CHAPTER IV

METHODOLOGY

4.1 Research Design

The methodology used to implement the model of empowerment of Female Community Health Volunteers (FCHVs) was the Participatory Action Research (PAR) that combines community participation, research and action in developing local insight and abilities for the resolution of the community issue (Rains and Ray, 1995). The ideology of PAR is congruent with the ideology of empowerment and involves gaining knowledge and abilities among individuals through active participation in the group activities. Since PAR is originated from a qualitative tradition, a combination of qualitative and quantitative technique was used to study the process and outcome of empowerment of FCHVs in regards to increasing contraceptive acceptance in the community.

A qualitative method was used to study the group process as the qualitative technique facilitates in gaining deeper understanding about the phenomenon of empowerment of FCHVs. The quantitative technique was used to measure the outcome of empowerment of FCHVs. A before-during-and-after design (Campbell, Filippi, Koblinsky, Marshall, Mortimer, Pittrof, Ronsmans, and Williams, 1997) was used to test the model in relation to the initial status of FCHVs, the status during the empowerment and the outcome following the empowerment of FCHV. This design was considered to be appropriate, as the model was aimed at exploring the process and outcome of empowerment rather than verifying the causal relationship.

The model consisted of preparing FCHVs for facilitating the Currently Married Women of Reproductive Age Group (CMWRAs) in resolving their barriers to the use of contraceptives This was followed by using these FCHVs as facilitators to empower CMWRAs to accept contraceptives. The premise was that the culturally relevant

information and support system enable women to successfully conquer the barriers to the use of contraceptives.

4.2 Setting

4.2.1 District Profile

Study was conducted in a Village Development Committee (VDC) of Nuwakot district. Nuwakot, a hilly district occupying an area of 1121 sq. km and situated in the Central Developmental Region of the country and northwest of Kathmandu, the capital district, was purposively selected. With an estimated population of 2,79,952 this district has one municipality and 61 VDCs, (Sharma and Gautam, 1999). Lack of roads and means of transportation is one of the common problems faced by the people of this district. There is only one all weather highway road which connects the municipality of this district with Kathmandu District whereas seasonal roads and narrow trails connect the municipality of the district with the VDCs.

Although situated next to the Kathmandu district, the people of Nuwakot district were disadvantaged in various socio-demographic aspects such as the education, age at marriage as well as the use of health and family planning services. In Nuwakot District, the indicators related to women's health and empowerment such as the female literacy rate of 18.0% as well as the age of women at marriage of 17.7 years, were lower in compared to the average national figures of 25.0% and 18.1 years respectively (CBS, 1993). The life expectancy for women, which was 43.4 years, was much lower than that of the nation i.e. 53.0 years (Sharma and Gautam, 1999). The contraceptive prevalence rate of 16.5 % (Shrestha and Mulmi, 1997) was also lower than the national average rate of 28.9%. Majority (92.6%) of the pregnant women in the district did not get antenatal check-ups and most (98.9%) deliveries were conducted without the assistance of health personnel (Shrestha and Mulmi, 1997). Therefore, the people of this district, particularly the women were in more need of being empowered with essential knowledge to enable them to use the available health and family planning services and to promote and maintain their health.

The major inhabitants of Nuwakot district were the people of Tibeto-Burman race namely the Tamang ethnic group who were known to have high fertility (Fricke, 1986). The Tamang ethnic group is one of the 59 ethnic groups of Nepal and represents 4.7% of the country's population (CBS, 1993). In comparison to Indo-Aryan race, a major race in the country, the advantage of being women in the Tibeto-Burman Race is that they can enjoy a greater degree of freedom. Tibeto-Burman race is also characterized by a higher degree of sharing of household responsibilities by men and an equal status relationship between the husband and wife (Majupuria, 1996). Thus, it was assumed that these women would face less social barriers in the process of their empowerment.

Nuwakot district had a district hospital in the municipality, a total of 42 health service facilities {namely primary health care centers (PHCC), health posts (HP) and sub-health posts (SHP)} at the VDC level (Shrestha and Mulmi, 1997) and community health volunteers at the community level. These community health volunteers are all female (FCHVs) and trained specifically to work for the promotion of the health of women and children in the community and to work as a liaison person between the health service facility and the community they serve. Although they do not fall under the formal health service organogram, they can contribute significantly in the promotion of the health of the community by creating health awareness and by providing basic maternal and child health and family planning services at the community level.

4.2.2 Study VDC

Among the 61 VDCs of Nuwakot District, Kakani VDC was purposively selected for the study, using the following criteria: the VDC had a female staffed and well functioning government-owned health service facility with adequate number of FCHV working in the community and no other family planning intervention program was going on at that point of time. The health service facility at Kakani VDC was a government-owned primary health care center (PHCC) located at Ranipauwa.

Kakani VDC was divided into 9 wards and from administrative point of view it had a VDC chairperson and 9 ward chairpersons. The number of villages in the wards varied from one to seven villages and the households from 65 to 260 households (Election Commission, Voters' List, 1997). Kakani VDC had a population of 9466 of which 18.8% i.e. 1780 were the married women of reproductive age group (MOH/DHS, 1999).

4.2.2.1 Community Profile

Majority of the people of Kakani VDC relied on agriculture as the main source of their livelihood. Most families also had cattle and some of them had grown cash crops such as strawberries and radish. Agriculture demanded a lot of manual work. So, people in general and women in particular spent considerable amount of time of the year in farming i.e. planting, growing and reaping crops. They used to grow different kinds of crops such as rice, maize, wheat and millet. During the harvest seasons particularly during Baisakh, Ashad, Srawan and Manshir (i.e. late April to early May, late June to July and November), they remained busy in the field activities. As in other VDCs, people of Kakani VDC had a system of helping each other particularly in activities that require more people as in planting and reaping rice thereby making their work easier and manageable.

The routine activities of the women in Kakani VDC included housekeeping, farm-work, drying and storing grains along with collecting firewood and fodder from the forest. Fields were located within easy access but the forest for firewood and fodder was situated at a far distance from their residence area. Women used to accompany each other during the outdoor activities such as in collecting firewood and fodder, in fetching water, in grazing cattle and in farm work.

4.2.2.2 Health Service Facility

The health service facility at Kakani VDC is a government owned Primary Health Care Center (PHCC). This PHCC provides basic health services including family planning (FP) services to the people of the 9 wards of Kakani VDC and referred cases from the adjacent 5 VDCs. At the time of this study, the health-staff at the PHCC

included 1 medical doctor, 1 health assistant, 1 staff nurse, 3 auxiliary nurse midwives (ANMs), 2 auxiliary health workers (AHWs), 1 laboratory assistant and 1 village health worker (VHW). The staff nurse and ANMs provide antenatal, natal and postnatal care and family planning services to women. The health assistant and AHWs provide the basic care and treatment to clients with medical and surgical problems. Medical doctor is in-charge of the PHCC and provides treatment and services to clients with sickness and complicated health problems. The VHW provides immunization to under-five children and family planning services to men in the health facility. He also informs FCHVs about their training and specific service programs to be conducted at the community level. FCHVs provide FP and MCH services including first-aid treatment to the people at the community level.

FP methods available at the PHCC included pills, depo, IUD and condom. Other contraceptive methods such as norplant insertion and sterilization operations were not performed at the PHCC due to lack of trained staff and facilities. So clients desiring to use these methods need to attend the district hospital or the central hospitals in the capital district Kathmandu.

Staff of PHCC reported no significant reason for low attendance of clients for contraception. Although after the implementation of drug scheme program in 1999, all health facilities including Kakani PHC started charging for medicine, contraceptives were still provided free of cost. So, the cost of contraceptive is unlikely to be a reason for low attendance. Likewise, clients would not require visiting the health facility frequently to get a contraceptive. They can get 3-4 oral contraceptive pill packets supplied at a time and they need to attend the PHCC once in 3 months for depo injection. So the cost of the travelling time even for the clients residing at a far distance may not be a real problem. However, the cost involved in the treatment of the side effects of contraceptives if they arise can be a considerable threat to use of contraceptives particularly if the woman does not have a strong desire for spacing or limiting childbirths. For instance, it was learnt that the most common side effects for which the contraceptive user women attend PHCC were menstrual disorders; the most frequent one being the excessive bleeding. It was learnt from the client that they had to

pay quite a large sum of up to Rs. 300 equivalent to US $4 per patient for treating such bleeding disorder.

Many clients desiring to use contraceptive attend the PHCC with some prior information about the contraceptive. It was also observed that clients receive only a brief explanation from the PHCC staff about contraceptives and their side effects. Staff of PHCC takes some precautionary measures in the administration of contraceptives such as women above the age of 40 years or women weighing more than 60 kilogram were not advised to take depo. Similarly, women having high blood pressure were not advised to take combined oral contraceptive pills and women with menorrhagia or anemia were not recommended for using intrauterine device.

4.3 Study Population (Participants) and Sampling

Study included two groups of subjects FCHVs and CMWRAs.

4.3.1 FCHVs

The focus of the study was on the process of empowerment of FCHVs, therefore, FCHVs served as the primary participants. In Kakani VDC from among the women who had received FCHV training, a total of 17 were currently working as FCHV. All of them participated in the empowerment training (Appendix 2).

4.3.2 CMWRAs

For the measurement of the impact of empowerment of FCHVs, the subjects used were the Currently Married Women of Reproductive Age Group of 15 to 49 years (CMWRA) residing in Kakani VDC, who irrespective of the parity and breast-feeding status, were non-users of contraceptives at the time of baseline data collection. From among these CMWRAs those who at the initiation of study were pregnant or who already had menopause or who were unlikely to conceive (not staying with husband or had hysterectomy done) were excluded from the study (Appendix 3).

In Kakani VDC the expected number of CMWRAs was 1780 (18.8% of the total population). With the contraceptive prevalence rate of 16.5 %, the FP non-user CMWRAs in Kakani VDC would be 1486 (Shrestha and Mulmi, 1997). About 28% of

these FP non-user women would not need contraception because 5% on average were likely to be in-fecund, about 19% were likely to be menopausal or had a hysterectomy and about 4.11% were likely to be pregnant (MOH/DHS, 1999; and Pradhan, Aryal, Regmi, Ban, and Govindasamy, 1997). Therefore, the women meeting the criteria of the study would consist of about 1068 women in Kakani VDC.

List of contraceptive nonuser women in Kakani VDC was not available. Therefore, a quota sampling technique (Kaewsonthi & Harding, 1992) was used to ensure the inclusion of a fair number of CMWRAs from different villages within each of the 9 ward of the VDC. First, the size of the sample of CMWRAs was decided to be the adequate size by considering the time, cost and nature of the statistical analysis to be used. About one-thirds of the expected number of CMWRAs meeting the criteria (i.e. 250 CMWRAs) was decided as the sample size of CMWRAs for the study. This sample size of CMWRAs was divided into 9 parts with slight variation from 25 to 30 CMWRAs to be taken from each ward depending upon the number of households in the ward. The required number of subjects from each ward was then divided by the number of villages in the ward in order to get a fair representation of sample from the different villages of the ward except in ward number 2 and 9. The ward-number 2 had two villages in it and ward-number 9 had only one village and rest of the wards had four to seven villages. So the ward-number 2 and 9 were divided into five arbitrary areas for the sampling purpose and 5 to 6 subjects were selected purposively from each area of these two wards. So the number of CMWRAs taken from each village or areas ranged from 4 to 6.

About 25-30 CMWRA from each of the 9 wards, who were aged 15-49 years and currently contraceptive non-users, non-pregnant and non-menopausal were selected for the study. The baseline sample included a total of 250 CMWRAs of whom 241 were available during the post intervention data collection (Appendix 4). The rest of the subjects who were unavailable in the post-intervention data collection due to their visit to maternal or relative's house or migration to another district for job were excluded in data analysis.

4.4 Data Collection

Data collection was done at various points in time during the study period as shown in the figure 4.1. These data were used for assessing the effectiveness of the model in empowering FCHVs.

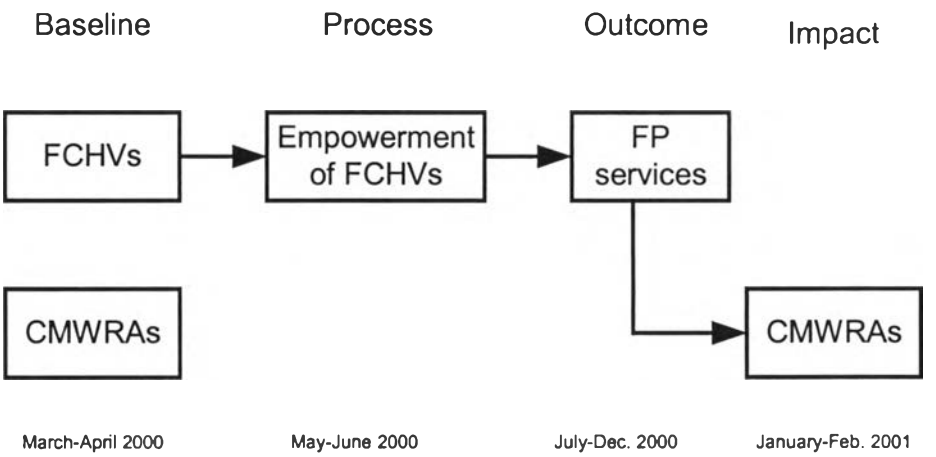

Figure 4.1: Data Collection Plan

The baseline data was collected from FCHVs and CMWRAs. These data were used to assess the situation prior to intervention. From FCHVs, the data regarding their socio-demographic condition and their awareness, competence and confidence in the provision of contraceptive services was obtained through a focus group discussion. From CMWRAs their knowledge and attitude regarding contraception including their socio-demographic data was obtained by interviewing them at their homes. In addition to these, the base line data collection also included data collection from health service facility and community by using observation guides.

The empowerment process data were collected from the FCHVs by taking their feedback during the process and by focus group discussion with them at the end of the intervention. The researcher also maintained the observation notes on the performance of FCHVs during the empowerment training activities.

The data for the outcome assessment of the model were collected from the record of the minutes of the post-intervention follow up meetings. For the impact

assessment the data were collected from the same CMWRAs who participated in the baseline data collection. The data for the impact assessment were collected regarding their knowledge, attitude and practice of contraception and their consultation with FCHV by interviewing them at their homes

4.4.1 Data Collection Instrument

4.4.1.1 Observation Guides

An observation guide {adopted from Gittlesohn, Felto, Bentley, Battacharya, and Russ (1995), (Appendix 5) was used for collecting information on the living conditions and work pattern of women in the community. This helped the researcher to develop a better understanding of the community people, and resources within the community. Similarly an unstructured observation guide was developed for assessing the PHCC staff structure, PHCC activities, FP methods available and referral system and relationship with the grass-root community health volunteers (Appendix 6). The obtained information provided a basis for identifying the need for any actions to strengthen the support system to FCHVs in relation to FP services.

4.4.1.2 Focus Group Discussion Guide

A Focus Group Discussion (FGD) guide with open-ended questions was developed for exploring the awareness of FCHVs about contraception and for assessing their confidence and competence in providing contraceptive services (Appendix 7). A local female shopkeeper, instead of the researcher, moderated the discussion so as to promote rapport and to reduce bias by the use of leading questions. Prior to using the shopkeeper woman as the moderator she was briefed about the purpose and technique of FGD and about the nature of questions to be asked. The researcher took notes of the FGD session to supplement the information recorded by tape recorder.

4.4.1.3 Interview Questionnaire

A semi-structured interview questionnaire was used for the assessment of pre-intervention knowledge and attitude about contraception and post-intervention knowledge, attitude and practice status of contraception among CMWRAs. The questionnaire consisted of items on background information of the respondents, their

fertility status, use of contraceptives, knowledge regarding contraceptive methods and attitude regarding fertility and contraception and their consultation with FCHVs and satisfaction with the consultation with FCHVs (Appendix 8). The knowledge items were in the form of statements to which the respondents had to answer "true or false". The attitude items were also in the form of statements to which the respondents had to agree or disagree using a 5-point rating scale from strong agreement to strong disagreement (Streiner and Norman, 1995).

The content validity of the questionnaire was established by seeking the opinion of the dissertation advisors from the College of Public Health and Faculty of Nursing from Chulalongkorn University, Bangkok, Thailand and three experts (two in the area of community health and one in the area of research) from Institute of Medicine, Tribhuvan University, Kathmandu, Nepal. After incorporating their feedback, the questionnaire was translated into Nepali language by the researcher and a colleague was asked to translate the Nepali version back to English version and two sets were compared for consistency in phrasing the items. Phrasing of some Nepali words was modified to increase the validity of the questionnaire (Appendix 9). The reliability was established by using test-retest method among 20 FP non-user CMWRAs from ward number 7 of Okharpouwa VDC of Nuwakot District for clarity, adequacy and sequencing of items in the questionnaire. The coefficients of correlation of the knowledge and attitude part of the questionnaire were 0.87 and 0.85 respectively (p=0.01 for both).

4.4.1.4 Record Keeping Form & Record Review Guides

A pictorial record keeping form as per the felt need of FCHVs was prepared by the facilitator and reviewed with FCHVs for clarity and relevance before distributing them for record keeping (Appendix 10). This form was used by FCHVs to keep the record of their FP related activities that they performed in their wards following the intervention. A record review guide was also developed by the researcher to collect information from the FP records maintained by the PHCC (Appendix 11).

4.4.2 Data Collection Procedure

The study was initiated in March 2000 Approval from Nepal Health Research Council was obtained for the study (Appendix 12). Central Regional Health Directorate and Nuwakot District Health Office were approached to get permission to conduct the study in one of the VDC in Nuwakot district and to assist the researcher in the selection of a suitable VDC for the study (Appendix 13a & 13b). Kakani VDC was selected for the study from among the 61 VDCs of Nuwakot district by consulting the concerned district health officer. A meeting was held with the head and staff of Kakani PHC to orient them about the purpose and method of the study and to request for their support and cooperation in the study. The support of VDC chairperson and ward chairpersons was also considered necessary for the success of the study. So before starting data collection, the VDC and ward chairpersons were informed about the study and they were requested for disseminating the information about the study in their respective wards.

Two local shopkeeper women who had secondary level of education were contacted through PHCC staff for using them as research assistants. Their informed willingness to assist in the study was obtained. Prior to using them for data collection they were trained for data collection for 3 days including the selection of CMWRAs for interview, sampling technique, interviewing technique and use of the questionnaire. They practiced their data collection technique through role-play on each other before allowing them to collect data from CMWRAs (Appendix 14). Their first few data collections were supervised until they performed the skill satisfactorily. During the period of data collection incidental checking was also done to find out how well the data collection work was going on. The same research assistants were used to collect the pre-intervention as well as the post-intervention data due to lack of other interested women meeting the criteria. Filled questionnaire were regularly collected and checked for completeness and consistency before processing for data analysis

Research assistants visited the CMWRAs in pairs and while one asked the questions, another noted down the answers. This helped to maintain the eye contact of the interviewer with the CMWRAs and also reduced the time required for interviewing

each CMWRA. Each interview took about half an hour to complete and they could interview 5-8 CMWRAs in a day depending upon the availability of CMWRAs and distance to be traveled. Being local shopkeeper women they were known to the most of the villagers and CMWRAs responded to their interview without resistance.

The FCHVs were contacted when they had gathered in the Kakani PHCC to attend a training program on Vitamin A. The VHW who was the immediate supervisor of FCHVs introduced the researcher to them. They were briefed about the purpose of the study and nature of the participation expected from them and they were invited to attend a FGD session to identify their awareness and service pattern in regards to FP. All seventeen FCHVs who attended the FGD session continued to participate in the study.

Prior to collecting data from FCHVs as well as CMWRAs, they were informed about the study and about the confidentiality of the information and their willingness to participate in the study was sought. Data was collected from FCHVs by using FGD before, and at the end of the intervention and from CMWRAs by interviewing them at their homes before and 6 months after the intervention. Data was also collected from the contraceptive service records maintained by FCHVs within the period of 6 months before and 6 months after the intervention. In addition to these, PHCC record review data and the observation notes of the researcher and meeting minutes were also used in analyzing data.

4.5 Intervention

The intervention used was "the empowerment training of FCHVs" in regards to FP services. The model depicted in Figure 3.1 in Chapter III guided the intervention programme. The intervention also included the strengthening of the support system as per the felt need of the FCHVs so as to facilitate the performance of FCHVs.

4.5.1 Empowerment Training of FCHVs

Freire's theory of empowerment education (Wallerstein and Bernstein, 1988) and the participatory action research (Purdey, Adhikari, Robinson and Cox, 1994) were

used as the guiding theories in the training program. The empowerment training was aimed at awareness raising and capacity building of FCHVs for meeting the FP service needs of CMWRAs. Group discussion, which is basically a problem solving activity through consensus building with regard to the solution of a problem (Heidgerken, 1987), was used as the primary method in the training program to empower FCHVs.

The FCHV already had some awareness of contraception and a certain period of work as FCHVs. Yet, since empowerment is a gradual process and does not take place all of a sudden, the training program of FCHVs was carried out through activities at two group levels: core group and action group within a period of 2 months (Appendix 15).

4.5.1.1 Core Group Activities

The core group consisted of 17 FCHVs as participants and the researcher as the facilitator. The core group training was aimed at empowering FCHVs by increasing their awareness about contraception and skills in raising awareness of CMWRAs about contraception. The core group sessions included 3 main activities that FCHVs performed with peers under the facilitation of the researcher. These activities included identification and analysis of the issue of high fertility, planning for the solutions for the promotion of contraceptive use and trying out the plan in a simulated setting in the form of role-play. These activities were conducted in a classroom setting in the PHC building within a period of one week.

The date, time and place of core group training were decided with FCHVs during the focus-group discussion meeting. The training was carried out from May 1 to 7, 2000 from 11AM to 4PM and a detailed description of the training program may be found in Appendix 15. The facilitator welcomed the participants and explained the purpose of the training to them. Since a close non-hierarchical relationship between the facilitator and participants promotes honest and open dialogue, the participants and the facilitator were introduced to one another through a game. This was followed by identification of households under their care and analysis of the activities that they had carried out during the previous one-week time.

FCHVs' beliefs about various terms related to fertility such as ideal age for child bearing, ideal number of children and spacing between childbirths were explored for the purpose of filling up the gap between the expected and existing beliefs. For filling up the knowledge gap of FCHVs about contraception, the core group activities included the review session on the different aspects of the contraceptives including the actions, advantages, limitations and possible side effects. They were also provided with the pamphlets and real samples of contraceptives to be used as the reference material. The core group participants were also oriented about the eligibility criteria for the different types of contraceptives. The screening guidelines from FHD (1995) and WHO (1995) were simplified in order to be used by FCHVs for the assessment of the eligibility of the women to different contraceptives (Appendix 16). A record-keeping format developed by the researcher was reviewed with the participant FCHVs for using it in maintaining the record of their FP related activities. The core group session also included identification of the stakeholders and planning for securing their assistance and support in the study.

Methods used to empower FCHVs in the core group were small group activities, plenary sessions, group consensus building and demonstration on the technique of administration of the different contraceptive including pills and condom. Along with this, role-playing in a simulated setting was used for enhancing their skills in implementing the planned strategies with CMWRAs. Most of the participating FCHVs belonged to low literacy level, so the pictorial and real object approach was used during the core group sessions because pictures can educate as well as inform people even without the use of words. A combination of PRA (participatory rural appraisal) and SARAR (self-esteem, associative strength, resourcefulness, action planning and responsibility) techniques was used during the classroom sessions to stimulate participants' reflective thinking (Reitbergen-McCracken and Narayan, 1998). During the core group sessions the following PRA/ SARAR tools were used in order to assist the participant FCHVs in identifying the fertility related problems and available resources within their communities for planning intervention:

- **Community Mapping**: Each of the core group participants in small groups drew the map of the households within their respective communities along with the public facilities available. Participants helped each other in drawing their community maps. These maps were used by them in identifying the contraceptive non-user CMWRAs and in developing the plan for forming groups for action group sessions in the community.
- **Story-Telling-with-Scenarios:** It made use of two pictures: one with problem scenario showing a pregnant woman with her 4 ill-looking, unkempt children and another with ideal scenario showing a couple with two healthy looking, neat and clean children. This exercise was aimed at generating the participants' awareness about the problem of non-use of contraceptives. Participants were asked the questions as suggested by Freire to facilitate group discussion (cited in Wallerstein and Bernstein, 1988). The participants were asked to describe what they see and feel as the problem in the first scenario, to share similar experiences from their communities and to discuss how this problem has resulted. They were then asked to discuss how the ideal second scenario could be achieved?
- **Making Seasonal Calendar**: FCHVs drew a seasonal calendar to identify the days/weeks and months and time when they would be freer to conduct sessions with CMWRAs.

The main action planned by the FCHVs for increasing contraceptive acceptance among the CMWRAs was conducting empowerment training sessions with CMWRAs in small groups by using the story-telling-with-scenarios and demonstration of contraceptives to increase their awareness about fertility and contraceptive methods. Other contraceptive-use-promotion-related services planned by the FCHVs were: providing individual consultations, screening of CMWRAs for suggesting a suitable contraceptive, referral of CMWRAs to appropriate health facilities, distribution of non-clinical contraceptives and making follow-up visits to determine whether CMWRAs were using contraceptives correctly and whether they were tolerating well with the method. FCHVs planned to use the simplified eligibility criteria for helping CMWRAs

to make their contraceptive choices (WHO, 1995). FCHVs also planned to maintain the record of their activities that they carried out, in a pictorial record sheet.

Action planning was followed by role-play sessions to implement the plan in the simulated setting. For the role-play on awareness raising session, 5-6 participants acted as CMWRAs, one acted as the facilitator FCHV and rest of the FCHVs and the researcher were observers to their performance in the role-play. The facilitator-FCHV explained the purpose of the meeting and gave them "the story-telling-with scenario" pictures to look at. The facilitator FCHV asked the participants to imagine stories from the two scenarios and to narrate what differences they see in the first and second scenario and how they feel about it. They were then asked to narrate what could a woman do to reach the second ideal scenario. This was followed by demonstration on the use of different contraceptives and teaching about the possible benefits and limitations/ side effects of each of the contraceptives. They were asked to tell about their individual/group plans or options and the follow-up meeting. The role play session was followed by feedback from the peer-observers and researcher on the good aspects of the role play performance and what the facilitator FCHV could do to make her performance better by using the checklist on facilitation techniques (Appendix 17). The role-play exercises were repeated for different contraceptive related services with other FCHVs as facilitators. These included follow up group sessions, individual consultation, teaching about contraceptives and screening for high-risk conditions and follow-up visits. Each role-play session was followed by feedback from the group. All FCHVs got the chance to perform the role of facilitator in one or the other contraceptive related services in the simulated classroom setting. The duration of role-play varied from 5 minutes to 20 minutes depending upon the type of service and the amount of subject matter to be covered.

During the core group session, efforts were made to make the group activities relevant to their local context. Group activities were geared towards establishing group consensus. Participants' false beliefs such as "spacing methods result infertility", "oral contraceptive pills cause abdominal obstruction", "IUD dries the woman" (makes the woman lean and thin) and "sterilization operation makes the person weak" were tried to

correct through use of their own experiences and observations and by supplying information regarding contraceptives to the participants as needed.

4.5.1.2 Action Group Activities

The action group included groups of CMWRAs from the community as participants, and individual FCHVs from the core group as facilitators to them. The action group activities were meant to develop self-reliance among FCHVs in using the facilitation skills for raising awareness and stimulating decision-making among the CMWRAs regarding contraception. For the action group activities, FCHVs from the core group were split up into 5 small groups each consisting of 3-4 FCHVs. Action group activities took place at the home of either FCHVs or one of the CMWRAs according to location of meeting and convenience to the group. The group session conducted at the open place did not work due to distractions. Individual FCHVs carried out the action group activities with groups of CMWRAs through 2 levels of action and reflection cycles namely the skill-enhancing cycles and skill-reinforcing cycles. The first cycles were conducted in the presence of both the facilitator and the peers of the core group while the second cycles were conducted in presence of peers and/or the facilitator of the core group. Each action cycle was followed by reflection on the activities carried out and planning for the next action with the same or another group

(1) First Level Cycles (Enhancement of Facilitation Skills)

The first level cycles were meant to *enhance the facilitation skills* of the individual FCHVs. These cycles were carried out by the individual FCHV under the observation of the facilitator and colleagues of the core group. During these cycles the facilitator of the core group spend 4-5 days with each of the 5 groups. The session was started with a brief orientation to the session including the purpose and methods that would be used and approximate time needed. During these cycles, each of the FCHVs used the story-telling-with-scenarios exercise to initiate problem analysis among CMWRAs. The facilitator-FCHV asked the participant-CMWRAs similar questions as suggested by Freire (cited in Wallerstein & Bernstein, 1988). The participants were asked to describe what they see and feel as the problem in the problem scenario, to share similar experiences from their neighborhood and to discuss on the reasons for

such situations. They were asked to discuss on how the second (ideal) scenario could be achieved and what kind of assistance would facilitate them to get such ideal scenario? They were then asked to plan actions at their personal level as to what they would like to do to get a similar scenario like the second (ideal) scenario and when they would be ready to meet with the FCHV for discussing their achievements and/or problems.

This was followed by discussion session on contraception and demonstration of the use of different contraceptive methods through pictorial aids and real samples. The discussion and demonstration were focussed on such aspects of contraceptives like how the different contraceptives look, how they work in the body, which women are eligible to use them, how to use, when should they be taken, what are their benefits, limitations and possible side effects and what should be done if a person develops side effects.

Before ending the session one of the CMWRA was asked to summarize the learning from the session and actions they had planned to carry out and planned date for the follow up meeting with FCHV. Other CMWRAs were asked to add if she had missed any point.

Following each action group session the facilitator and colleagues of the core group sat together with the facilitating-FCHV to review her performance and to give feedback for strengthening her facilitation skills. This cycle was repeated as needed so that the individual FCHV performed at least three-fourth of the techniques of facilitation as described in Appendix 18.

Action group sessions were followed by implementation of the planned actions by individual CMWRAs and reporting or consulting with FCHVs about the progress/problems/failures in the follow-up sessions individually or in the group. During these follow up sessions, FCHVs reported that they provided different services to CMWRAs like giving information, doing client-assessment for contraception, providing encouragement and support and making referral for contraceptive use.

(2) Second Level Cycles (Reinforcement of Facilitation Skills)

The second level cycle was the *reinforcement cycle*. During the reinforcement cycles the facilitator of the core group spend up to 3 days with each of the 5 small groups group before allowing them to begin the self-reliance cycles. This cycle included facilitation to CMWRAs by the individual FCHVs in the presence of the facilitator and /or the peers of the core group, which was followed by joint reflection and supporting the helpful skills and suggesting corrective measures for the unhelpful skills. This cycle was also repeated as needed until the individual FCHV carried out almost all of the facilitation skills correctly and expressed confidence in conducting the group sessions with CMWRAs.

(3) Third Level Cycles (Self-Reliance Cycles)

The third level cycles were the *self-reliance cycles*, which the FCHVs carried out individually and independently with CMWRAs. FCHV were asked to continue to use these cycles with CMWRAs after the intervention at their conveniences.

It took almost 2 months (May-June 2000) to complete the intervention because of the volunteer nature of the work and the need for the attendance of researcher in the action group activities. Each of the FCHVs was given a pictorial record sheet and was asked to maintain the record of the FP related activities carried out by drawing a line for each of the activities carried out (Appendix 10). In regards to monitory cost, FCHVs were provided with the transportation allowance equivalent to about US $ 1 per day and the refreshment during the core group training period and no monitory benefits were provided to FCHVs or CMWRAs during the action group activities.

4.5.2 Strengthening of the Support System

In the process of empowerment of FCHVs it was realized that along with the increased knowledge and skill, FCHVs would need to reduce the barriers or strengthen the support system within their environment to enable them to implement their action effectively. These barriers or support systems that were manipulated during the intervention period were as follows.

4.5.2.1 Reducing the Barriers

(1) Community's Resistance

Some of the FCHVs identified the need for reducing community's resistance in the use of their services. They considered the ward chairperson to be the right person who can convince the people and correct their false beliefs about FCHVs and their services. So, the researcher approached the ward chairpersons of all the wards for dissemination of information about FCHVs and their services to the community during their formal and informal meetings with the community members regarding health matters. This was followed by subsequent follow-up contacts by FCHVs with their respective ward chairpersons.

(2) PHCC Staff's Resistance

FCHVs also expressed the need for the support of PHCC staff to ensure for the supply of non-clinical contraceptives to them and for appreciating them for the referral of clients to them as they felt that some of the PHCC staff were not supportive of them and they criticized FCHVs in front of the client saying that they had made unnecessary referral. During the intervention period the researcher conducted a meeting with the PHCC staff to discuss with them about the roles the FCHVs can play in helping PHCC to carry out its functions and the roles that the PHCC can play in promoting the functions of FCHVs in the community. The measures identified for implementation were: conducting meetings with FCHVs occasionally to review with them about their services; facilitating them to do follow up of the contraceptive user women and to distribute non-clinical contraceptives i.e. condom and refill oral contraceptive pills to clients in their respective communities as needed; stimulating VHW to collect report from FCHVs about their activities at regular intervals and developing a system of dispensing condom and pills packets to FCHVs in advance and re-supplying after receiving report on the dispensed supplies. In regards to refilling of medicines and other supplies to FCHVs, the health facility staff expressed inability to do so because of limited supply given to them.

4.5.2.2 Refilling Medicines and Supplies

Regarding the refilling of medicines and supplies for the curative care to the community along with the illness preventive services (such as the contraceptive services), the group brought out the various possible ways that they had tried without success in getting their kit-bag refilled with the basic drugs and supplies. It was agreed and implemented that to begin with, the researcher donated some stock of medicines and supplies such as paracetamol, oral rehydration solution packets, gentian violet solution, tincture of iodine, medicated bandages, cotton and gauze rolls to individual FCHVs. They also decided to charge for these medicines and supplies for refilling by themselves in future. To facilitate them in subsequent refill, FCHVs were provided with the name and address of the drug suppliers and the wholesale price-list. Charging for medicines is consistent with Government policy also, because government run health facilities had started charging for all medicines except the contraceptives, which were still supplied, free of cost.

4.5.2.3 Mobilization of Stake-Holders

During the core group activities, FCHVs also identified the need for considering the two important stakeholders: husbands and contraceptive-user women in supporting the use of contraceptive among the CMWRAs. In many cases women may need the support and participation of the husband in contraception. One of the FCHV told to the group what one of the female client had narrated about her fear in using a contraceptive "if I use contraceptive against my husbands' consent, he will be angry with me and will threaten me that he would bring another wife". Another FCHVs narrated an incident that she had faced with one of her client.

Mrs. KS a regular smoker woman with a desire to postpone her second pregnancy for 2-3 years came to me. Thinking that condom would be safer to her I gave her a packet of condom. On reaching home the woman told her husband about it and her husband became furious with her. He scolded her badly and snatched the packet of condom and threw in the gutter because he believed that condom is used only for having sex with prostitutes.

The solution planned was to seek the assistance of the village health worker (a male health worker) in providing FP education to fathers of under five children who came to PHCC for immunizing their children for reducing their misconceptions about contraceptives if any and for disseminating the information to their peers in the community in their informal gatherings.

FCHVs also stated that before deciding to use a contraceptive, woman often consult their contraceptive user-neighbors to get information about contraceptives and contraceptive satisfied women can influence CMWRAs positively in the use of contraceptive while the contraceptive dissatisfied women can influence CMWRAs negatively. With this view FCHV identified some supportive activities to be carried out during the intervention period i.e. organizing meetings of contraceptive non-user women with contraceptive satisfied women for clarifying their doubts and concerns relating to use of different contraceptives and referral of women with contraceptive related problems to health facility for prompt treatment.

4.6 Post-intervention Follow-up

Following the intervention, individual FCHVs implemented the empowerment education to CMWRAs in their respective communities at their conveniences. FCHVs were reminded that their services would be purely voluntary and according to their convenience in their respective communities.

Altogether 6 formal meetings were held with FCHVs during the post-intervention implementation period. These meetings were conducted monthly on the 3rd week of Nepali months from Srawan to Poush, 2058 (on the first week of August 2000 to January 2001) according to the convenience of the group. During these meetings FCHVs were provided with refreshment but no monetary incentives were given.

The meeting took place in the house of one of the FCHVs whose house was more or less centrally located and who volunteered to provide the space for the meeting. The facilitator and note-taker for each meeting was decided by the group on the day of previous meetings and separate facilitators and note-taker were selected for

separate meetings. The meetings usually started around 11-12 Noon and lasted for 2-3 hours. FCHVs were asked to bring the record of their monthly activities in the meetings. In these meetings FCHVs reviewed the activities they had carried out and discussed with their peers and researcher about the problem.

During the course of intervention FCHVs got opportunity to interact with one another about their own problems and limitations also. As a solution, they developed "an income saving and credit program" among themselves including the trained birth attendants (TBAs) from the VDC for initiating income-generating activities for their own economic upliftment and for organizing activities for the welfare of the community.

4.7 Data Processing

4.7.1 Qualitative Data

The data obtained from the focus group discussion through tape recorder was transcribed and crosschecked with respondents before translating them into English. Translation into English language was done by two interpreters and was checked for consistency before finalization. The data was coded, cleansed and then analyzed

4.7.2 Quantitative Data:

Each of the filled interview questionnaires was edited for completeness and consistency and an identification number was given to each questionnaire. The obtained data were coded and cleansed and then entered into the computer. Data were analyzed using SPSS program. Both descriptive and inferential statistics as appropriate were used for data analysis

The respondents' answers on specific knowledge items were then checked for correct responses. Each of the correct response was given a score of "one" and the incorrect response a score of "zero". The obtained knowledge scores of the respondents before and after the intervention were totaled and subjected to "paired t" test. In regards to attitude items, although attitude items used 5-point scaling, most of the respondents answered either" agree" or "disagree" and only few respondents answered undecided or

"don't know" response, or choose the extreme responses "strongly agree" or "strongly disagree". So responses like "strongly agree" and "agree" were put together and likewise "strongly disagree" and "disagree" were put together for convenience in describing the attitude data of CMWRAs. The pre-intervention and post-intervention knowledge and attitude items were also scored and "paired t" test was computed for their comparison.