table 3.9. Community Based Organization Structure-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>NHG</th>
<th>ADS</th>
<th>CDS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>138</td>
<td>129</td>
<td>37</td>
<td>304</td>
</tr>
</tbody>
</table>

The above table shows that most of the Kudumbashree members come under Neighbourhood Group (NHG).

e) Tenure in Kudumbashree-wise classification of the subjects

The Kudumbashree members were classified based on tenure in Kudumbashree.

Table 3.10. Tenure-wise classification of subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>1-3 years</th>
<th>3-6 years</th>
<th>6-9 years</th>
<th>above 9 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kudumbashree members</td>
<td>21</td>
<td>42</td>
<td>115</td>
<td>126</td>
<td>304</td>
</tr>
</tbody>
</table>
The above table shows that most of the Kudumbashree members included in the group of above 9 years in Kudumbashree.

3.3 MEASURES

Only questionnaire measures were used in this study. The present study was basically designed to study the impact of Kudumbashree in psychological well-being, self-efficacy, self derogation and alienation of its members.

The following four tests were used, namely

3. S. D. Scale (Sylaja H. & Sanandaraj S., 1990)
4. Alien Inventory (Gireeshan P.T. & Sanandaraj S., 1988).

3.3.1 Psychological Well-Being

The psychological well-being scale developed by Mohsina Khatun, Nasreen Wadud, Abbas Bhuiya, & Mushtaque Chowdhury(1998). The scale was used to measure five dimensions of psychological well-being such as self-confidence, self-esteem,
conscious thinking, knowledge about social environment and life satisfaction.

1. Self-Confidence (SC):

   Items concerning the expression of self and confidence were included in this section. Most items on this dimension referred to the feelings of self-reliance by achieving satisfaction on self-activities, making oneself indispensable to the family, solving problems without any assistance from friends or relatives at the time of difficulty. Self determination also reduces concerns about support (in terms of food, clothing, and shelter) in old age.

2. Self-Esteem (SE):

   Items in self-esteem include self-respect, self-image, opportunity to show skill, self-support, etc. Self respect includes the items like agreement and consultation on spending income regarding children's future, that is, somewhat more democratic family functioning.

3. Conscious Thinking (CT):

   Items concerning ability to reflect ideas on challenging issues such as married life, gender issues, economic well-being, control over assets, women's rights, etc, belonged to this dimension. Conscious
thought on women's rights, control over assets, family condition, and married life and so on accelerated their realisation about well-being.

4. Knowledge about Social Environment (KE):

Items concerning how much one are concerned about resource and events around them, such as, women's empowerment, social relationship, training, population awareness, etc. This factor describes the feeling of well-being generated by the social environment. When an individual becomes more confident in every aspect of her life and more conscious about her status, she will be more aware of social problems, women's empowerment, social relationship, gender equality in employment, and so forth.

5. Life Satisfaction (LS):

Items of this dimension were concerned about the quality of life and satisfaction of various personal and social aspects. Life satisfaction is the degree to which a person reports satisfaction with salient features of his/her life. Total life satisfaction is the sum of all separate items like satisfaction on his/her ability to achieve materials and educational facilities, cordial relationship with the family members or other people, family group support in case of severe illness and so on. This, again, seemed to be a valid indicator of well-being-a function of what one expects in the various aspects of life and what one is able
to attain out of this, that is the discrepancy or congruence between expectation and achievement.

**Reliability and Validity**

The scale initially had 11 items by item analysis using Cronbach’s internal consistency assessment procedure a total of 6 items were omitted because of minimal variance. Its test-retest reliability has been found to be 0.75, split half reliability coefficient was 0.91 and internal consistency was 0.84.

The validity of instrument was measured by adopting the appropriate methods like content validity and intrinsic validity. Content validity involves essentially the systematic examination of the test content to determine whether it covers the representative sample of the behaviour domain to be measured. The more the instrument is reliable the more it will be valid. The index of reliability (square root of reliability coefficient) shows the maximum reliability of the scale. Hence, it is also applied to apprehend the validity, called the intrinsic validity. Besides that a simple correlation analysis was performed among the sub-dimensions and the test as a whole to determine the internal consistency which also determined the instrument (scale) validity.
Instructions given to the subjects

The test materials of the Psychological Well-Being Scale in which instructions and 37 items were printed with response choices. The following instructions were given to the subjects:

“The statements in the scale include different aspects of everyday experience. Please note whether you agree or disagree with these statements. There are five response choices corresponding to each item, namely A, B, C, D, and E. ‘A’ denotes ‘very strong agreement’ ‘B’ denotes agreement, ‘D’ denotes ‘disagreement’, and ‘E’ denotes strong disagreement ‘C’ denotes ‘more or less’”. The option of individual was avoided because the large number of undecided response will affect the validity of results.

The scale was administered to the subjects and the response sheets were collected after completing the filled up sheets, making sure that all the items were answered.

Scoring

The five-point scale was used for scoring: very strong agreement, agreement, more or less, disagreement, and strong disagreement. Numerical weights of 5, 4, 3, 2, 1 assigned were: very strong agreement (5) - the highest, to strong disagreement (1) – the lowest. The concept of grading, in terms of attitudes and feelings, of the above five points, strong agreement was explained as 100
percent of their feelings, agreement represented 75 percent, more or less was 50 percent, disagreement was 25 percent and strong disagreement indicated 100 percent negative feelings respondents. The mid point in each statement is being a state ‘without specific feelings’. If there were more than one response category chosen for a particular item or if there were three or more omitted items, the response sheet was not scored.

A copy of the scale is enclosed in the Appendix.

### 3.3.2 Self-Efficacy

Self-Efficacy Scale was used to measure total self-efficacy of the subjects. Self-efficacy of the subjects was measured using a standardized test developed by Arun and Raju (2001). The inventory is constructed making use of the self report method. All the items were in the form of self evaluation and in descriptions statements. The items were expected to tap self evaluation of the subjects from wide varieties of behaviour domains. The items were worded in such a way that there are equal numbers of positive and negative items, in a random order. There are 20 statements in the inventory and 5 response categories (A, B, C, D &E) are given for each statement.
Reliability and Validity

Split half reliability Co-efficient obtained ranged from 0.84 to 0.93 which is significant at 0.01 level.

Most of the items of the questionnaire were adapted from well known and standardized instrument having established reliability and validity. Items were also evaluated by experts. So it may said to focus Content Validity.

Instructions given to the subjects

In the test materials of the Self-efficacy scale, instructions and 16 items were printed with response choices. The scale consists of 5 choices A, B, C, D and E which denotes the extent of a person’s self-efficacy. The following instructions were given to the subjects:

“Please note whether you agree or disagree with these statements. A denotes ‘strongly agree’, B denotes ‘agree’, C denotes ‘no opinion’, D denotes ‘disagree’ and E denotes ‘strongly disagree’.". The option of ‘no opinion’ was avoided because the large number of ‘no opinion’ response will affect the validity of results. The method of answering was explained to the subjects, and the subject was asked to read each statement clearly and indicate their answers by encircling any of the letters A, B, C, D, or E.
Scoring

The scoring was done as follows, A score of 5, 4, 3, 2, or 1 is given to the category A, B, C, D, or E for a positive statement and a score of 1, 2, 3, 4, or 5 is given to the negative statement. A response sheet was not scored if there were more than one response chosen for a particular item or if there were three or more omitted items.

The Self-Efficacy score

The total score of the Self-Efficacy Scale is taken as the self-efficacy score for the present investigation.

A copy of the scale is enclosed in the Appendix.

3.3.3 Self Derogation

The researcher used S.D scale developed by Sylaja and Sanandaraj (1990). In this study self derogation consists of:

1. Inferiority Complex

The component ‘inferiority complex refers to the condition associated with a personality which behaves itself to be inadequate, unsuccessful, or unable to cope with life.

2. Seriouslessness

Lack of concern for what really matters, and do not show earnest attention to anything.
3. Self accusation

   It refers to charging oneself with sins which are frequently purely imaginary; a symptom of pathological depression.

4. Suicidal tendency

   A tendency to taking ones own life. In most societies suicide remains one of the ten most common causes of death.

5. Pessimism

   An attitude towards life or philosophy of life expressing itself in the view that "the world is bad rather than good'. It is a temper of mind that looks on the dark side of things.

6. Introversion

   It is the tendency to be interested in ones own inner world of experience, and concepts rather than external events, objects, and people.

7. Seclusion

   The tendency to cut oneself off from the social contacts; its extreme form is frequently pathological.
8. Depression

It is an emotional state characterized by extreme dejection, gloomy ruminations, feelings of worthlessness, loss of hope and often of apprehension.

9. Destructiveness

It is an expression of aggressive impulses by destroying or defacing objects.

10. Self devaluation

The concept refers to lowered feelings of self worth and self-esteem.

Reliability and Validity

The reliability of S.D. Scale has been found using test-retest method. Using a sample of 50 males and 50 females with age 19 to 35 years, the scale was administered twice with an interval of one month between these two sets of administrations. The correlation between these two sets of scores is found to be + 0.81 showing that there is high test- retest reliability for the test.

The S.D. Scale is established using Alien Inventory (Gireesan and Sanandaraj, 1988) as an external criterion. The correlations between scores are found to be 0.72 indicating that the scale has moderate concurrent validity. It is to be remembered that as in the
case of self derogation, alienation is also considered a negative personality trait. The scale claims face validity and content validity also, as almost all components of self derogation are measured by it. The validity of the scale had been demonstrated by its use in a study among women in Kerala by Sylaja (1993).

**Instructions given to the subjects**

The test materials of the Self Derogation Scale consist of instructions and 50 items were printed with response choices. The following instructions were given to the subjects.

“Given below are a few statements on certain problems that face in our life. There are five response choices A, B, C, D and E. A denotes ‘Strongly agree’ B denotes ‘Agree’, C denotes ‘Undecided’ and D denotes ‘Disagree’ and E denotes ‘Strongly disagree’. After reading each statement, indicate your answer in the response sheet by encircling any of the letters A, B, C, D or E.”

**Scoring**

The scoring was done as follows:A score of 5,4,3,2,or 1 was given to the category A,B,C,D or E for a positive items. The scores are in the reverse order for negative items. A response sheet was not scored if there were more than one response category chosen for a particular item or if there were three or more omitted items. If there were one or two omitted items only, a score of 3 was given for each.
While scoring, the total count obtained in each category was taken and was multiplied by its respective weights. The total score for all categories together was taken as the self derogation score of the individual.

**The Self Derogation score**

The total score of the Self Derogation Scale was taken as the self derogation score for the present investigation.

A copy of this scale is enclosed in the Appendix.

3.3.4 Alienation

Alien Inventory was developed by Gireeshan & Sanandaraj (1988) used to measure five dimensions such as, powerlessness, meaninglessness, normlessness, isolation and self estrangement.

a) Powerlessness

The sub variable is very important in this study which indicates that the individual has no control over the problems of his/her life in the protection of his/her legitimate rights and privileges, over the abuses of social and political system; over his social and political life. Seeman (1959) defines powerlessness as the expectancy or probability held by the individual that their own behavior cannot determine the occurrence of the outcomes or reinforcements, he seeks. Shepard (1971) defines powerlessness as the feeling that an
individual is an object, dominated and controlled by other people or a technical system of production.

b) Meaninglessness

The sub variable indicates that the individual has no sense of understanding the events in which he is engaged (Shepard, 1971). The individual is unclear as to what he ought to believe in when the individual’s minimum standards for clarity in decision making are not met. The individual’s psychic system wanders in search of meaning, of new experiences of belief systems. One cannot predict with confidence the consequences of acting on a given belief, and is unsure about the future outcomes of behavior. The well known anomic scale has a strong meaningless component.

c) Normlessness

This subscale indicates that the individual has high expectation that socially unapproved behaviors are required to achieve given goals. One has feeling that attainment of culturally prescribed goals demands illegitimate means (Seeman, 1959). The term normlessness has roots in the notion of “anomic”. Merton’s anomic paradigm illustrates the notion of alienation as normlessness. Normlessness is a property is being identified as the condition in which the norms have lost their regulatory power hence, anarchy, disorder, unstability, excessive competition, and individualism results. The measurement of
normlessness has relied heavily upon attitude scales of one kind or another.

d) Isolation

This subscale indicates that low reward value to goals or belief are typically highly valued in the given society (Seeman, 1959). This type of alienation refers to estrangement from the society, lacking of satisfaction with the group, or co-workers. This refers to the uneasiness of an individual to mix with others, and feeling that a person was purposefully deprived from interacting and integrating with others in social, economic and religious life.

e) Self-Estrangement

This subscale indicates the individual’s engagement in activities that are not intrinsically rewarding. This type alienation may be measured as the degree of dependence of the given behavior upon anticipated future rewards that is upon rewards that lie outside the activity itself. This dimension is similar to Shepard’s (1971) instrumental work orientation in which the work is valued primarily as a means to non-work ends rather than valued for its intrinsic rewards.

Sometimes self estrangement refers to the failure to realize ones human potential (Marcuse, 1970), sometimes simply to the individuals level of self-esteem or to a sensed discrepancy between ones preferred qualities, and realized qualities (Coopersmith, 1967),
sometimes to repressed or distorted psychopathologies (Laing and Esterson, 1965).

**Reliability and Validity**

The reliability of the inventory has been established in two ways, viz; test-retest method and split half method. The retest reliability of the Alien Inventory has been obtained on one hundred subjects (50 males and 50 females) selected randomly from the general population with age above fifteen years. The retest reliability co-efficient varied between +0.67 and +0.73. All these co-efficient are significant at 0.01 level. The split-half reliability has been found in the following way. The inventory has been administered to a sample of 150 subjects (75 males and 75 females). The scores on odd items and even items are obtained separately for the total sample, and correlation calculated. Using Spearman-Brown formula, the reliability co-efficient of the subscales have been estimated. The reliability co-efficient varied between +0.71 and +0.83. All these coefficient are significant at 0.01 level.

The reliability co-efficient indicate that the Alien Inventory would yield reliable scores.

The Alien Inventory shows content validity, when a logical analysis is made of the test items, under each subscale of the inventory.
Empirical validity has been established by making use of two external criteria, by correlating the test scores with other scales measuring alienation. (1) Alienation scale developed by Sinha (1986) and (2) Alienation scale for youngsters by Kumar and Sanandaraj (1987). For estimating validity, a proportionate stratified sample of 120 subjects (60 males and 60 females) has been used. All the validity co-efficient varied between +0.58 and +0.83. As these correlations are significant at .01 level the scale has fairly good validity.

The scoring and instructions are same as Self Derogation Scale.

A copy of this inventory is enclosed in the Appendix.

3.3.5 Demographic Information Schedule:

A Demographic Information Schedule was used to collect information such as age, occupational status, income, religion, family etc. Information related to the self help groups also been collected through this schedule.

A copy of the schedule is enclosed in the Appendix.

3.4 DATA COLLECTION

The researcher collected the data after getting permission from the District Mission Coordinator, Kudumbashree Mission, Ernakulam, Kerala. The researcher approached the respondents and
administered the questionnaire with proper instruction. The investigator informed the respondents the aim of the research before administering the questionnaire. The researcher ensured that the collected data would be kept strictly confidential and would be used for research purposes only.

The respondents have taken approximately one hour to complete the questionnaire. The data collection was completed within a year.

3.5 ANALYSIS OF DATA

The collected data were analyzed using SPSS version 14 and statistical techniques used in the study are:

1. Frequency
2. ANOVA
3. MANOVA
4. Multiple Range test
5. 't'-test
6. Correlation Coefficient
**Frequency and percentage**

The collected data were analyzed and presented in frequency tables. The different category of values in the sample was depicted through the frequency table.

**ANOVA**

The Analysis Of Variance, popularly known as the ANOVA test used in cases where there are more than two groups. This is a statistical method used to test whether the means of several samples have significant difference or not.

A one-way ANOVA can be used to tell if there are statistically significant differences among the level means. It is based on the comparison of two estimates of variances, one representing the variance within groups, often referred to as error variance, and the other representing the variance due to differences in group means. If the two variances do not differ significantly, one can believe that all the group means come from the same sampling distribution of means and there is no reason to claim that the group means differ. The F-statistic calculates the ratio between the variance due to difference between groups and the error variance. \( F = \frac{\text{variance due to difference between groups}}{\text{Error variance}}. \)

The larger the ‘F’ ratio, the greater is the difference between groups as compared to within group differences. An F- ratio equal to
or less than one indicates that there is no significant difference between groups and the null hypothesis is correct, and then we can conclude that the independent variables did not have an effect on the dependent variable.

**MANOVA**

The MANOVA (multivariate analysis of variance) is a type of multivariate analysis used to analyze data that involves more than one dependent variable at a time. MANOVA allows us to test hypotheses regarding the effect of one or more independent variables on two or more dependent variables. It is used in cases where there are two or more dependent variables. As well as identifying whether changes in the independent variable(s) have significant effects on the dependent variables, MANOVA is also used to identify interactions among the dependent variables and among the independent variables.

In this study MANOVA was carried out to test whether there is a significant difference among the different groups (Kudumbashree groups and comparison groups).

**Multiple Range Test**

When F-ratio in the ANOVA table shows significant, the further analysis is to be done to find out which group indicates the significant
difference. Duncan’s Multiple Range Test which is appropriate procedure in this context is used in the present study.

It is a post hoc test used to determine the significant difference between group means in an analysis of variance setting. It is based on the range static, since this powerful test, the level of significance is fixed at 0.05 level.

‘t’-Test

‘t’ tests are commonly used when making comparisons between the means of two samples or between some standard value and the mean of one sample.

The ‘t’ test gives two statistics that can be used to conduct a test of the mean: a ‘t’ value (T) and a ‘p’ value (P). The t value is not very informative by itself but it is used to calculate the P value. The P value tells you just how likely it is that you would obtain your sample, with its particular mean and standard deviation, if the null hypothesis (Ho) is true. You must decide the ‘P’ value required to reject the Ho before you conduct the test. The value that you choose as your criterion is called the alpha level. If the ‘P’ value is less than or equal to your alpha level, then you reject Ho and conclude that ‘m’ is not equal to the reference value.
Correlation

The term correlation indicates the relationship between two variables. Correlation is a statistical technique which measures and analyses the degree or the extent to which two variables or phenomena are related.

Correlation is defined as ‘the tendency of two or more groups or series of items to vary together directly or inversely. When two variables move together, they are correlated.

It is not quite sufficient to simply trace correlation between the variables but it is essential to ascertain the degree of its existence. The degree of correlation can be measured by calculating a ‘coefficient of correlation’.

The coefficient correlation varies between +1 and -1 perfect correlation is indicated by +1. Perfect negative correlation by -1, no correlation by 0, limited degree of positive correlation by values between 0 and 1, and limited degree of negative correlation by values between 0 and -1.

Karl Pearson’s Product moment correlation is used in this study. The Pearsonian Coefficient Correlation is denoted by the symbol ‘r’.