CHAPTER-III
RESEARCH METHODOLOGY

3.1 Background of the present study

The adolescent population has started getting special attention in the human resource development agenda recently. From the strategic point of view preventive and promotive interventions in health especially mental health, focusing on at risk as well as healthy adolescents across the settings (e.g. school, family and community) are in progress in various parts of the world. In India also, even though sporadic, various such attempts are in progress. Most of them are happening in the NGO sector. National level policy formulation, programme planning and implementation in this area are still lacking in our country. This study is one such attempt to formulate implement and field test the efficacy of an adolescent development education programme through the ICDS network.

3.2 Need for the study

In India the Integrated Child Development Services Scheme (ICDS) with its life cycle approach in service delivery, has included adolescent age group girls also in its beneficiary category with the aim of breaking the inter-generational life cycle barrier of nutritional and gender disadvantage and providing a supportive environment for self development. One of the objectives of this scheme for adolescents include promoting awareness about health, hygiene, nutrition, family welfare, home management, child care and enhancing their self esteem. (NIPCCD, 2002). To achieve this objective, various educational and training activities for the adolescent age group girls...
are supposed to be conducted at the anganwadi level, coordinating the services of the various other sectors like health, education etc.

This often does not happen due to many practical problems in the field level implementation of the programme. Researchers while working in the ICDS as a child development project officer observed, that the meetings for the adolescents were organized infrequently and the participation of the adolescents in these sessions were low. Even in those places where the sessions were held, the quality of the sessions suffered, due to lack of expertise of the resource persons (mostly the anganwadi workers). Apart from this, the anganwadi workers have also reported difficulties in finding qualified resource person for these sessions. The researcher in her interaction with the anganwadi training centre staff and the middle level training centre staff (which are meant for training of the supervisors of the ICDS) came to know that the training input given to the workers and supervisors in this regard are meager.

3.3 Scope of the study

Need for a training module for use of anganwadi centers to train the adolescent girl beneficiaries of the ICDS have been mentioned in the plan out lay itself, but nothing significant has been done so far {(Proceedings of the Director of Social Welfare GOK, (2007, December 28) & Ministry of human resource development, ICDS, A Compodium of guidelines, 2000)}.

Considering the vast training infrastructure that the ICDS has, the gap in the training input to the functionaries, on adolescent development can be bridged easily by adding ‘adolescent development education’ also as part of their training curriculum. The current study was aimed at developing one such
training programme and implementing it at the field level using the ICDS functionaries. If this effort proves successful, the same can be replicated in other parts of the country.

The present study was done in two steps. In the first phase of this project, the researcher intended to look at the current functioning of the adolescent girls’ programme at the anganwadi level and the functionaries need perception for a capacity building training programme on adolescent development. The second phase of the study was focused on developing a training programme on adolescent development for the use of anganwadi centers in Kerala and to check the feasibility and utility of the training programme developed.

3.4 Research Design

A research design is a ‘blue print’ that guides the researcher at various stages of the research (Nachmias & Nachmias, 1996). After doing a preliminary investigation in the first phase of the study, a quasi-experimental control group design (Baker, 1988) with pre and post evaluation was done to check the utility of the training intervention. To check the feasibility of the training intervention a process evaluation was also done at the end.

Fig 3.1 Quasi experimental study design

<table>
<thead>
<tr>
<th>Pre test</th>
<th>Intervention</th>
<th>Post test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp Gp</td>
<td>Y1 → X → Y2</td>
<td>Y2-Y1</td>
<td></td>
</tr>
<tr>
<td>Cntl Gp</td>
<td>Y1 → O → Y2</td>
<td>Y2-Y1</td>
<td></td>
</tr>
</tbody>
</table>

(X – Intervention, O – No Intervention)
3.5 Objectives of the study

1) To evaluate the implementation of the non-nutritional component of the adolescent girls’ scheme of ICDS.
2) To understand the ICDS functionaries’ need perception for a training programme on adolescent development.
3) To develop and implement a feasible training programme on adolescent development for the anganwadi centers.
4) To assess the utility of the training programme on adolescent development.
5) To check the feasibility of the training programme on adolescent development.
6) To suggest suitable measures to improve the service delivery of anganwadi centers to adolescent girl beneficiaries.

3.6 Hypothesis

Many experiments are carried out with the deliberate objective of testing the hypothesis (Kothari, 1990). Since the present study intended to check the utility of the training intervention, the following four hypotheses were formulated and tested.

1. Compared to the control group, the experimental group adolescents will have better knowledge on healthy living subsequent to training.
2. Compared to the control group, the experimental group adolescents will have better self awareness subsequent to training.
3. Compared to the control group, the experimental group adolescents will have better knowledge on growth and development subsequent to training.
4. Compared to the control group, the experimental group adolescents will have better relationship perception subsequent to training.

### 3.7 Definitions of key concepts

**Adolescent**: In this study adolescent means a girl who is in the age group of 11 to 18 years and who is a member of the anganwadi adolescent girls' club.

**Adolescent development**: The term adolescent development connotes a focus on supporting or promoting, during the second decade of life, the positive developmental processes that are known or assumed to advance health and well-being. These processes include such multidimensional domains as competence, mastery, positive identity, resilience, caring, connection and belonging. (Benson and Saito, n.d.).

**Adolescent development education**: In the present study ‘adolescent development education’ means an education programme intended for the overall development of an adolescent which includes physical, psychological, and social development. Content of the proposed adolescent development education package, thus focuses on enhancing healthy living, good interpersonal relations, improving self awareness and gaining sound knowledge on reproductive health during adolescence.

**Non-Nutritional component**: Non-nutritional component includes the various ongoing education and training interventions, that are meant for the overall development of the adolescent girl beneficiaries of ICDS. This includes vocational training, nutrition health education sessions, non-formal educational activities and home based skill training activities etc. Other services like providing supplementary nutrition and iron and folic acid
supplementation and referral services etc are not included in the non-nutritional component of service delivery in the present study.

**ICDS functionary:** An ICDS functionary means the person/s who is appointed for the field level implementation of the ICDS scheme. This includes child development project officers, supervisors, anganwadi workers.

**Anganwadi centre:** An anganwadi centre is the focal point of delivery of services to the beneficiaries of the ICDS scheme in the community which is managed by an anganwadi worker, assisted by a helper who is an honorary worker selected from the local community.

**Healthy Living:** Healthy living means adopting a lifestyle that promote overall health of the individual and at the same time prevent the development of illnesses. In this study, the areas focused under healthy living, includes giving knowledge on the importance of proper diet and nutrition during adolescence, giving them awareness about faulty food habits and teaching them how to prevent lifestyle diseases.

**Self Awareness:** It is the individual’s understanding about his/her actual self i.e. his or her belief about who she/he is or is not. In the present study it includes understanding about one’s strengths and weaknesses, needs and goals and one’s gender role.

**Relationship Perception:** Relationship perception means the individual’s understanding of his or her relationships. This includes relationship with parents, peers in the same and opposite sex and with others.
Research Methodology

Growth and Development: The term growth and development in the current study is used to mean the various changes that happen in an adolescent, as part of the maturation process with special focus on reproductive functions.

3.8 Population for the study

This study had two parts. In the first phase of the study, a preliminary investigation was done, to evaluate the implementation of the adolescent girls’ programme of ICDS (specifically the non-nutritional component). For this secondary data sources were surveyed, to collect needed information. To assess the functionaries ‘need perception for a capacity building training programme on adolescent development, field level data was collected from the various functionary groups of ICDS who are primarily responsible for the implementation of the AG scheme (which included, Child Development Project Officers, Supervisors and Anganwadi workers). For the second part of the study adolescent girl beneficiaries were also selected along with the functionaries. Hence the population of this study includes ICDS functionaries and adolescent girl beneficiaries of the anganwadi centers in Kerala.

3.9 Sampling

Multi-stage random sampling method was used to select samples for the first phase of the study. Purposive sampling method was used to select respondents for the second phase of the study.
Phase 1 - Multistage Random Sampling

Simple random sampling

14 Districts
163 ICDS Projects

Simple random sampling

Alappuzha
13 Projects

Emakulam
17 Projects

Kottayam
11 Projects

ICDS Alappuzha
177 AWCs

ICDS Parakadavu
139 AWCs

ICDS Pampady
141 AWCs

Simple random sampling

30 Workers
5 Supervisors
Project Officer

30 Workers
6 Supervisors
Project Officer

30 Workers
6 Supervisors
Project Officer

Fig.3.2. Phase 1 Sample Selection
Phase II – Purposive Sampling

ICDS Pampady
141 AWCs

Akalakunnam
Panchayath
(not included)
22 AWCs

Pampady
Panchayath
37 AWCs

Pallickathodu
Panchayath
18 AWCs

Elikkulam
Panchayath
23 AWCs

Kooropada
Panchayath
27 AWCs

Meenadam
Panchayath
14 AWCs

Purposive
Sampling

4 Workers
As MTs
37 AGs

4 Workers
As MTs
18 AGs

4 Workers
As MTs
23 AGs

4 Workers
As MTs
27 AGs

4 Workers
As MTs
14 AGs

Final Sample

4 Workers
22 AGs

4 Workers
14 AGs

4 Workers
15 AGs

4 Workers
18 AGs

4 Workers
11 AGs

Fig 3.3 Phase II Sample Section
MTs – Master Trainers. AGs – Adolescent Girls (Experimental & Control Groups). AWCs – Anganwadi Centres
In Kerala there was a total of 163 ICDS projects, spread over the 14 districts as per the report of the director of social welfare GOK. Under these ICDS projects, 24421 Adolescent girls clubs were functioning and about 366315 girls were enrolled as members. (Proceedings of the Director of Social Welfare, Govt of Kerala, September 2006).

3.9.1 Phase I - Sample selection.

To select a sample for the first phase of the study multi stage random sampling method was used. In the first stage from among the fourteen districts in Kerala, three districts were selected randomly using the lottery method. These were Alappuzha, Kottayam and Ernakulam Districts. Each of these districts had 13, 11 and 17 numbers of ICDS projects respectively. From among this in the second stage of sample selection, one project each was selected randomly using the lottery method. The selected projects were the Alappuzha ICDS project of Alappuzha district, the Pambady ICDS project of Kottayam district and the Parakkadavu ICDS project of Ernakulam district.

3.9.1.1. Study locale.

3.9.1.1.a ICDS project Parakkadavu.

The Parakkadavu ICDS Project is a rural project situated in the northern part of Eranakulam District. This project has an area of 101.46 square Kilometers and the total population of the project was 1, 26, 624. The project was started as a world bank assisted project in the year 2000. There was a total of 139 anganwadi centers (as on 2008 January) functioning under this project. The population of five Panchayaths comes under this project area. The project has a sanctioned strength of one child development project officer, five
supervisors and 139 anganwadi workers and an equal number of anganwadi helpers (Project profile, ICDS Parakkadavu, 2001).

3.9.1.1.b ICDS project Alappuzha.

This is a project working in the Alappuzha municipal area of Alappuzha district. This is a coastal project with a total area of 35.18 sq km. Total population in the project area was 1,77,008. This project was started in the year 1982-83. There were 177 anganwadi centers (as on 2008 January) in the project area which is spread over six sectors. (Since this project is under the Alappuzha municipal area the different sub areas coming under this project is divided into sectors, instead of Panchayaths as in the case of projects located in block areas.). This project also has one child development project officer, one assistant child development officer (this post was vacant at the time of data collection), six supervisors and 177 anganwadi workers and helpers (Project profile of ICDS Alappuzha, 2005).

3.9.1.1.c ICDS project Pambady

The Pambady ICDS project is a rural project situated in the Pambady block panchayath of Kottayam district. This project got sanctioned in the year 1982-83. The total project area is 166.30 sq.kms and the total population in the area was 1,39,160. There were a total of 141 anganwadi centres spread over six Panchayaths(as on January 2008). It has a sanctioned strength of one project officer, six supervisors and 141 anganwadi workers and helpers. (Project profile of ICDS Pambady, 2005).

Thirty workers were selected randomly from each of these projects (ie a total of 90 workers were selected). The workers list was taken from the
respective project offices. Using a table of random numbers, 30 workers were selected from each of the projects for data collection. Apart from this, data was collected from all the supervisors (17 in number) and the child development project officers of these selected three projects.

3.9.2 Phase II-Sample selection.

For the second phase of this study, from among the three projects included in the initial study the Pambady ICDS project of Kottayam district was selected, which again was done randomly using lottery method. The Pambady ICDS project had a total of 141 anganwadi centers, spread over 6 panchayaths. ie. Akalakkunnam, Elikkulam, Pallikkathodu, Pambady, Kooroppada and Meenadam. Among these Panchayaths the Akalakkunnam Panchayath (with its 22 anganwadi centers) was kept out of the main study, owing to the reason that the population in that Panchayath was exposed to the module and tool while pre testing it. Thus the total sample for the second phase of the study was selected from 119 anganwadi centers of the other five panchayaths of the Pambady ICDS project.

3.9.2.1 Selection of the master trainers.

The researcher met all the anganwadi workers in the five panchayaths of the Pambady ICDS during their sector level meetings, explained about the research programme and asked for volunteers to join as master trainers. From each of these panchayaths, 4 anganwadi workers each, who volunteered first, were selected to be included as master trainers. Thus, a total of 20 anganwadi workers were selected to be the master trainers.
3.9.2.2 Selection of the experimental and the control group adolescents.

Selection of the experimental and control group adolescents were done using the purposive sampling technique. One adolescent girl beneficiary, preferably the leader of the club from each of the 119 anganwadi centers of the Pambady ICDS project was selected to be included in the experimental group. If it is inconvenient for that girl to attend the programme, another girl in a responsible position in the AG club was taken to include in the experimental group. Purposive sampling was used at this stage with the aim that, if the club leader or a person in a responsible position participated in the training programme, they could organize or assist the anganwadi worker at their respective anganwadi centre to take similar classes. This selection was done with the help of the respective anganwadi workers of the 119 centers.

Even though all the selected adolescents were informed about attending the training programme, only 105 girls came to attend the training on the first day. The reason for this decrease in number was the distance of the training venue from their residence. Since only one girl was asked to attend the training from each anganwadi centre, she had to travel alone from her place of residence to the training venue. Though the training was arranged at a convenient place with in their panchayath limit itself, the parents were reluctant to send their children alone to the training place. From among this 105, only 80 could be included in the final sample of the experimental group, after eliminating the responses of those who did not attend all the 16 sessions and also removing those response sheets which were incomplete and erroneous. Thus the final sample in the experimental group was 80.
For selection to the control group, one other member of the adolescent club who is of same age as the experimental group participant was selected from each of the anganwadi centers. This was done with the help of anganwadi workers. Selection of the sample was done in such a way that the two groups were comparable to the maximum extent possible.

Informed consent was taken from the parents of the participants and from the girls themselves, before collecting data from the participants. Permission was taken from the concerned authorities of the local self government and the ICDS officials before conducting the training programme.

3.10 Inclusion criteria

- Adolescent girls who are in the age group of 11-18 years
- Adolescent girls who are members of AG clubs at the anganwadi level.
- Those girls who are holding a responsible position of the AG club at the anganwadi level.

3.11 Exclusion criteria

- Those girls who did not attend all the 16 sessions covered in the programme
- Adolescent who have attended any other training programme of a similar kind
- Adolescents who did not complete both the pre and post evaluations.
3.12 Preparation and standardization of the intervention programme on adolescent development

The training programme was planned after extensive literature review and consultation with subject experts. Opinion of the functionaries was also taken before finalizing the content of the module. The adolescent development education programme developed for the anganwadi centers were modeled after the various other adolescent development packages published by

- Choose a future-Issues and options for adolescent girls (CEDPA, 1996).
- Life skills modules for young people (Do E (MHRD), NACO & UNICEF, n.d).
- Activity manual for the teachers on health promotion using life skills approach, NIMHANS, Bangalore (Bharath & Kumar, 2005)and
- Life skill education (Nair, George, Kumar & Chandramohan, 2005).

Participatory teaching methodology was used for the training programme. Topics included were simplified in such a way, so that the resource persons could handle the sessions easily. Detailed description on how to conduct a session was included in the module. Each activity started with a description of the objective of doing the session, along with the time and materials required to conduct the session. Following this a description of how to go about conducting the session was discussed, followed by points for discussion. At the end the additional information required for the resource persons on the topics under discussion were given to facilitate the smooth conduct of the session. The prime focus was on stressing the areas that are important from the ICDS point of view, as stipulated in the norms and at the
same time including aspects of contemporary social realities the girls are facing in today’s Kerala situation.

The module on healthy living (which is very much related to nutrition education of ICDS) has given focus to bringing some attitudinal change in the participants, apart from giving knowledge on nutritional aspects. It has touched upon the prevention of lifestyle diseases also which is the most formidable threat to health in modern Kerala society. The module on interpersonal relations was planned to make the children aware of the importance of relationships, in the family context and in the peer context. In this part of the module, one session was on how to protect oneself from faulty relationships which are the main cause of abuse of young girls in Kerala, as reported by the media. The module on growth and development was also very much as per the ICDS stipulations. Lastly the module on self awareness was planned in such a way, to make the girls more self confident and at the same time helping them to make a self evaluation of their value base. Lecturing, role play, discussions and brainstorming were used to conduct the sessions. All efforts were taken to simplify the contents, so that the workers as trainers can comprehend and deliver the message as it is intended. Four core areas were included in the package as under.

**3.12.1 Module 1-Self awareness.**

The main objectives of doing this module were to help the participant girls 1) to identify their own strengths and weaknesses. 2) to teach them how to identify and prioritise personal needs 3) to give clarity about their personal goals and 4) to make them feel proud of their own gender. To achieve these objectives this module had four activities.
3.12.2 Module 2-Interpersonal relationships.

The main objectives of this module were to help the participants 1) to improve their relationship with their parents. 2) to analyse their relationship network. 3) to teach them how to make and maintain healthy relationship with friends and with those of the opposite gender and finally 4) to help them to identify and deal with gender related exploitation and violence in their personal life. This module had 5 activities.

3.12.3 Module 3-Healthy living.

This module had three objectives and these were 1) to make them understand the nutritive value of common food stuff 2) to make them understand healthy and unhealthy eating and cooking practices.3) to make them aware of lifestyle diseases.

3.12.4 Module 4-Growth and development.

This module basically aimed at 1) helping them understand the various changes that occur during adolescence, 2) importance of hygiene during menstruation, 3) various changes that take place in a menstrual cycle, and finally the 4) process of conception and child birth.

There were a total of 16 activities as per the objectives discussed as above. Each activity needed an average of 45 to 60 minutes (and some of them even more) to complete. Each of these modules were given to five subject experts in the fields of psychology, social work, health and dietetics etc for face validation of the content. They evaluated it for its adequacy, appropriateness, accuracy and practicality. Based on their suggestions some part of the modules were changed. Inclusion of certain new sessions were
made. (Eg: a session on boy girl relationship was added, another session which was included in the relationship module was removed.) Corrections in the content were made based on the opinion of the judges. (See Appendix 3 for copy of the training module).

3.13 Tools of data collection

3.13.1 Tools for phase I.

1. Secondary data sources were surveyed to get relevant information on the adolescent girls’ scheme implementation.
2. An interview guide was used to collect information from the supervisors and project officers.
3. A pre tested semi structured questionnaire was used to collect information from the anganwadi workers.

3.11.2 Tools for phase II.

The following tools were used to collect data from the master trainers and the adolescent girl beneficiaries (both experimental and control group). Since standardized scales were not available to measure the variables under study the researcher herself developed some checklists and inventories. Inventories and checklists are essentially a list that respondents are asked to mark or tick about themselves. It may be a list of personality traits, emotional feelings. A checklist is more useful when knowledge levels have to be assessed (Oppenheim, 1992).

4. Socio demographic profile of the adolescent girls was assessed using a structured questionnaire.
5. A self awareness inventory was prepared by the researcher to assess the self awareness level of the adolescents

6. A checklist was used to assess the knowledge level of the adolescent on healthy living

7. An inventory to assess the relationship perception of the adolescents was prepared by the researcher to use in this study

8. A checklist on growth and development was used to assess the knowledge level of the adolescents on growth and development.

Process evaluation data was collected from the master trainers and the participants using two separate questionnaires.


Report from two independent observers was also taken to substantiate the evaluation reports taken from other sources.

3.14 Preparation of the tools

The following steps were taken for the preparation of the various data collection tools

3.14.1. Interview guide for the supervisors and project officers.

This interview guide was intended to collect information on the demographic profile of the respondents, details about their work experience in ICDS, respondents level of participation in AG club activities, training exposure of the respondents on adolescent issues etc. It also elicited
information on their opinion about various issues i.e the current level of functioning of the AG clubs, need to develop an education package for the use of anganwadi centers, their suggestions about the content of such a package and finally their suggestions to improve the education sessions of the AG clubs. (see Appendix 2b for a copy of the interview guide).

### 3.14.2 Questionnaire for the workers.

To collect relevant information from the anganwadi workers, a semi-structured questionnaire was used. Details collected in this questionnaire, included demographic profile of the workers, details about their work experience in ICDS, their training exposure on adolescent issues, details about their anganwadi AG club functioning, their information about the problems of the Adolescents , their suggestions to improve the education sessions for the AGs and finally their suggestions to improve the AG club functioning. This questionnaire was pre-tested on a sample of 10 workers of Ambalappuzha ICDS project of Alappuzha district, before using it for the study purpose. On pre-testing, it was found that certain questions which were repetitive were removed, information on the educational qualification of the worker, refresher job training related information etc were missing. These were added before using it for final data collection. Time required to complete the questionnaire was found to be 45 minutes. This questionnaire was prepared by the researcher in Malayalam. The same was translated in to English with the help of two language experts. (See annexure 2a for copy of the questionnaire).

For the second part of the study, the tools used for data collection included use of checklists and inventories, to check the utility of the training programme. Four tools were prepared based on the modules to assess the four
variables, included in the module. These were 1) A checklist to assess the knowledge of adolescents on healthy living 2) A checklist to assess the knowledge of adolescents on growth and development 3) An inventory to assess the self awareness and 4) An inventory to assess the relationship perception.


This was assessed using a structured questionnaire which was developed by the researcher for the study purpose. Information collected in the socio demographic profile included name, age, education level of the respondents, approximate monthly income of the family, their personal evaluation of their own academic performance, details about their parents’ education and occupation and finally details about their earlier exposure to trainings.


This checklist was prepared to assess their knowledge level of the respondents on healthy living. To prepare the checklist, a set of 35 questions were prepared based on the module. Each question had four response options with one right answer. The training module on healthy living along with this tool was given to 5 subject experts for content validation. These experts were from the field of dietetics, health, nursing and psychology. Based on their suggestions 18 questions that all the judges agreed were included in the final version. For 2 items, four of them agreed, this was also included in the final list. The rest of the 15 items which were not agreed to by at least four of the judges were removed from the final list. This 20 item checklist was then applied on a sample of 20 adolescent girls. A repeat data collection was done
on the same sample after a period one week using the same tool. Data of both the time periods were compared using correlation analysis. Karl Pearson’s correlation coefficient was found to be 0.882. Since there was high correlation (correlation was significant at 0.01 level) between the scores, the tool was found to be adequate. For the scoring of the tool, each correct response was given a score of one and wrong responses were given a score of zero. Maximum possible score was 20 and the minimum zero. Those with a score of zero to 5 was taken to have very poor knowledge, 6-10 poor, 11-15 good and 16-20 very good knowledge on healthy living. The tool was then translated into Malayalam with the help of two experts who were fluent in both the languages. The 20 item Malayalam version of the checklist was used for final data collection. (See Appendix 5a for a copy of the checklist)


This checklist was prepared to assess the respondents’ knowledge and information on developmental changes during adolescence, reproductive system structure and functioning, menstruation and the menstrual cycle. To assess these aspects, a set of 40 questions were prepared. 20 questions had four response options with one right answer. The other 20 questions were true or false statements. These questions along with the training module on growth and development were given to 5 subject experts for content validation. After getting their suggestions 9 true or false statements and 11 multiple choice questions which were agreed on by all the judges were selected to include in the final list. This again was applied on a sample of 20 adolescent girls at a time gap of one week. Its correlation co-efficient was found to be 0.838 (correlation was significant at 0.01 level). Hence the tool was taken for the final study.
This 20 item final version of the knowledge inventory on adolescent growth and development was then translated into Malayalam with the help of two experts and the final version of the tool was prepared. Scoring of this tool was done by giving one mark to the right answer and zero to the wrong ones. Maximum possible mark was 20 and the minimum 0. Those with a score between 0-5 are taken as very poor, 6-10 as poor, 11-15 as good and 16-20 as very good in their knowledge level on growth and development. (See Appendix 5b for a copy of the checklist)


To assess the self awareness of the adolescent girls a set of 40 statements were prepared. These statements were aimed at eliciting information on their understanding of their own self, their needs, their goals, and to see how they feel about being a female. After each statement 4 response options i.e Strongly agree, agree, disagree and strongly disagree were given, and the respondents were asked to tick any one option which holds true in their case. Both positive and negative statements were included in the tool. This inventory along with the module on self awareness was given to 5 subject experts who are from the field of psychology and social work. 18 statements had 100% agreement and 3 statements had 80% agreement among the judges. The rest of the items which were not agreed on by more than 4 judges were not included in the final version. This was then applied on a sample of 20 adolescent girls twice at an interval of one week. The two scores were analysed using the correlation analysis. Since there was high correlation between the scores (Pearsons’ correlation value was 0.709, which was significant at 0.01 levels) the tool was selected for final study.
Scoring of the items was done as follows. For a positive statement if a person ticked strongly agree, that person would get 4, agree would get 3, disagree would get 2, and those who mark strongly disagree would get 1. Reverse scoring was done in case of negative statements. Total self-awareness score was calculated by adding the scores of all the items included in the inventory. The maximum possible score in this case was 84 and the minimum was 21. Those with scores between 21 and 42 were considered as poor and 43-63 was taken as average and 64-84 was taken as having good self-awareness. (See Appendix 5c for a copy of the tool).


This tool was prepared to assess the relationship perception in the context of their relationship with parents, others in the family, peer group members, with those of the opposite gender and with strangers. A 45-item inventory was prepared initially. Each statement in this had 4 response options (Strongly Agree, Agree, Disagree, And Strongly Disagree) like that of a Likert scale. Those who tick strongly agree or strongly disagree for a positive statement would get 4 points and 1 point respectively. Scoring was reversed for negative statements. Total score in the perceived interpersonal relationship skill was obtained by adding the scores of all the items.

Like other assessment tools used in this study, this tool also was given to 5 experts for content validation. All the judges agreed on 15 statements, 2 statements were agreed on by four judges and one statement was agreed on by three judges. All the other statements which were not agreed on by at least three judges were removed from the final version which had 18 items. The maximum possible score in this was 72 and the minimum 18. Those with a
score between 18-36 was taken as poor 37-54average and 55-72was taken as having good relationship perception. (See Appendix 5d for a copy of the tool).

To check the feasibility of the training programme, a process evaluation was done. For this, information was collected from the master trainers, who were anganwadi workers and the adolescent girls who participated in the training programme.

Process evaluation was done using two questionnaire. Separate questionnaires were developed for the master trainers and the experimental group adolescent girls.

### 3.14.8 Process evaluation questionnaire for the experimental group.

Experimental group adolescents were also given a set of 4 open ended questions to evaluate the training programme. They had to answer these questions at the end of each module. The questions were 1) Which activity did they like most, 2) Which was the most difficult activity, 3) Was the content of the module useful, if yes, explain in what way? and 4) Their suggestions to improve the sessions. (See Appendix 2e for a copy of the tool).

### 3.14.9 Process evaluation questionnaire for the master trainers.

A semi-structured questionnaire was used to assess the workers evaluation of the training programme. Once a worker completed a session, she had to answer the following questions. 1) How far could she complete it? 2) Whether she is satisfied with the way she handled the session? 3) What she felt about the interest level of the participants. After each question, 5 response options were given from which they had to choose one. i.e 1) Fully 2) Somewhat 3) Partly 4) Very little and 5) Not at all. Each option carried a score
that ranged from 5 to 1. Those who tick fully would get a score of 5 and those who tick not at all were given a score of 1. In between items were given score in the descending order. To assess the satisfaction level of the trainer in their training, scores of the first three items of the individual trainer was added up. If the person gets a total score of 15 it is taken as 100% satisfaction and for those who get a total score of 14, the satisfaction was calculated to be 93% and so on.

Similarly to assess the usefulness of the module the following three questions were asked 1) How useful was the hand out (training aid) given in terms of age appropriateness 2) opinion about the practicality of the module? 3) Whether she could complete the session on time. Here again the response options were the same i.e 1) Fully 2) Somewhat 3) Partly 4) Very little and 5) Not at all. Scoring was also done as it was done in the previous case. If the person gets a total score of 15 it is taken as 100% agreement about the usefulness and for those who get a total score of 14, their opinion about the usefulness was calculated to be 93% and so on so forth. (See appendix 2d for a copy of the tool)

Apart from this the following open ended questions were also asked 1) What all personal gains did they get from being a trainer? 2) What all difficulties did they have in conducting the session and finally 3) Their suggestions to improve the session. Each worker had to give an evaluation of the sessions that she handled. Since training was organized at 5 different locales with 5 different workers handling each session, 5 evaluations were obtained for each of the 16 activities included in the module.
Report from two independent observers were also taken to validate the information obtained from the respondents. They were post graduate students who were pursuing their studies in the field of development studies. They also participated in the training programme conducted by the researcher for the, master trainers (TOT). These two observers were then placed randomly at two of the training locales. They were there till the end of the training programme. Their observation reports were also collected which added information to validate the process evaluation reports from the workers and the experimental group adolescent girls.

3.15 Data collection procedure

3.15.1 Data collection- Phase I.

The initial survey was conducted at the three selected projects to elicit information about the adolescent girls programme at the anganwadi level as it was operational at that point of time. 30 workers from each of the selected projects were met in groups. The researcher could meet the workers in groups at the project headquarters when they gathered for their monthly project level meeting. Informed consent was taken from the worker before collecting data. They were given the semi-structured questionnaire. The researcher was physically present to clarify the respondent’s queries while they completed the questionnaire.

To collect data from the supervisors and the project officers, the researcher personally met them at the project office and conducted personal interviews using the semi structured interview guide developed by the researcher for this purpose. In the present project, the researcher was interested to know their opinion about the scheme, their difficulties in
implementing the programme and their need perception in terms of training for capacity building. It took three months to complete this data collection.

The initial survey findings confirmed the researchers field observations. The functionaries opinion about the adolescent girls’ programme implementation echoed the researchers initial hunches regarding sever dearth in trained resource persons, training material, and poor training exposure of the functionaries, as far as adolescent education was concerned, which in turn was causing major difficulties in the implementation of the programme at the field level.

Based on the inferences made from the initial survey, it was decided to use anganwadi workers as the master trainers for the capacity building training. So a very simple and easy to use module on adolescent development was prepared, which the anganwadi workers can use as reference material, while conducting training programmes at the field level. Considering the fact that the anganwadi workers are educated only up to matriculation and their exposure to participatory teaching methodology is poor, the content of the module had to be simplified.

3.13.2 Data collection -Phase II.

The selected 20 workers (four each representing the five panchayaths of the Pambady ICDS project) who volunteered to work as master trainers were given training (TOT) on ‘Adolescent Development Education Programme’ developed for the research purpose. TOT was for three days consecutively. All the master trainers were trained together at the Pambady Block Panchayath Community hall situated in the Block Panchayath office premises. The researcher herself did the entire TOT for training the master
trainers. Two independent observers who volunteered to help the researcher also participated in the TOT. The training programme was arranged from 9am to 5 pm. A hand book prepared based on the topics under discussion was given to the master trainers.

These trained workers were given necessary assistance to organize similar kinds of training programmes for the selected adolescent girl beneficiaries of their respective Panchayaths. This included a training kit (the hand book on adolescent development, notebooks and pens for the participants, chart papers, sketch pens and all the other material required to conduct the sessions), financial provisions to meet the training requirements etc (i.e, arranging food etc for the participant girls). So at each Panchayath, the trained 4 workers of that Panchayath together organized one camp for the adolescent girl beneficiaries of their panchayath. The venue for training was either a school in the locality, Panchayath community hall where ever available or an anganwadi centre which is spacious enough for the sessions. Since participant girls from the entire Panchayath had to reach the venue, availability of transportation facilities was another criterion in selection of the training venue.

Experimental group participants (Leaders of the adolescent girl clubs) from all the anganwadi centers in a given panchayath were selected by the respective worker. Since the distribution of anganwadi centers were unequal in each Panchayath, clusters of 24 anganwadi centers which are located close by were brought under one training venue. Thus a total of 24 anganwadi centers were included under each cluster except in case of the Meenadam Panchayath where only 23 were included. Workers took the consent from the parents before sending the girls for training. These adolescent girls who participated in the training programme conducted by the master trainers formed the experimental group adolescents.
3.15.2.1 Data collection from the experimental group.

The master trainers made the participant girls fill in their personal details in a socio demographic profile sheet. After this data pertaining to the study variables were collected using the four tools (i.e inventories on self awareness and relationship perceptions and checklists on healthy living and growth and development) prepared for this. (Data collection tool used to assess the utility of the training programme are presented at the end) The same tools were used to collect data from the participant girls at the end of the training programme also. Apart from this, to check the feasibility of the training programme a process evaluation was also done. Each participant was asked to give their evaluation of the training process in the process evaluation questionnaire for the experimental group. (See appendix 2c for the questionnaire used for pre and post evaluations).

3.15.2.2 Data collection from control group.

While selecting the experimental group adolescents, one other girl of the same age, who is a member of the adolescent girl club of the same anganwadi centre was also selected by the worker. This group of adolescents served as the control group. Anganwadi workers of the respective anganwadi centers made the control group girls to fill the pre and post evaluation questionnaires which were given to the experimental group. The first and second data collection from the control group was done at an interval of one week which was done at the same time as the experimental group got the training. However both the groups were not aware of the data collection process from the other group. No intervention was done with the control group at this time. Process evaluation details were not collected from the control group as they hadn’t had exposure to any training at that point of time.


3.15.2.3 Data collection from the master trainers.

Along with this the master trainers were given separate schedules to fill in their opinion about the training process. The process evaluation questionnaire for the master trainers was used to collect this data. Each trainer had to fill this data on completion of each session.

3.16 Analysis of the data

The collected data of the preliminary study was analysed manually and with the help of SPSS software. Simple statistical methods like frequency and the percentage were calculated. Data collected from the second part of the study was both quantitative as well as qualitative. The quantitative data collected using the checklists and inventories at the pre and post intervention phase from both the experimental and control groups were analyzed using SPSS software. Apart from frequency and percentage computation mean values were also calculated. T-test (both paired and independent sample t tests were used to test the hypothesis), Chi-square test, and correlation analysis, were also used to analyze the data.

5.17 Limitations of the present study

- Since the first part of this study focused on getting some preliminary information on the non nutritional component implementation, this was limited to a very small sample. Hence the observations cannot be generalized.
- The study sample was not blind to the fact that the pre and post evaluations were done to find the effectiveness of the intervention programme.
• Though evidence from the present study supports the feasibility and utility of the programme developed, this need to be subjected to more a rigorous empirical analysis with a larger sample.

• Since there was no post post evaluation the sustainability of the intervention effect could not be ascertained.

• Since the study has used a quasi experimental design, with resultant problems in interpreting results, process evaluation and the independent observer’s reports were collected. It is expected that it would add strength to the quantitative data collected at pre and post intervention level.

3.18 Ethical considerations

Informed consent was taken from the respondents, the parents of the adolescents who participated and the concerned authorities of the ICDS projects and the local self government authorities, before collecting data and also before conducting the training programme. Confidentiality of information shared was ensured. Control group was also offered the same training that the experimental group got exposed to at the end of data collection.

3.19 Chapterisation

The study is presented in 5 chapters as outlined below

Chapter I Introduction
Chapter II Review of literature
Chapter III Research Methodology
Chapter IV Analysis of Results - Part I, II, III & IV
Chapter V – Conclusion and Recommendations
References
Appendices