Chapter — III

Methodology
RESEARCH METHODOLOGY

The present study deals with the field aspects of a social experiment. Unlike the one shot surveys, it provides the valuable "intelligence" gathered during the experimental period about factors, which would cause the change, keeping one or several variables constant.

In almost any multiple regression equation in the social sciences, there is a high level of indeterminacy, and a high proportion of variance not explained. This leaves a great deal of room for the "intuition" of the social scientist.

Empirical researches in social sciences are conducted in a variety of settings and contexts. The choice of a setting for any research study, by and large, is guided by the nature of questions being asked, the type of questions being asked, the type of answers sought and the degree of control desired. If the setting is large, covering a wide geographical area, usually survey methods are used. In such studies, the degree of control a researcher is able to command may be less. When the setting is small and sequential studies needed, as in this study, field experiments are more appropriate. Hence, the researcher opted for a field experiment design.
OBJECTIVES OF THE STUDY

The broad objective of the study was to evolve through experimentation a comprehensive need based package with appropriate communication strategies that would empower adolescent girls towards life preparedness.

The specific objectives of the study were to:

- Elicit information on the areas of knowledge and emphasis required, from experts in the field of nutrition, reproductive health, and life skills education for adolescent girls.
- Gain insight into the adolescent girls’ family life preparedness.
- Identify appropriate communication strategies and develop intervention packages that will cater to the lacunae in an adolescent girl’s family life preparedness.
- Test the communication strategies in an experimental – control setup.
- Evaluate the acceptance and success of the communication strategies in imparting knowledge and influencing attitudes of adolescent girls towards family life preparedness.
- Create an awareness regarding various facilities available and agencies functioning for the welfare of adolescent girls.
- Train the experimental group-I respondents to become peer educators.
HYPOTHESES

1) The respondents of Experimental group I will show greatest gain scores for knowledge in nutrition when compared with the respondents of Experimental group II and Control group.

2) The respondents of Experimental group II will show significantly greater gain scores for knowledge in nutrition when compared with the respondents of Control group.

3) The respondents of Experimental group I will show greatest gain scores for attitudes towards nutrition when compared with the respondents of Experimental group II and Control group.

4) The respondents of Experimental group II will show greater gain scores for attitudes towards nutrition when compared with the respondents of Control group.

5) The respondents of Experimental group I will show greatest gain scores for knowledge in reproductive health when compared with the respondents of Experimental group II and Control group.
6) The respondents of Experimental group II will show significantly greater gain scores for knowledge in reproductive health when compared with the respondents of Control group.

7) The respondents of Experimental group I will show greatest gain scores for attitudes towards reproductive health when compared with the respondents of Experimental group II and Control group.

8) The respondents of Experimental group II will show greater gain in scores for attitudes towards reproductive health when compared with the respondents of Control group.

9) The respondents of Experimental group I will show greatest gain scores for attitudes towards life skills when compared with the respondents of Experimental group II and Control group.

10) The respondents of Experimental group II will show greater gain scores with regard to attitudes towards life
skills when compared with the respondents of Control group.

11) Communication strategies developed to empower adolescent girls through a comprehensive need based package will be accepted.

SCOPE OF THE STUDY

Adolescence was previously considered one of the healthiest periods in human life. However, there is growing recognition of the wide-ranging health problems faced by adolescents because of a combination of biological, psychological and social factors (WHO, 1999).

At present there are no specific health, nutrition or development programs for adolescents. The real possibilities for establishing "Preventive Services for Adolescents", a concept well established in the developed countries, has totally been ignored. We need to understand the needs of adolescents from their own perspective.

In spite of many successful national programs, some of the national health indices are still very unsatisfactory and many fundamental issues are still unanswered. It is natural that we think of newer programs and
unconventional strategies. In the last 54 years of independence we have not seriously looked at the possibility of “empowering the adolescents-future parents of India”. This would involve a bold long-term strategy of using adolescents as “Change Agents”. Empowering adolescent girls in family life preparedness will not only enable them to define, challenge and overcome barriers in the course of their life, but also increase their ability to shape their life and environment. Viewed in the present context, there is an urgent need for an integrated program, which caters exclusively to adolescent girls.

The conceptual framework for the integration can be conceived in three parts relating to:

- Awareness generation
- Bringing about favorable attitudinal changes and
- Training adolescent girls as peer educators

Broadly, this integration should address important issues on nutrition, reproductive health, and life skills education to empower adolescent girls to successfully overcome, accept and adjust to the turbulent adolescent years. Establishing synergy is the call of the day where a range of different constituencies including Government functionaries as well as
NGOs, educationists, activists, feminists, researchers and doctors should join hands to march towards a common goal.

In this scenario, achieving the mandate of empowerment of adolescent girls arouses tremendous hope and expectation of a modified society, which will ensure positive and responsible behavior towards the challenges of diverse life situations.

In view of the above discussion, the present study has been taken up

OPERATIONAL DEFINITIONS

ADOLESCENT: Individual aged between 10-19 years as considered by the World Health Organization.

ATTITUDES: Attitudes are personal biases, preferences and subjective assessments that predispose one to act or respond in a predictable manner.

COMMUNICATION: Communication means sharing of ideas, information, attitudes, values or instructions with individuals or with groups to facilitate progressive change in knowledge, attitudes and practices. It involves both giving and receiving information.

COMMUNICATION STRATEGIES: A set of strategies, approaches and methods of communication that enable adolescent girls to play active roles in achieving life preparedness.
**EFFECTS:** Effects are changes in the short term to medium term (2-5 years) in knowledge and attitudes promoted by the intervention program.

**EMPOWERMENT:** Empowerment is an active process enabling adolescents to realize and harness their potential in three vital areas of life preparedness namely Nutrition, Reproductive health and Life skills.

**REPRODUCTIVE HEALTH:** Reproductive health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity in all matters relating to the reproductive system and its functions and processes. It also includes sexual health, the purpose of which is enhancement of life and personal relations and not merely counseling and care, related to reproduction and STDs.

**LIFE SKILLS:** Life skills are abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life.

**INTERACTIVE INTERVENTION PROGRAM:** An interactive program designed by the researcher to impart awareness on nutrition, reproductive health and life skills to the respondents of Experimental Group I.

**LIFE PREPAREDNESS:** Preparation of an adolescent girl for the challenges that she faces in her multidimensional role as a mother, wife,
caretaker and career woman emphasizing on the areas of nutrition, reproductive health and life skills.

**PEER**: A person who is of the same ability or standing

**PEER EDUCATORS**: Same sex, specially qualified young people working in responsible positions.

**PRE-TEST**: Survey conducted after the selection of sample to determine the level of knowledge about subjects included in the experimental design, prior to the intervention program, to provide baseline measures to document the changes that take place due to the interventional program of the study.

**POST-TEST**: Survey conducted after completion of the intervention program to measure the changes that has taken place.

**PROBLEM SURVEY**: Survey conducted to identify the problems of the adolescent girls in the areas of Nutrition, Reproductive health and Life skills education.

**SELF-STUDY MATERIAL**: Study material designed by the researcher to impart awareness regarding Nutrition, Reproductive health and Life skills.

**STRATEGY**: A strategy is any activity or experience used with or on participants to accomplish the objectives of the program
WORKSHOP: A short course, in which the participants discuss problems, participate in structured activities, attempt projects and learn skills.

RESEARCH DESIGN

This experiment has been designed on two basic parameters-Action program and Research. During the action program, data was collected and records maintained, which were used for Research. The research program had two components:

1) Research, which was fed into the action program and

2) The pre-test and post-test to measure the impact of the action program

The intervention programs focused on nutrition, reproductive health and life skills education. Hence the criterion variables on which gain scores were expected are knowledge and attitudes. These scores provided the yardstick for measuring the extent and level of change in the different segments of the program and covered the broad areas of the study. The variables against which change was measured were:

- Nutrition
- Reproductive Health
- Life Skills

Flow chart of the research design is presented in the following page.
FLOW CHART OF THE RESEARCH DESIGN

FORMULATION OF TOOLS
(1) QUESTIONNAIRE ON SOCIO-DEMOGRAPHIC DETAILS
(2) ATTITUDE SCALE ON NUTRITION
(3) QUESTIONNAIRE ON NUTRITION KNOWLEDGE
(4) ATTITUDE SCALE ON REPRODUCTIVE HEALTH
(5) QUESTIONNAIRE ON REPRODUCTIVE HEALTH
(6) ATTITUDE SCALE ON LIFE SKILLS

EXPERIMENTAL RESEARCH
MOTIVATIONAL CAMPAIGN
SELECTION OF SAMPLE

DEVELOPMENT OF NEED BASED INTERACTIVE INTERVENTION PACKAGE
INTENSIVE LITERATURE REVIEW
DISCUSSIONS WITH EXPERTS
PROBLEM SURVEY

IDENTIFICATION OF THRUST AREAS
- NUTRITION
- REPRODUCTIVE HEALTH
- LIFE SKILLS

INTERACTIVE INTERVENTION STRATEGIES
CONTENT EVALUATION BY EXPERTS
MODIFICATIONS
THREE PRONGED PROCESS EVALUATION
SELF-STUDY MATERIAL

SELF-STUDY MATERIAL

SCRUTINY BY EXPERTS
MODIFICATIONS
FINAL VERSION OF THE TOOLS

ANALYSIS
RESEARCH REPORT

FLOW CHART OF THE RESEARCH DESIGN
The research was conducted in ten phases.

**PHASE I: IDENTIFYING THE PROBLEM**

Through extensive literature review and the researcher's personal observations, specific information was gathered on the needs of the adolescent girls for life preparedness. Three areas namely, nutrition, reproductive health and life skills stood out and hence were chosen as the thrust areas for intervention in the present research. Interactions were held with subject experts (Refer Appendix-A) in the areas of nutrition, reproductive health and life skills. Necessary statistics were obtained to ascertain areas that needed emphasis with reference to adolescent girls' empowerment for life preparedness.

**PHASE II: PROBLEM SURVEY**

A problem survey (Refer Appendix-B1 for questionnaire) was conducted to identify the existing problems among prospective participants and also to check for correlation between the felt needs of adolescent girls and thrust areas identified by subject experts. The questionnaire used for the problem survey was a modified version of the 'Questionnaire for Adolescent girls' suggested by the Indian Association for Pediatrics in the course manual for Adolescent Health, by Mukherjee (2002). The specific objective of the problem survey was to determine the felt needs and immediate problems relating to Nutrition, Reproductive health and Life...
skills The findings of the problem survey formed the basis on which the course content was developed for the interactive intervention program on Nutrition, Reproductive health, Life skills and Self-study material

**PHASE III: DEVELOPMENT OF APPROPRIATE TOOLS**

The findings of the problem survey formed the basis for the formulation of tools for data collection towards pre-test data and post-test data. The following tools (Refer Appendix-B2-B7) were developed by the researcher for the purpose of data collection

- Questionnaire to elicit socio-demographic details
- Questionnaire to assess knowledge of adolescent girls on nutrition
- Attitude scale on nutrition
- Questionnaire to assess knowledge of adolescent girls on reproductive health
- Attitude scale on reproductive health
- Attitude scale on life skills

**PHASE IV: EVALUATION OF DEVELOPED TOOLS**

The tools developed in phase III were given for evaluation to professionals in the respective fields. Re-designing of the tools was done by incorporating their suggestions and inputs. The tools were thus validated.
PHASE V: SAMPLING

A two-stage sampling procedure was adopted for selecting the colleges and the subjects to maximize homogeneity among the three experimental treatments and then to permit randomness within the constraints imposed by the experiment.

Thus the colleges formed the units of sampling at the first stage, and adolescent girls at the second stage.

The objective was to extrapolate the findings for the wider universe.

FIRST STAGE OF SAMPLING-- SELECTION OF COLLEGES

Since this study is related to adolescent girls, the selection of Smt VHD Central Institute of Home Science, Bangalore as Experimental Group I was due to logistic and institutional convenience.

Smt. VHD Central Institute of Home Science, Seshadri road, Bangalore 560001, is a pioneer institution in Karnataka State offering courses from PUC to PhD in Home Science. This Government College caters to the female students of rural and urban Bangalore. The choice of this center was guided by the fact that though the location of the college is in the heart of the Information Technology Capital, the students face many problems, which are easily preventable. The researcher has been working in the center for the past ten years as a faculty member and as an
academic counselor, before availing the FIP (Faculty Improvement Program) opportunity to pursue Doctoral work. Her close observation and interactions with the students have thrown light on various problems faced by them.

Poor academic performance, absenteeism, low self-esteem, lack of motivation to excel in academics, poor participation in extra-curricular activities, inability to set personal goals and lack of civic responsiveness were some of the problems that were obvious to the researcher. Further, many students coming from a rural background are first generation learners who need inputs about adjusting to the new lifestyle. Some students had expressed during counseling sessions that they live in homes with problems like economic hardships, marital disharmony, gender bias, sexual exploitation and lack of an environment that is nurturing in nature. Added to these problems is the adolescents’ lack of awareness about nutrition, reproductive health, and life skills. One of the most unfortunate facts is that although these students have access to information, facilities and expertise they do not seek help and as a result suffer mild to severe physical and psychological morbidities. Another cause for concern is that there are very few services designed to meet the special needs of adolescents. Also adolescents tend to stay away from services because
they often feel unwelcome and misunderstood. When they do come, they tend to come too late for effective help.

The researcher felt that for this particular study, logistic convenience plus presence of the above mentioned problems among the adolescents should be the ground rules for selecting the colleges.

A survey of all the other Government colleges in Bangalore city was conducted to identify two more colleges from which Experimental group II and control groups could be drawn. The criteria used for selection of the colleges were that they should be Government colleges exclusively for women and they should be willing to participate in the research study. The other two colleges that satisfied these criteria were Maharani’s Arts College for Women, Seshadri road, Bangalore-560001 and Maharani’s Science College for Women, Seshadri road, Bangalore-560001.

SECOND STAGE OF SAMPLING—SELECTION OF ADOLESCENT GIRLS FOR THE THREE EXPERIMENTAL GROUPS

Since it is not feasible in the survey research to study the entire population, a sample or portion of a finite population is studied as representing a wider universe. In this study the population was the
adolescent girls studying in Government colleges of Bangalore city, the implicit universe being the vulnerable groups of the adolescent girls in India.

For this research study, the setting was narrow and the focus was on a small number of variables; hence a field experimental design was found more appropriate. As such field experiments have been rare, no detailed manual of techniques to draw the sample was available. The main aim was to isolate more or less homogenous target populations and purposively select the sample which is as representative of the population in a systematic manner as the experimental conditions permit.

The sample was designed in such a way as to control the effects of other extraneous and contaminating effects of variables that may interfere in the relationship between independent and dependent variables. To maximize homogeneity, control extraneous variables and to minimize logistic problems for the experimental treatments, the following procedures were adopted.
LANGUAGE

Though Kannada medium is also offered in the colleges, only students studying in English medium were selected. It was ensured that all the students had good writing and speaking knowledge of English.

TARGET POPULATIONS

A preliminary survey was carried out to determine the population of “eligible” adolescents who would be available for the experimental program. The criteria used for selecting eligible adolescents were that they should be aged below 19 years and should have sufficient time to actively participate in the experimental program. Since I PUC, II PUC and III year Degree students are academically pressurized and do not usually have much time to spare they were not considered for the study. I year Degree students are relatively free to participate in such programs and once trained as peer educators they will be able to function effectively at least for the following two years. Hence they were identified as the target population for the present study.

GEOGRAPHICAL ISOLATION AND PROGRAM LOGISTICS

In locating experimental treatments, we have to ensure the isolation of each experimental treatment. If two naturally existing groups, in this case colleges that are near to each other happen to be on different experimental
treatments then, participants in one treatment may be aware of the experimental treatment of the other group. In such cases, they may be influenced by a treatment, which is not intended for them. This is called "spill over" effect. There is also an additional factor of ‘inner experimental unit competition’, which can be defined as “advantageous or deleterious influence of one experiment unit upon another” (Federer, 1980).

In this study both these types of effects had to be controlled. The three colleges selected for the experimental program were located in a triad form in close proximity from one another. Each of the colleges was assigned the three experimental conditions. Hence, colleges receiving different treatments were isolated from each other as far as practicable. Thus, while the experiments needed proximity to each other for greater program efficiency, the colleges were kept isolated for the different experimental treatments.

**EXPERIMENTAL GROUP I**

Smt VHD Central Institute of Home Science Bangalore offered itself as the ideal college from which thirty students studying in the first year degree could participate in the action research (Interactive intervention program). These students formed the Experimental group I, who would be
exposed to the action research. The selection of the sample was done on voluntary basis as the researcher felt that a “voluntary” audience comprising of adolescents who choose to participate in the intervention will be more receptive as opposed to a captive audience who may find the intervention as imposing.

EXPERIMENTAL GROUP II

Fifty students from Maharani’s Science College for Women, Bangalore formed the Experimental group II. Respondents of the Experimental group II received the Self-Study Material as an intervention.

CONTROL GROUP

Fifty students from Maharani’s Arts College for Women Bangalore formed the Control group. The Control group did not receive any intervention program.

In the present study, the Control group, one of the three experimental groups assumes special importance. The control group is a group of respondents whose performance on a dependent variable is used as a basis for evaluating the relative performance of the experimental groups on the same dependent variable. In the absence of such a control group,
meaningful comparisons will not be possible and hence inferences may be spurious.

As an ethical consideration the respondents belonging to the Control group were distributed the Self-study manual after the data collection was completed.

**INFORMED CONSENT**

Obtaining voluntary informed consent from the subjects of research is a stage that all legitimate and ethical research studies have to stringently satisfy before they commence. Consent must be obtained in writing and signed by the respondent. The consent form should be simple, clear, and comprehensive in terms of information provided (Mann, 2002)

Consent was obtained from the respondents and their parents for participating in the research program. (Refer Appendix-C)

**PHASE VI: PRE-TEST**

The tools developed in phase III were administered to the respondents of the three groups to obtain the pre-test data. The responses were scored and systematically tabulated.
PHASE VII: DESIGNING OF INTERVENTION PROGRAM

This phase had two stages:

- Development of interactive intervention program
- Development of self-study manual

Development of interactive intervention program

An interactive intervention program on nutrition, reproductive health and life skills were organized for the respondents of the Experimental group I. Based on the major findings of the problem survey, the course content for the interactive intervention program were developed. The course content was broken up into topics and subtopics, which were further simplified into unitized lessons to bring about a certain amount of uniformity and clarity.

The unitized lessons which were based on the course content indicated the objectives, the subject matter to be covered, the messages to be transmitted, the questions to be raised to initiate discussion and the instructional methodology. Unitisation was done, keeping in mind the importance of topic, level of abstraction needed in the material, size of class, physical facilities available in the class, attention span of the learners and ability of the learner to retain the information. Some of the
topics that were complex in nature and required more clarifications were identified and assigned extra time.

Communication strategies which were highly interactive were employed. Thrust was given not only to providing right information, but also equipping the adolescent girls with right attitudes and skills required to develop adequate life preparedness.

When selecting communication strategies for the interactive intervention program in the present study, the following criteria were kept in mind.

➤ Strategies that contributed to total learning: Some activities are more suitable for acquiring knowledge, whereas others are better suited to attitude assessment and decision-making. A combination of strategies that develop the ability to reason and assess the information being presented were used. All the strategies used were participant-centered.

➤ The more complex the concept, the more activities were provided to develop the concept. When the concept being presented was difficult, more than two strategies were used. Another reason for
using more than one strategy was that students learn in a variety of ways and through different means.

➢ The strategies selected began with the simple and moved on to the more complex: Simple activities like posters, paper and pencil activities and demonstrations were presented in the beginning of the intervention. As the participants became better able to deal with more difficult topics, more complex strategies that required self-discovery or analysis of materials and drawing conclusions were introduced.

➢ Audiovisual aids were included whenever possible. Audiovisual aids add another dimension to teaching concepts and are excellent for reinforcing learning.

DEVELOPMENT OF COURSE CONTENT

Through extensive literature review, survey and group discussions a great deal of specific information was gathered on the nutritional problems, reproductive health needs and life skills education of the adolescent girls. These inputs were used to prepare interactive intervention strategies.
Development of self-study manual

Experimental group II respondents received a specially designed self-study package as an intervention. The literature for the self-study material was developed on the same topics covered at the interactive intervention program. The language used for the self-study material was simple and clear.

The developed self-study manual was given to experts for scrutiny and their suggestions were incorporated. (Refer Appendix-D4 CD enclosed).

PHASE VIII: IMPLEMENTATION OF THE INTERVENTION PROGRAM

Interventions for the interactive group and self-study group were implemented simultaneously.

Experimental Group I

The respondents of the Experimental Group I received the interactive intervention program. It spanned for a period of six months starting from September 2005 to April 2006. The breakup of the sessions is provided in the Appendix-D2.

Initially individual sessions were held once a week for ten weeks. The first two sessions were ice breaking sessions which the researcher used
effectively to build a rapport with the respondents. Each session lasted for about an hour followed by discussions, clarifications and planning for the forthcoming sessions. Home assignments were also given. The researcher was always available for individual counseling on issues raised by the students during the sessions. On observing that some of the respondents felt uncomfortable to express their feelings and concerns verbally, the researcher introduced the question box. The question box served as a powerful tool to invite questions on varied topics during the entire period of intervention. The sessions were planned in contrast to the regular classroom setting. The adolescents’ opinions were sought on seating arrangements and location of the sessions. Many sessions were held in the open air garden at the Department of Human Development, Smt. VHD Central Institute of Home Science, Bangalore. Many respondents felt that this was a refreshing change.

Keeping in mind the cultural background of the respondents it was decided to have the sessions on reproductive health issues in the later half of the program. Early sessions were skills oriented and focused more on expressed needs of the respondents.

Discussions were held with the respondents about adolescent-centered strategies like peer education club, workshop and exhibitions. After
several brain storming sessions preparations for the exhibition were underway. Respondents were given the freedom to choose the topic they would work on and the group members they wish to work with. Regular meetings were held with the respondents to plan and prepare educational aids to be displayed at the exhibition.

A three day workshop was organized for which the respondents were also involved in planning. They planned the venue, seating arrangements and the menu for lunch for the three days. Work allotment was done among themselves for proposing welcome and vote of thanks to the speakers. They also took up the task of maintaining cleanliness and order during the entire workshop.

Several subject experts and peer educators were invited as resource persons. (Refer Appendix- E). The unitized topics on nutrition, reproductive health and life skills were dealt with by competent resource persons. The communication strategies used were highly interactive.

As a culmination of the interactive intervention research program, a health exhibition was held on 7th April 2006 to coincide with the 'World Health Day'. The main objective of this event was to provide a platform for the peer educators to showcase their abilities and to upscale their
knowledge to students of the entire college. A formal launching of 'ENVISAGE', the peer educators club of Smt. VHD Central Institute of Home Science, Bangalore was also held. (Refer Appendix-F for detailed report on Peer education club)

Evaluation

All programs need constant evaluation to hone it to perfection. Evaluation was an important consideration for the researcher from the outset and throughout the program. The groundwork for evaluation was paved by conducting a problem survey to assess needs, setting objectives and planning activities. A formal evaluation plan to track progress was strictly adhered to, throughout the research program.

Content evaluation of all the tools, research design, proposed modules for intervention were carried out through interactions with experts and by incorporating the modifications suggested by them.

A comprehensive evaluation design which included both process evaluation and outcome evaluation was used in the present research. Process evaluation was carried out consistently during the course of the program. In the present study, it was carried out through analysis of classroom interactions, use of a suggestion box, evaluation sheets and
opinion polls. This evaluation was carried out to monitor progress and provide feedback so that modifications could be made where needed, during the course of implementation of the interactive intervention program. For conducting process evaluation in the present research, a three pronged evaluation system was used which was as follows:

- Evaluation by respondents
- Evaluation by peer observers
- Evaluation by staff observers

An evaluation checklist (Refer Appendix-G) was furnished to all the respondents at the end of each session to provide feedback about the preparation, planning, presentation, educational materials used by the resource persons and effectiveness of communication strategies.

Post graduate students pursuing a course in the Human Development department at Smt. VHD Central Institute of Home Science, Bangalore served as peer observers for the interactive intervention program. In addition to evaluating the content of the sessions, they also made observations on the respondents' enthusiasm, involvement and satisfaction. (Refer Appendix -H).
The staff observers were drawn from the highly qualified faculty members of the Department of Human Development at Smt. VHD Central Institute of Home Science, Bangalore. They were requested to evaluate the sessions for accuracy of information, clarity in presentation, ability to generate interest and suitability of educational materials used to supplement the presentations. (Refer Appendix - H).

They provided valuable insights as to whether there was a mix of knowledge, attitudes and skills in the presentation. They were asked to report whether the respondents' questions during the sessions indicated that they would try to practice the skills taught. Finally they evaluated the presentations in terms of possibilities of the respondents' behavior to be influenced in a positive manner.

Process evaluation is particularly important during the initial period of the intervention program. Once the program is established and accepted, it is important to plan for outcome evaluation. Outcome evaluation is designed to measure the extent to which the research program's objectives are achieved. In the present study, outcome evaluation was taken up during Phase VIII of the research study using specially formulated tools which were used for pre-test and post-test.
Both process and outcome evaluation are important to assess the extent to which objectives have been achieved, and together provide a basis for evaluation of the research.

**Experimental Group II**

An orientation of the research program was organized for the respondents of Experimental Group II to brief them about the intervention program. The researcher first explained the purpose of the present research and its implications on the adolescent girls of our country. The role of the respondents in this research of social relevance was highlighted and their co-operation was sought. The researcher motivated the respondents to participate in the intervention wholeheartedly.

The self-study material developed by the researcher was distributed to the respondents of the Experimental Group II on a weekly basis following the completion of the corresponding topics in the interactive intervention program. The researcher requested the Experimental Group II respondents to study the material with interest and provide feedback.
PHASE IX: POST-TEST

The post-test data collection was carried out for all the three groups after completion of the intervention program. The same tools used for the pretest were re-administered for the post-test.

This phase of outcome evaluation enabled the researcher to assess the results and impact of the interventions and to determine to what extent the interventions were effective in achieving the desired objectives of the present research.

PHASE X: STATISTICAL ANALYSIS

The responses were scored, systematically tabulated and statistically analyzed. A comparative evaluation three arm study consisting of one hundred and thirty adolescent girls was undertaken to study the effect of interventions on attitudes towards life skills, nutrition and reproductive health; and knowledge regarding nutrition and reproductive health.

It was randomized into three groups with 30 subjects in Experimental Group I (who receive an interactive intervention), 50 subjects in Experimental Group II (who receive self-study material as an intervention) and 50 Subjects in Control Group (no intervention).
STATISTICAL SOFTWARE

The Statistical software namely Statistical Package for the Social Sciences-SPSS 11.0, Stata 8.0, Systat 11.0 and Effect Size calculator were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs and tables.

STATISTICAL METHODS

Student t test (two tailed, dependent) has been used to find the significant mean scores of study parameters between Pre and Post intervention. Analysis of Variance has been used to find the significance of outcome between three groups. Effect size has been computed to find the effect of intervention on study parameters in three groups. (Refer Appendix-J)