CHAPTER IV

An Action Research on Improving Knowledge, Attitude and Practice of Mothers in Home Care of Acute Diarrhoea in Children under Five Years of Age through a Health Education Program in Thien Tri village, Vietnam

4.1. INTRODUCTION

In Vietnam diarrhoea remains within the tenth leading causes of morbidity and mortality. Especially in the Mekong delta the number of cases and deaths due to diarrhoea is highest compared to other areas in the country. Every year, there are approximate 5 million diarrhoea episodes in children under five years old in this area. Considering only the treatment cost, it takes nearly 21 million US Dollar (Hoang Ninh, 1998). Diarrhoeal diseases places an economic burden on health and people in the Mekong delta. The improvement of the environment such as safe water supply and latrines is lingering so that reducing morbidity is hindered.

As Hoang Ninh (1998) proposed if health service could control only 20 % of the cases among children, by improving knowledge and practice of mothers about home care for children with diarrhoea, the country would save to 4 million US Dollar each year. The health care system needs to take action in order to improve knowledge and practice of mothers in home care for children with diarrhoea. This chapter will discuss an action research through a health education program in the community as a

possible effective intervention to address the problem incorrect of home care of for children with diarrhoea.

4.2. RATIONALE

Home care for children with diarrhoea remains a problem in Vietnam. Although ORT is widely used, knowledge, attitude and practice of mothers in home care for children with diarrhoea retained problematic (Household survey, 1998; Kim Sac,1997). Incorrect home care for children with diarrhoea can be associated with malnutrition in children, and this can lead to increased seriousness of the diarrhoea in the Mekong delta. This study aims to improve home care by an intervention program that will focus on home care education for mothers in the community. A rapid assessment pointed out that care guidance by health professionals is inadequate for various reasons. Establishing a community based health education program attempts to overcome problem in health care services in addressing the need on guidance for mothers with children suffering from acute diarrhoea.

- An action research can provide evidence on the feasibility and effectiveness of a home care education program for developing a strategy for the CDDP.

- The home care education program will use a strategy with 3 components and is community based:
  - Training educators and material production to improve home care education service.

- Mobilizing community support through involvement of community members.
- Home care education to improve knowledge, attitude and practice of mothers.

In addition, the study will contribute in gaining experience in community organization, participation, and mobilizing community networking.

In the Mekong delta of Vietnam no study has been done in order to address effectiveness of a community-based education program in home care for children with diarrhoea.

4.3. RESEARCH QUESTION

Two research question can be suggested for this study:

A/ Is a health education program feasible through the support of community leaders and the collaboration with women union for improving knowledge, attitude and practice of mothers in home care of acute diarrhoea in children under five years old?

B/ What is the effect of a health education program for improving knowledge, attitude and practice of mothers in home care of acute diarrhoea in children under five years old?

4.4. OBJECTIVE

4.4.1. General objective

Assess the feasibility and effectiveness of a community-based education program to improve knowledge, attitude and practice of mothers correct in home care of acute diarrhoea among children under five years of age.

4.4.2. Specific objectives

- To mobilize the collaboration of women's union and support of village and hamlet leaders for a home care education program.
- Among mothers increase with 30 % correct knowledge, attitude and practice in home care for children with acute diarrhoea.
- Improve guidance for mothers on home care of acute diarrhoea in health services through training.

4.5. STUDY APPROACH

An action research on improving knowledge, attitude and practice of mothers in home care of acute diarrhoea in children under five years of age through a community-based education program applying both quantitative and qualitative approach.

4.6. RESEARCH METHODOLOGY

4.6.1. Conceptual framework

The conceptual framework of this study has been based on Green and Kreuter (1991), which is presented in figure 4.1. as suggested by the Precede-Proceed model, the knowledge and practice of mothers in home care can be affected by three main groups of factors:

1. Predisposing factors

Predisposing factors are the factors associated with mothers such as knowledge, attitude and beliefs. Improvement of knowledge, attitude, and beliefs has a positive association towards improvement of mothers' home care. Socio-economic status such as mothers' education, age, and income can also influence home care knowledge and practice, but their relationship can not be easily and directly determined. Therefore, these variables will not included in this study.

The action research will address the predisposing factors: knowledge, attitude and practice through direct health education sessions with mothers in the community. Using the natural ways in which mothers fulfil their needs on information and experience by discussion and sharing with peers.

Group up to 15 mothers will be formed to discuss issues on home care for children with acute diarrhoea under the guidance of educators in the community. For mothers who would drop out to workload, inconvenience, family responsibilities etc. an individual follow-up visit will be organized by the educators.

2. Enabling factors

Enabling factors are factors attributed to the action of any individual or organization including the services, resources. They refer to the availability, accessibility of health care services and they also include new skill that persons, an organization or the community need to carry out to change behavior or to change the environment. In this study I will focus on the availability and accessibility of home care education services such as educators and EIC material on home care e.g. leaflets.

There are 2 types of educators: first, health station educators, they are health staffs of the village health station; they will implement education for mothers with the child suffering from diarrhoea, that come to the health station for a check up. Second, the community educators, they will be recruited from women's union members or others community members e.g., teachers, using recruitment criteria. Recruitment criteria such as age, gender, motivation, capability, and social position in their locality. They will carry out education for mothers with children under five years old in the community.

The educators will attend a training course on EIC skills and knowledge in home care of acute diarrhoea.

Educators, assisted by EIC material on home care in diarrhoea, can direct effect the knowledge, attitude and practice of mothers in home care. Therefore, access to home care education service could improve home care for children with diarrhoea of mothers.

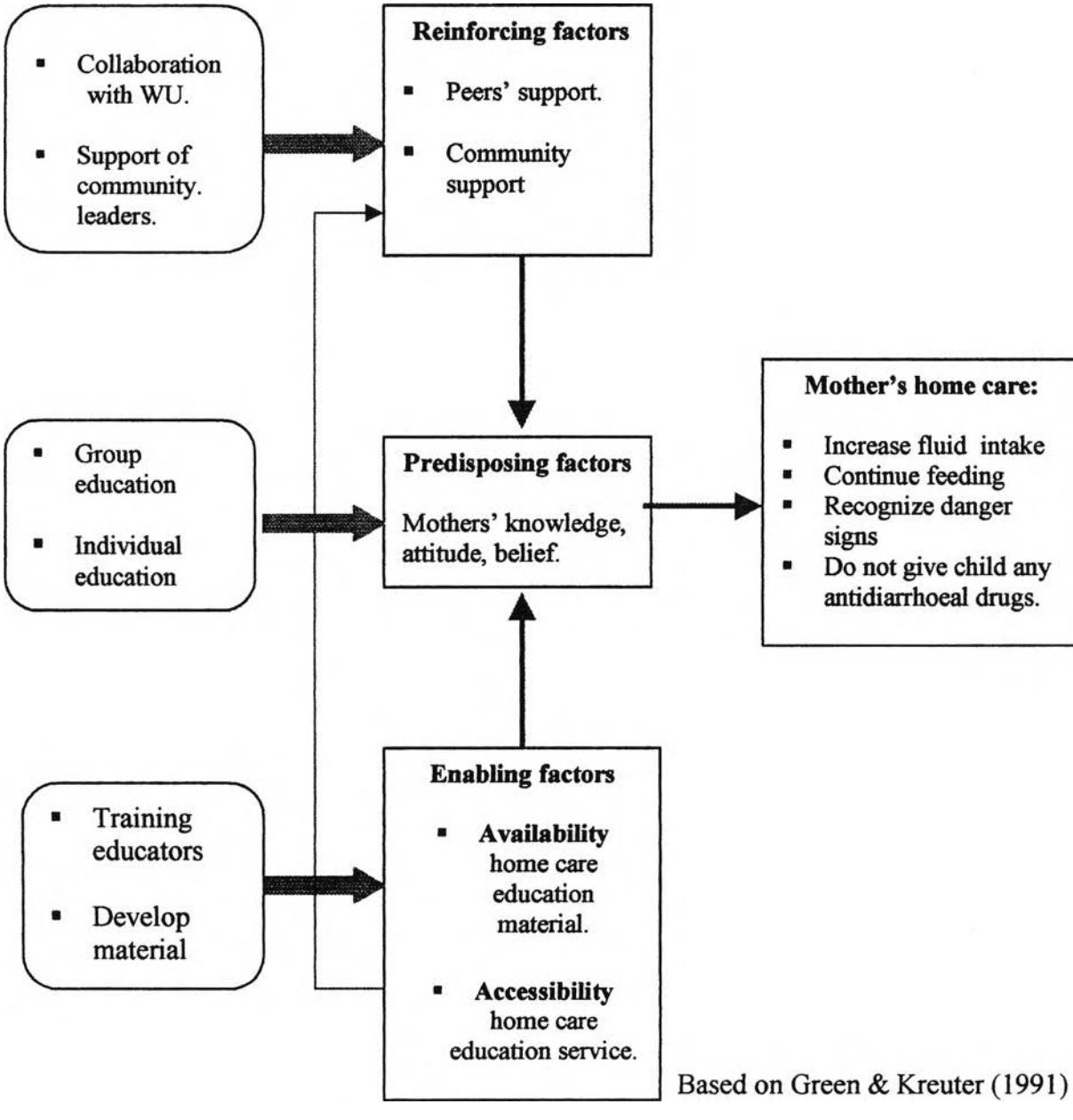
In addition, educators with EIC material can support reinforcing factors such as raising awareness of peers through discussions on home care in the community. Community leaders, need also to be aware of home care for diarrhoea by EIC material so that they will support mothers to improve knowledge, attitude and practice in home care.

3. Reinforcing factors

Reinforcing factors include social support, and peer influence for encouragement in changing behavior. Community support come from formal or informal village leaders, hamlet leaders and peers. They play an important role in community activities, they have authority, handle rewards, are knowledgeable on problems of the community, so that they can persuade mothers to involve in the education program, and improve commitment to apply proper home care. In addition, they can get support from others key members inside the community for the home care education program. Community leaders will direct take part in the home care education as village program committee chairman, members, and monitors.

Within the primary health care program at the community level, the women's union contributes in implementing the program. Especially, their network reaches to mothers, so they are in a position effect the behavior of mothers in home care. Therefore, this study aims to make the most use the women's union force for home care education as to improve effectiveness of the intervention.

Figure 4.1 Conceptual framework



Based on Green & Kreuter (1991)

4.6.2. Study design

An action research approach using qualitative and quantitative approaches will be applied in this study.

Experimental and control group design has been selected for the evaluation. Assessment before and after intervention and using control group will be used. This study design corresponded with the aim of study and in order to implement an intervention for improving knowledge, attitude and practice of mothers in home care children diarrhoea.

According Dye (1987), This study design is preferred by scientific because it provides the best opportunity of estimating changes which can be from effects of other forces affecting society. Based on style of this study design, if the group that received mother education program achieves a better performance than the control group, this will provide evidence for the effectiveness of the intervention. The estimated program effect follows the estimated program effect index:

Estimated program effect = (A2 – A1) - (B2 – B1).

Table 3.1 Study design: Quasi experimental-control group.

	Action	Group A	Group B
Before intervention	K.A.P survey 1st	X	X
During intervention	Home care education program	X	O
After intervention	K.A.P survey 2nd	X	X

4.6.3. Study location

The study will take place in Cai Be district, Tien giang province which the highest diarrhoeal disease morbidity and mortality rate in the Mekong delta. Two villages will be involved in this study, and will be divided into two groups: the intervention group (two hamlets of village Thien Tri) and the control group (two hamlets in other village in Cai Be district). The two groups have to have similar characteristics such as socio-economic status e.g., mothers' education, mothers' age, occupation, family size, number of children, and income.

- Some basic demographic characteristic of Thien Tri village:

Thien Tri is located in the middle of Tien Giang province, which is in the center of the Mekong delta. Thien Tri's population is about 9,000 people, divided into 5 hamlets, with the total of 1,831 households, and located in a terrain that is characterized by rivers and canal systems. 92 % of people use river water and the majority of them use fish-pond latrine (96.4 %).

Population characteristics: Children under five year of age represent 9.6 % of 9000 Thien Tri habitats. There are in total 580 mothers with children under five year of age. 5% of adult over 16 years old are illiterate. Most of habitats are farmer (79%), and 7.1 % do small business. The average of their family income about 35 USD / month.

Recently, the Women's Union play strong and effective role in the family planing program and the community trust them. (Department of Health of Tien Giang province, MoH Vietnam, 1999)

4.6.4. Sampling

- Group intervention:
  - Inclusion criteria:
    - Mothers who have children under five years of age.
    - Permanent living in Thien Tri village, Cai Be district.
  - Exclusion criteria :
    - Mothers living out of Thien Tri village
    - Mothers suffering from mental disorders
    - or physical impairment such as dumbness, blindness and deafness.
- Group control (two hamlets located close Thien Tri, in Cai Be district)
  - Inclusion criteria:
    - Mothers who have children under five years of age.
    - Permanent living in a village (to be defined) in Cai Be district.
    - with similar characteristics as the intervention group e.g., mothers' age, mothers' education, income, and family size.
  - Exclusion criteria:
    - Mothers living out of this village.
    - Mothers suffering from mental disorders
    - or physical impairment such as dumbness, blindness, deafness.

4.6.5. Sample size

- Intervention group: all mothers in two selected hamlets of Thien Tri will include in the study. There are about 240 mothers with children under five years old.
- Control group: about 240 mothers having children under five years old in two selected hamlets of an other village.

4.6.6. Data collection

- Effectiveness:

A questionnaire is developed (see annex questionnaire) to collect data on knowledge, attitude, and practice of mothers in home care for children with diarrhoea and their exposure to home care education program. This questionnaire will be tested before using it for the survey. The questionnaire will be used to collect data for both pre and post KAP and surveys.

Interviewers will interview respondents and fill in the questionnaires. When data collection is completed, questionnaires will be checked for errors of recording, and coding by supervisors. Provincial and district public health staff, will be trained and practice their skills by conducting a pre-test of the questionnaire before conducting the survey.

- Feasibility:

To assess feasibility will make use of meeting and monitoring report, health station EIC stock report, surprise exit interviews at the health station, and an open ended questionnaires for Women Union members who participated in the community education program.

3.6.7. Data analysis

A simple descriptive quantitative analysis will be applied: using SPSS soft ware

- Frequency of knowledge, attitude and practice correct in home care of mothers.
- Frequency of exposure to the EIC material for home care education program.
- Frequency attendance mothers' group education, and individual education.
- Frequencies of working days for program of each women 's union member.

Afterwards, I will examine the statistic significance of variables for correct home care before and after the intervention by comparing frequencies using the t- test.

4.7. ACTIVITY PLAN

The activity plan of home care education program for mothers with children under five years is divided into 4 stages. The first stage: is to establish the home care education program organization. In the second stage: training of educators and development of EIC material for the home care education program will be take place.

The third stage: will implement the home care education program. While the fourth stage take care for the : evaluation the education program (including KAP surveys).

4.7.1. Stage 1: Establish education programs' organization.

This stage is very important because it determines the success or failure of the home care education program. In this stage there are two steps: The first step is to mobilize the support of community such as leaders of village, hamlets and the women's union. The second step is to establish the home care education program organization.

Step 1: Mobilize support of the community

In this step meetings will be conducted for discussing with village, hamlet and women's union leaders about the existing problem in the community on home care of mothers with children suffering from diarrhoea, and the necessity for a home care education program to improve home care among mothers. Their important role as community members towards the problem will be discussed so that they become aware of the problem, and look into the suggested solution.

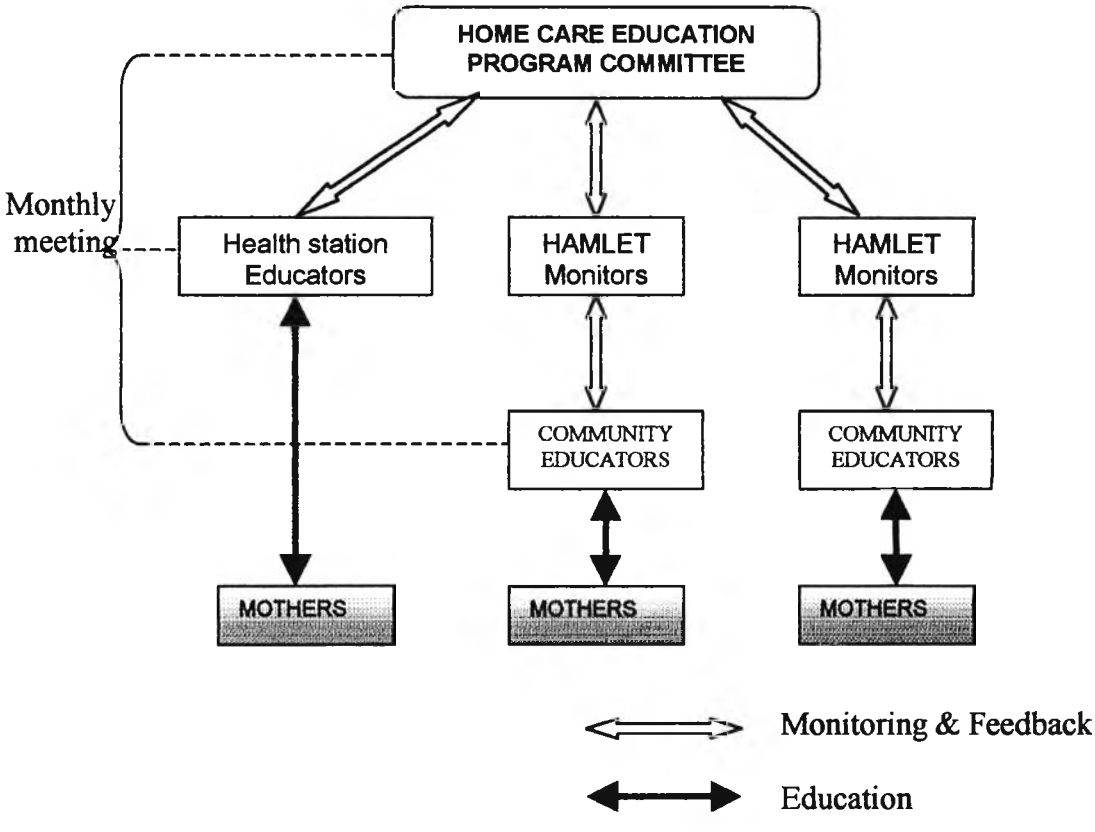
At this time, community members also will discuss goals, objectives and strategy of the home care education program. Activities planning including personnel, responsibilities, rewards, networking, monitoring, evaluation and the budget also will

be discussed. The advantage and effectiveness of using women's union members will be presented and considered in these meeting.

Step 2: Establish the programs' committee.

Based on the results of the meeting in step 1, the committee for the home care education program will be established. Its purpose is to bring key parners together to coordinate the project.

Figure . 2 The Organization Diagram of the Education Program.



- Program committee (PC): comprises of researcher, village leader, village women's union leader, provincial public health staff.
- Hamlet monitors: are hamlet leaders or hamlet women 's union leaders. Each hamlet choose two persons to take part in program as hamlet monitor. Each monitor will be responsible for 4 community educators.
- Health station educators: include all health staffs of health station.
- Community educators: include various community volunteers such as members of women 's union, and teachers. Among them women 's union members are desired to contribute as the main force in the programs' network. Each community educator is responsible for 15 mothers with children under five years.

As Ngoc Diep, et al. (1995) suggested that the recruitment of community educators based on the criteria following:

Person who are:

- Living stable and have prestige in the community .
- Education: literacy or higher.
- Community acceptable and selected.
- Willing and prefer to join with program.
- Have free time working for program.
- Have income enough or well off.

Table 3. 2 Roles, Responsibilities and the Feedback system.

Role	Responsibility	Feedback
Program committee (PC)	Manage the program.	Monthly meeting
Hamlet monitor	Monitor community educators.	Monthly meeting with PC & educators
Health station educators	Carry out face-to face education with mothers at health station.	Monthly meeting with PC & hamlet leaders
Community educators	Carry out mothers education in the community	Monthly meeting with PC & hamlet leaders

4.7.2. Stage 2: Development of materials and training of educators

This stage is divided into 2 steps: the first step is to develop EIC material for the program; and the second step is to train educators.

Step 1: Develop EIC materials

Materials play an important role in supporting the home care education program and it should be available. Mothers can receive guidance in home care through these materials and it also assists educators' communication during sessions in home care for mothers. Moreover, when materials are distributed in the community it helps to spread information on home care by sharing it with their peers in the neighborhood. This may support the effectiveness of the home care program.

- **Kind of materials**:

An educators' booklet and leaflets for mothers will be developed for the home care education program.

- Booklets not only support educators proper knowledge in home care, but also function as a resource or reference when they need it. The booklet will contain three modules:

  - Module 1: describe the four rules of home care for children with diarrhoea. These module will assist educators to keep in mind the four rules of home care for children with diarrhoea. Educators have to explain and guide mothers on each rule of home care accurately.
  - Module 2 : discusses EIC communication skills for educators. It will assist educators how to communicate, gives advise on self – confidence, and what can be done to persuade mothers to practice correct home care.
  - Module 3: aims to help in the organization an education session.

- A leaflet is essential printed materials to support the education process. Leaflets associated significantly higher effective than other communication channel for promoting good behavior (Pinfold, 1999).

The leaflet will make use of some colored pictures to illustrate the messages on home care. It contains messages on the four rules in home care guidance. Educators can use leaflets to explain home care clearly, accurately, concisely, attractively and easily to understand for mothers.

- **Pre-testing:**

Booklet and leaflets have to be tested before production. It is important to test clarity, cultured appropriateness, language used etc.

Step 2 : Training of educators

Training is a major step in the implementation of the education program. This is the opportunity to make the best use of effective communication channel for supporting the improvement of knowledge, attitude and practice of mother in home care through face-to-face education and mothers' group education sessions.

Health station staffs and women 's union members are selected as participants for training. After training, health station staff will function as become health station educators and women 's union members will function as community educators.

- **Using active learning as a method in training educators.**

An active learning method will be used in the training course aiming at effectiveness in the instruction of communication skills. The method includes practice in real situations with supervision, practice in class situation e.g. role play, discussion, reading, and exercises. Participants will be evaluated by pre-test and post-test. Participants have to pass the post-test including written and practiced exam.

- **Objective of training:**

- Participants understand and describe the four rules in home care.
- Participants are able to organize a mothers' group education session.
- Participants can use the leaflet effectively in communication with mothers.
- Participants can perform good inter-personnel communication skill.
- Participants can handle group communication and group dynamics well.

4.7.3. Stage 3: Implement the health education program.

This is the most important stage of the home care education program. In order to achieve the specific objectives, all mothers (about 240 mothers) in the intervention group will have to receive the service of the home care education program.

240 mothers will be divided into 16 groups. Grouping of mothers depend on the location of household clusters for more convenient implementation and monitoring. Each community educator is responsible for a group of 15 mothers.

The home care education will be carried out during 7 months of the programs' plan.

- **Face - to - face education**

Direct face-to –face education with mothers has been found to be one of the more effective strategies for improving knowledge, attitude and practice of mothers when combined with other approaches such as printed material (leaflets, posters) (Dennis ,1999). Therefore, this technique will be applied in this education program.

Health station educators will implement education for mothers who are having a child with diarrhoea during consultation in village health station. They will receive guidance on correct in home care for their child through face-to-face education by the health station educators. These mothers will also receive a leaflet on home care for children with diarrhoea. Leaflets help mothers to remember guidelines and are an aid in practicing home care.

- **Mothers' group education:**

Previous research conducted in the field of health education, suggest that group education for improving the knowledge and practice of a target population is useful (Curtis, 1996; Ahmed et al., 1992). Therefore, group education mothers will be applied in this study.

At the same time face-to-face education, for mothers who dropped out of group sessions will be done monthly in community. The community educators have a key role to organize the group education session for mothers. Through this education session knowledge, attitude and practice of mothers in home care for diarrhoea will be discussed, so mothers can find out themselves what is incorrect in their knowledge, attitude and practice. Children who recently had diarrhoea in the community will be discussed as case studies. Similar as with face-to-face education, in the group education sessions, educators will also give chance to practice, for example, practice in preparing ORS solution. EIC material such as leaflets will also be used for more attractive education sessions.

Each community educator will be responsible for 15 mothers in their duty area. Group sessions will be conducted monthly depending on the arrangements of the educator. Mothers will be invited in the education session. If they can not attend the session, educators have to visit their home, and do the face-to-face education for these mothers.

In a education session, educator will focus on 1 topic: one rule of home care for children with diarrhoea. After finishing 2 topics (2 education sessions), educators

have to review topics already discussed. Then, continue with the next topic. When all of the four rules are discussed in education sessions, educators will review all four rules for mothers in the last education session.

Every month, educators have to fill in a monthly report. Report provide information on the number of mothers attending education in last month and how many leaflets were distributed. The hamlet leaders will collect and summarize reports for monitoring purpose.

❁ **Monitoring the health education program**

- **Monitoring duration:**

  7 months during implementation of the education program.

- **Monitors:**

  Hamlet leaders or hamlet women 's union leader, and members of the village program committee will monitor the program.

  Each hamlet will have 2 hamlet monitors. Each hamlet monitor is responsible for 4 community educators. And each educator responsible for the education of 15 mothers with children under five years.

  Monitoring of health station educators activities is the responsibility of one member of the PC, such as provincial public health staff.

- **Actions of Monitors:**

Each Hamlet monitor will assist 4 community educators, and they have to help educators in conducting the mothers' group education sessions monthly. They assist educators to arrange the education sessions schedule, and inform mothers to attend the education session regularly on time. In addition, they have to fill in the monitor sheet so as to report on the activities in their duty area. They also have to help in overcoming difficulties if it happens in educators' work. Unsolved problems need to recorded into monthly report, so that the village PC can take action.

Following monitoring educators will be used:

- Number of education sessions carried out.
- Number of mothers attending the education sessions.
- Number of mothers who received face-to-face education by home visits.
- Number of mothers who received face-to-face education in the health station.
- Number of mothers absent, and reason for not attending education sessions.
- Number of leaflets distributed.
- Problems encountered and applied plus outcome.

- **Feedback meeting :**

Every month, the village committee program will have to conduct a meeting for all of members of the program such as: Village PC members, hamlet monitors, and educators. They can discuss and solve the troubles existing in the field. Solutions will be considered and results of solutions will be discussed in the next meeting. In

case problems persist, the village PC will have to discuss and resolve or minimize the consequences. Any program issue can be discussed in this meeting, open-hearted and in a good spirit. In addition, the good educators and monitors also will receive commends or reward in this meetings.

4.7.4. Stage 4 : Evaluation

Step 1 : Conduct 1st KAP survey

The 1st KAP will be conducted before implementing the home care education program. The structured questionnaire tested in the rapid assessment approach will be used to collect information in knowledge, attitude and practice of mothers in home care for children with diarrhoea.

12 medical students will be interviewers. They will be trained and practice the pre-test before carry out the survey. They will also be given a guideline on the KAP survey. This guideline help interviewers to have good performance in doing interviews with mothers for collecting data in the survey.

The survey will be carried out in both groups: intervention and control group. The name list of mothers will be provided by the village committee. Mothers who participate in the survey have to comply with inclusion and exclusion criteria of the study. There are about 240 mothers in the intervention group and about 240 mothers in the control group.

The survey will be implemented during two days. Each student will interview 20 mothers per day. Interviewers will have local people as a guide for finding the way to households. Four supervisors of the survey are public health staffs of provincial and district level who will supervise the interviewers during the survey.

Step 2 : Conduct 2nd KAP survey

The 2nd KAP survey will be conducted after finishing the implementation of the education program. The same process of the 1st KAP survey is used for this survey.

Step 3 : Evaluation

Beside the monthly monitoring process, measurement outcomes of the home care education program on improving knowledge, attitude and practice of mothers will be conducted.

- Results of both K.A.P surveys will be compared for confirming the achievement of specific objectives on effectiveness and feasibility.

- Effectiveness of education program will be reflected through examining the estimated program effect index = (A2 – A1) - (B2 – B1).

  And the exposure to EIC material on home care of mothers.

- Out come of the program can be assessed from the number of cases with prolonged diarrhoea and severe diarrhoea recorded in the health station before and after implementing the home care education program.

- To assess feasibility of the intervention 3 criteria is choose: (1) support of village and hamlet leaders, (2) support of the health station, and (3) collaboration of Women union members.

Feasibility			
Criteria	**Sources**	**Indicators**	**Method evaluation**
Support	Leaders support	- Meeting attendance - Regularity monitoring report	Meeting report Monitoring report
	Health station support	- Home care guidance during consultations - Availability of EIC material - Use of EIC material	Monthly stock reports Exit interviews (mothers)
Collaboration	Contribution	- Time (hours/person) - Number of WU members	Monitoring report
	Satisfaction	- Type of work - Time - Incentive - Networking	Administered questionnaire

4.8 ACTIVITIES TIMETABLE

ACTIVITIES	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Prepare for Activities												
Stage 1: Establish education programs' organization												
Stage 2: Develop material & Training												
KAP survey 1st												
Stage 3: Implement Education program												
Monitoring												
Stage 4: KAP survey 2nd												
Evaluation												

4.9. BUDGET

Item	Description	Breakdown ($US)	Cost
Project administration		20 $/month x 12 months	1 ,440
Organize network (meetings)	5 meetings	20 $ refreshment / meeting	100
- Develop material			150
- Materials & Documents printing cost	4000 leaflets	0.1 $	400
	50 booklets	2 $	100
Training course	3 courses		1, 350
- Participants	10 part. x 5$ x 3 days	150 $	
- Facilitators	5 fac. x 10$ x 5 days	250 $	
- Document		50 $	
K.A.P survey 1st	1 survey		370
- Personnel	30 pers. x 5$ x 2 days	300 $	
- Printing documents	300 ques. x 0.1$	30 $	
- Data processing.	2 pers. x 10 $ x 2 days	40 $	
Implement Education program	30 pers. x 20 $ x 5 months.		3, 000
Monitoring	8 pers. x 15 $ x 5 months		600
K.A.P survey 2nd	1 survey		370
- Personnel	30 pers. x 5$ x 2 days	300 $	
- Printing documents	300 ques. x 0.1$	30 $	
- Data processing.	2 pers. x 10 $ x 2 days	40 $	
Evaluate program, data analyze, write report	4 pers. x 10 $ x 6 days	50 $	240
Miscellaneous			300
Grand total			**8, 420**

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