CHAPTER 3

RESEARCH METHODOLOGY

This chapter focuses on the description of the methodological approach used for this study. It includes a description of the study design, participants, setting, research instruments, methods of data collecting, research procedures, trustworthiness of the research methodology, data analysis and human subject protection.

The Study Design

Technical collaborative action research is a method that encourages personal participation in the process. This approach was applied in this study to establish a program for enhancing HIV treatment adherence and reducing risk behaviors in youth living with HIV/AIDS (YLWHA). The program is based on the Information-Motivation-Behavioral Skills Model (IMB Model) and on the existing problems and needs of the youth living with HIV/AIDS (YLWHA) from the participants' viewpoint.

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Research Participants of the Study

The research participants of this study included the health care providers, youth living with HIV/AIDS, and caregivers.

Health care providers. There were 12 health care providers who committed to participation in this study. They included a doctor, the head of the community and family health care department, an in-patient department nurse (IPD nurse), an out-patient department nurse (OPD nurse), two counseling nurses, a psychiatric nurse, a pharmacist, a medical laboratory technician, one PLWHA network leader, and two health care volunteers. Each of them participated in this study as follows:

1. The core working group (CWG) was comprised of eight health care providers who work in HIV related fields: a doctor, the head of the community and family health care department, two counseling nurses, a psychiatric nurse, a pharmacist, a medical laboratory technician, and one health care volunteers who had worked to promote health, assist in care-taking and monitor HIV treatment among YLWHA. A CWG was formed to assist the researcher throughout the project. CWG activities included problem identifying, program development, program implementation, and program evaluation.

2. Twelve health care providers participated in situational assessment and needs assessment.

Youth living with HIV/AIDS. In total, 29 YLWHA aged 15-24 years were diagnosed as HIV positive or having HIV serostatus and receiving treatment from community hospitals. Some were living with their caregivers, while eight lived in an orphanage.

1. Twenty-five of them participated in participatory activities for the needs assessments. Among these, nine of them were recruited for in-depth interviews and two of them participated in situational assessment.

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2. Nine YLWHA participated in program implementation, and evaluation. Five of them joined the needs assessment, and four YLWHA were recruited by CWG from the community hospital.

Caregivers. There were 18 caregivers who participated in focus group discussions for the needs assessment in this study. These included four mothers, eight grandmothers, one grandfather, two aunts, and three caretakers from an orphanage.

Research Setting

This study was conducted at a community hospital in Chiang Mai province, Thailand. This hospital was purposively selected because it had a group of health care providers and YLWHA who committed themselves to participating in the entire study. The hospital was under the supervision of the Chiang Mai Public Health Office and had a mission to provide HIV/AIDS care and support for all the people living with HIV/AIDS (PLWHA). The hospital provided treatment, including antiretroviral therapy, treatment for opportunistic infections. The hospital also referred complicated cases requiring advanced treatment to the provincial hospital, psychosocial care and support for YLWHA and their families, and home-based care and direct services at the hospital. The mission's main purpose in care and treatment was to promote the quality of life of the patients.

In order to establish trust and gain more familiarity with the setting and its clients, the researcher volunteered to participate in providing care and support services before and during the study so as to make contact with YLWHA who came to receive the care and treatment services at the hospital. The researcher also

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participated in conducting group meetings, attended the monthly HIV clinics, and provided home visit care for YLWHA at a place convenient for them.

Research Instruments

The research instruments in this study included instruments for collection of both qualitative and quantitative data. These instruments are described in detail below.

Instruments Used for Qualitative Data Collection

Researcher. According to the processes of technical collaborative action research, the researcher was an instrument for collecting, analyzing, and interpreting data by personally making observations, taking field notes, asking interview questions, and interpreting responses. It was through the researcher's facilitative interaction that a context was created where participants shared rich data regarding their experiences and life world. Moreover, the researcher facilitated the flow of communication.

In order to ensure the credibility of the research methodology, the researcher was trained in qualitative paradigms in Nursing Research (three credits) which allowed her to practice data collection procedures. This researcher also completed three credits of Participatory Action Research and was involved in her advisors' projects which involved group reflection, field notes, conducting content analysis and in-depth interviews. These experiences were very useful in gaining experience in conducting all aspects of the research, data collection and interpretation.

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Through a research practicum for the Ph.D. program, the researcher practiced qualitative data collection techniques with seven cases involving organization administrators whose work related to the HIV/AIDS field, to gain skills in using reflective questioning and helping the participants in identifying their answers. Moreover, the researcher also observed a senior Ph.D. candidate conducting a reflective session about the effects of an internet-based program for solving unhealthy eating behaviors among early adolescents in her dissertation work. The researcher's professional and personal experiences were also helpful in processing data collection and interpretation, as an educational background and personal experience are deemed sufficient to conduct essential qualitative data collection in this particular study.

Discussion guide for situation assessment. The researcher developed the discussion guidelines by searching for and reviewing relevant existing instruments and modifying these instruments to be appropriate for these participants. These participants included the leader of a PLWHA network and twelve health care providers who work in HIV fields. This discussion guide explored participants' perspectives on the nature of HIV treatment adherence, barriers, and situations of HIV treatment adherence and HIV risk behaviors among YLWHA (see Appendix A). The guide was submitted to the dissertation advisor for reviews approval.

Discussion guide for group discussion. The focus group discussion employed the participatory activities for exploring the YLWHA's perspectives about HIV treatment adherence and HIV risk behaviors as well as their needs to improve HIV treatment adherence and HIV risk behaviors. The discussion guide for YLWHA was developed by the researcher, and then submitted to the dissertation advisor. After getting approval from the dissertation advisor, the researcher tried out these questions

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with two YLWHA at the community hospital to ensure that the questions were understandable by YLWHA, before conducting activities with YLWHA participants. This guide was composed of open-ended questions and outlined four activities which were used as guidelines to facilitate the flow during brainstorming, self-reflection and discussion about HIV treatment adherence and HIV risk behaviors (see Appendix B). The questions allowed the YLWHA participants to think about their ideas and experiences.

Discussion guide for caregivers. The focus group discussion guide was used in the needs assessment to explore the caregivers' feelings about HIV treatment adherence and HIV risk behaviors among YLWHA, the barriers and risk factors that can influence HIV treatment adherence among YLWHA, the components of strategies to solve these problems and answer their needs, and make suggestions for improvement. Open-ended questions were used as guidelines, and dealt with general topics, a specific topic, and probing questions. The guidelines for caregivers consisted of five questions developed by the researcher and were approved by the dissertation advisor (see Appendix C).

Interview guide for needs assessment. Two guides were developed for health care providers and for the YLWHA. They are described below.

Interview guide for health care providers. The guidelines for health care providers consisted of five questions developed by the researcher and approved by the dissertation advisor (see Appendix D). The in-depth interview guide was used in needs assessment to explore the participants' feelings, the barriers and risk factors that can influence HIV treatment adherence and give rise to HIV risk behaviors among YLWHA, the components of strategies to solve these problems, and make suggestions

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for improvement. Open-ended questions were used as guidelines, and addressed general topics, and a specific topic, and probing questions were also included.

Interview guides for youth living with HIV/AIDS. To ensure that their needs and problems were identified, this interview guide, developed by the researcher, was used for conducting in-depth interviews among YLWHA (see Appendix E). Each open-ended question was structured to allow YLWHA to share their ideas and perspectives about HIV treatment adherence and HIV risk behaviors. This strategy was intended to confirm and provide the required information about the needs and concerns of the YLWHA group members.

Interview guides for youth living with HIV/AIDS for program evaluation. The guidelines included open-ended questionnaires developed by researchers based on the IMB Model and other literature reviews (Fisher, 2011; Fisher, Fisher, Bryan, & Misovich, 2002), which were then submitted to the dissertation advisor. After receiving the dissertation advisor's approval, the researcher tried out these questions on two YLWHA at the community hospital to ensure that the YLWHA understood the questions, before conducting activities with the YLWHA participants. This instrument had two parts (see Appendix F) as follows: HIV treatment and HIV risk reduction behaviors which consisted of information, motivation, and behavioral skills.

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Instruments Used for Quantitative Data Collection

Demographic data questionnaire. This questionnaire was designed by the researcher in collaboration with the CWG to gather each participant's demographic data concerning sex, age, gender, educational level, number of family members, and family income.

Thai ACTG adherence scale. This research instrument was modified, based on existing instruments by the AIDS Clinical Trials Group (ACTG) questionnaire, developed by Fukfon (2010). The scale has five multiple-choice items that measure adherence and reasons for non-adherence to antiretroviral therapy. Participants were asked to report the number of doses taken and missed of each antiretroviral over the previous three days.

Pill count record form. This form recorded medication information, specifically the numbers of prescriptions, filling dates, and remaining number of refills, and to verify the accuracy of medications dispensed over the course of the pill counts. Data from pill counts were used to calculate the percentage of the prescribed doses taken (Bureau of Epidemiology, 2005). The percentage of tablets taken correctly in a month was calculated by dividing the total taken by the total number that should have been taken, then multiplied by 100 to obtain the percentage adherence to ART. Optimal adherence is 100% meaning that a patient took all the prescribed medication correctly, without missing any single dose.

HIV risk behaviors questionnaire. This instrument was modified by the researcher to assess the HIV risk-taking practices among YLWHA, such as engaging in unprotected sex and contracting and spreading the virus through sexual activity and

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intravenous drug abuse. The questionnaire was close-ended for each topic. In this study, Cronbach's Alpha Coefficient was 0.83.

Attitudes toward condom-use questionnaire. This six-item questionnaire modified by Fongkaew, Settheekul, Fongkaew, and Surapagdee (2011) was used to assess attitudes toward condom-use. Four items measured barriers to condom-use, while two measured condom-use hedonistic beliefs. All six items had possible responses ranging from 1 = 'strongly disagree' to 4 = 'strongly agree'. A total score could range from 6 to 24, the higher scores suggesting favorable outcome expectancy toward condom-use. Cronbach's Alpha Coefficient was 0.87.

The sexual self-efficacy scale questionnaire (SSEQ). This questionnaire was devised from the Sexual Self–efficacy Scale of Srisuriyawet (2006). The 20-item SSEQ consisted of four scenarios, each scenario having five questions dealing with: a) self-efficacy for refusing sex; b) self-efficacy for bringing up the issue of condoms in conversation; c) self-efficacy for convincing one's partner to be safe, even though both hated condoms; and e) self-efficacy for refusing sexual intercourse if the partner would not behave safely. Sixteen of the 20 items addressed safe sex self-efficacy and four addressed refusal sex-efficacy. In each item, respondents were asked to indicate how confident they were about engaging in each behavior, ranging from 0 to 10. A total score for the safe sex self-efficacy component of the instrument had a possible range of 0 to 160, which was obtained by summing response scores across the 16 relevant items. Higher scores indicated a higher self-efficacy in having safe sex. The total score for the refusal sex-efficacy component of the instrument had a possible range of 0-40, obtained by summing response scores across the four relevant items. Higher scores indicated a higher self-efficacy for refusing sex. After establishment of

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the research instruments, they were tested for reliability, having previously also been tested upon twenty YLWHA who were not participants in this study in another community hospital in Chiang Mai province. For this study, Cronbach's Alpha coefficient was 0.98 for female participants and 0.99 for male. The reliability values were considered to provide a respectable range for the research scale, according to the criteria of DeVellis (2003).

Data Collection Methods

The various methods of data collection included both the qualitative and quantitative methods used in this study. The qualitative methods regarding focus groups, in-depth interviews, group meetings, participatory observation, and participant activities were used in this study as follows:

Qualitative Data

Focus group discussion. Two focus group discussions were conduct with caregivers (ten and eight caregivers respective). This method provided the opportunity for participants to describe their experience of taking care of their children, and present their ideas. The focus group discussion in each caregivers group was arranged to span approximately two and a half hours. The open–ended questions developed by the researcher were used to facilitate the flow of reflection and discussion. In the sessions, the researcher took the role of moderator, and the note-taker was responsible for taking notes, and managing the tape recorders.

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In-depth interviews. This method was conducted among nine YLWHA and 12 health care providers working in HIV fields. It explored their experiences in detail and revealed the many facets of those experiences. The method provided the opportunity for participants to describe their experiences and present their perspectives, and was arranged to be approximately one hour in length for each person.

Group meetings. The group meetings were held to facilitate the participants' discussion, brainstorming and work together during the steps of situational and needs assessment, program development and implementation. This method allowed the participants to share ideas and opinions through brain-storming. Throughout the planning and development stages of this program, the researcher conducted group meetings in order to reflect on and discuss the data obtained from these meetings. During the meetings, the issues were reviewed and confirmed. The researcher took the role of facilitator and consultant at these meetings.

Participatory observation. This strategy enabled the researcher to build a picture that represented the real situation as well as provided opportunities to gain a clearer idea of the researcher context by always observing the settings in which the participants work and the ways they go about their activities. Participatory observation was used to identify the changes and learning occurring in the situation, and the processing and implementation of this program. The researcher observed activities, atmosphere, as well as the performance of all research participants while they were engaged in activities and working together. In order to facilitate the program goals and achievements, the researcher made observations and recorded them continuously in writing from the beginning of this study until it was finished.

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Quantitative Data

The quantitative data were collected using various questionnaires. The sources used to acquire quantitative data included a demographic questionnaire, the Thai ACTG adherence scale, the pill count record form, the HIV risk behaviors questionnaire, the attitudes toward condom use questionnaire, and the sexual self-efficacy scale questionnaire. These instruments were revised before use according to the experts' suggestions and recommendations. Each questionnaire was used selectively with the study participants in accordance with the objectives of each phase of the research process.

Research Process

The technical collaborative action research process was conducted from June 2011 to May 2013. The action process had eight steps. The activities within each step were as follows:

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Step 1: Establishing Contact and Mutual Commitments

Objective: To establish a connection with a community hospital and its health care providers for study participation.

Activities

1. The researcher contacted the hospital administrator of the community to obtain his permission and cooperation in conducting research. The researcher then

informed him of the details and objectives of the study, the research process, and the potential benefits for the hospital.

2. After receiving permission from the hospital administrator and his commitment to the project, the researcher contacted the head of the community and family health care department who was a key person in this study, informing him of the objectives, the research process and the potential benefits for the hospital, asking for permission to conduct the project and establishing commitment from him.

Figure 2. The researcher conducting a meeting with the hospital administrator and health care providers

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Step 2: Forming a Core Working Group

Objective: To recruit and build commitment with the core working group in this study.

Activities

1. The researcher held a meeting with 12 health care providers, and three YLWHAs to explain to them about the research project. A total of eight health care providers volunteered and committed to working as CWG members to participate

throughout the entire research process. Two YLWHAs committed themselves to sharing experiences and providing suggestions during some steps of the research process.

2. The researcher held a meeting with the CWG aimed at building relationships, raising awareness and sharing experiences on HIV treatment non-adherence and HIV risk behaviors among YLWHA. Additionally, the members wanted deeper understanding about action research and the methods used for data collection.

3. The researcher held training sessions for the CWG members to enhance their capability in conducting action research. These training sessions provided knowledge of Technical Collaborative Action Research, the methods of data collection regarding the focus group, and in-depth interviews.

Figure 3. Training sessions for the CWG

4. Following the training, a CWG meeting was held to define the roles with assistance from the researcher. They decided upon the following:

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4.1 The head of the community and family health care department acted as the leader of the CWG to coordinate and recruit the participants to participate in the meetings throughout the research process.

4.2 All CWG members would assist the researcher in designing and developing the plan throughout the research process.

4.3 The CWG suggested that needs assessment for YLWHA and caregivers should include participants from four community hospitals to increase the number of respondents and to provide as much in-depth information as possible. The leader of CWG, two counseling nurses and one health care volunteer expressed their interest in coordinating and recruiting YLWHAs from four community hospitals.

4.4 The researcher was responsible for designing and developing the contents and activities of the program to enhance HIV treatment adherence and to reduce the HIV risk behaviors among YLWHA, while the health care providers would provide feedback on how to adjust the program to fit with their contexts.

4.5 The researcher would serve as consultant, facilitator and coordinator to help the CWG, provide them with essential materials, and be responsible for implementing the program and for program evaluation.

5. At the end of the meeting, the researcher summarized the meeting decisions and asked for additional suggestions and opinions.

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Figure 4. CWG members collaborating with the researcher in designing and adopting the research plan of the research process

Step 3: Conducting Situational Assessment

Objective: To assess the situations relating to HIV treatment adherence and HIV risk behaviors among YLWHA.

Activities

1. The leader of the CWG coordinated and recruited participants for the group meeting. Participants comprised seven CWG members, the head of a nursing department, an IPD nurse, one PLWHA network leader, one health care volunteer, and two YLWHA.

2. The researcher held a group meeting to explain the background and objectives of the process of this activity.

3. The researcher moderated the group meeting and allowed health care providers to think about their opinions about the HIV care service system, the barriers and problems of non-adherence among YLWHA, and the reasons why the YLWHA had HIV risk behaviors, as well as offer suggestions for enhancing HIV treatment

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adherence and reducing HIV risk behaviors among YLWHA. Following each topic, the researcher summarized the ideas discussed.

Step 4: Identifying Problems and Needs

Objective: To identify and to analyze the existing or potential problems and needs that YLWHA, caregivers, and health care providers regard as affecting HIV treatment adherence and HIV risk behaviors among YLWHA.

Activities

1. The leader of the CWG coordinated and formed the data collection team, comprising the head of the community and family health care department, two counseling nurses and a health care volunteer who assisted the researcher to conduct the needs assessment.

2. The researcher conducted the needs assessment of YLWHA, their caregivers and the health care providers to identify the barriers of HIV treatment non-adherence and HIV risk behaviors issues and needs among YLWHA for each group as follows:

2.1 Youth living with HIV/AIDS

2.1.1 The researcher conducted participatory activity with 25 YLWHA. The YLWHAs were divided into four groups. Each group had one moderator and one note-taker to facilitate the discussion and manage the group. These activities allowed them to take part actively and respond verbally in brainstorming topics related to the study in small groups, play games and give awards, and take part in group opinion presentation and discussion. The open-ended questions allowed the

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YLWHA participants to think about their experiences regarding HIV treatment adherence, and HIV risk behaviors, and offer opinions for enhancing HIV treatment adherence and reducing HIV risk behaviors. The researcher then summarized the ideas from each group to facilitate discussion in the big group. All activities took place at the Faculty of Nursing in a session of approximately four hours.

2.1.2 The researcher conducted in-depth interviews with nine YLWHA to gather information. Following a semi-structured interview guide, the researcher encouraged participants to speak more freely and comfortably about their perspective on HIV treatment adherence and HIV risk behaviors.

2.2 Caregivers

The researcher conducted two focus group discussions with 18 caregivers. At the beginning, the researcher created understanding with the caregivers by explaining the background, objectives and processes of the activity. Then participants were divided into two groups. The moderator encouraged the caregivers to think and share their ideas about the situation of HIV treatment adherence and HIV risk behaviors among YLWHA, the reasons for HIV treatment non-adherence and HIV risk-taking behaviors among YLWHA and make suggestions to enhance HIV treatment and to reduce HIV risk behaviors among YLWHA. The moderator summarized and clarified the ideas throughout the discussion.

2.3 Health care providers

2.3.1 The researcher conducted two groups meetings with members of the CWG, an IPD nurse, an OPD nurse, one PLWHA network leader, and one health care volunteer, to obtain their opinions about problems and needs related to providing care for YLWHA.

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2.3.2 The researcher conducted in-depth interviews with five health care providers (a doctor, an OPD nurse, an IPD nurse, a pharmacist, and a medical laboratory technician) to gather in-depth information about providing care for YLWHA.

3. The findings data from the three groups of participants were then analyzed by the researcher using content analysis.

4. The researcher held three reflection sessions with each group of YLWHA, caregivers and health care providers, to review the findings from their needs assessment sessions. The researcher encouraged participants to freely discuss and confirm the findings data of the needs assessment. Following these meeting, the researcher then summarized and concluded the opinions in each group.

Step 5: Developing the Program to Enhance HIV Treatment Adherence and Reduce HIV Risk Behaviors

Objectives: To design a theoretically-based program for enhancing HIV treatment adherence and reducing HIV risk behaviors corresponding to the needs of YLWHA, caregivers and health care providers, consistent with the social-cultural context based on the IMB Model.

Activities

1. The researcher held a meeting with the CWG to plan the development of the program based on results from the situational and needs assessment.

2. The researcher briefed the main findings and provided information about the existing program based on the IMB Model and motivation interviewing

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(MI). The researcher then encouraged the CWG members to express their opinions, and share ideas about the design program. The researcher then summarized the CWG's discussion and plans, and designed a program outline based on the results of needs assessment and information-motivation-behavioral skills (IMB model).

3. The CWG members suggested using the IMB model as a theoretical basis to develop the program.

Figure 5. The brainstorming session for developing the program

4. After planning the program, the researcher reviewed the literature regarding effective strategies and activities to implement enhancing HIV treatment adherence and reducing risk behaviors among YLWHA, and then designed the contents of the program, outlining the strategies and activities based on the results of needs assessment and three components of the IMB model.

5. The researcher held a meeting with the CWG and presented the tentative program, encouraging reflections and feedback. The CWG members shared their opinions and gave suggestions about adapting contents for the program so as to be appropriate for the local YLWHA population.

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6. The researcher produced educational materials including three video clips, scenarios for discussion and games, and collaborated with the College of Arts, Media, and Technology, CMU, to develop a short animated film on antiretroviral therapy.

Figure 6. A booklet about ART, a short animated film on ART and video clips

Step 6: Implementing the Program to Enhance HIV Treatment Adherence and Reduce HIV Risk Behaviors Among YLWHA

Objectives: To implement the program to enhance HIV treatment adherence and reduce HIV risk behaviors among YLWHA.

This step was divided into two parts.

Activities

Part 1: Preparing the CWG implementation team

1. The leader of the CWG coordinated and formed a CWG implementation team comprised the head of the community and family health care department, a pharmacist, two counseling nurses, and a psychiatric nurse.

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2. The researcher arranged a preparation session for the CWG implementation team by holding a meeting with the CWG implementation team to describe the principles and steps of the program by which they would take responsibility for working with the YLWHA.

3. The CWG implementation team rehearsed teaching each activity and had a chance to reflect on their own feelings. Additionally, they received feedback and suggestions from their peers and the researcher to increase their confidence and refine their skills before implementing the program. The researcher also gave suggestions and recommendations to the CWG implementation team.

Part 2: Implementing the program

1. The researcher held a meeting with the CWG to set up the agenda for implementing the program. The group established a timeline, responsibilities, resources and manpower.

2. The CWG recruited YLWHA who were receiving HIV treatment from the community hospital.

3. Prior to the program implementation, the researcher collaborated with CWG members to obtain baseline data.

4. The CWG implementation team conducted fourteen training sessions with nine YLWHA in a two-day camp. During the implementing process, the CWG implementation team used an edutainment approach which included animation, video clips, games, and role-playing activities. Moreover, brainstorming and sharing experiences were used as part of participatory learning to generate ideas to help them with problem-solving. The researcher took on the combined roles of consultant,

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observer, and facilitator to support and encourage the CWG implementation team throughout the process.


Figure 7. The CWG implementation team conducted fourteen training sessions of the program

5. After finishing the last session of the program, the researcher and the CWG implementation team conducted group reflections on contents and activities among YLWHA. They were encouraged to exchange their feelings, opinions, and experiences from participating in this program.

Step 7: Evaluating the Outcomes of the Program to Enhance HIV Treatment Adherence and Reduce HIV Risk Behaviors

Objective: To evaluate the outcome of implementing the program to enhance HIV treatment adherence and to reduce HIV risk behaviors among YLWHA.

Activities

1. The researcher held a meeting with the CWG implementation team to reflect on the program, in order to assess the participants' feelings and problems

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during implementing the program, as well as eliciting suggestions for improving the program in the future.

2. The researcher conducted in-depth interviews with the nine YLWHA who participated in the two-day camp to evaluate the contents and activities in the program implementation, and explore the HIV treatment adherence and HIV risk behaviors based on the IMB model.

3. The researcher assisted the CWG implementation team in collecting the data regarding ARV adherence, the HIV risk-taking practices, attitudes toward condoms, and sexual self-efficacy at 12 weeks after program implementation.

Step 8: Critiquing of the Program Feasibility

Objective: To discuss the feasibility and appropriateness of the program to enhance HIV treatment adherence and to reduce HIV risk behaviors.

Activities

1. The researcher held a meeting with CWG members, the head of a nursing department, an IPD nurse, an OPD nurse, a PLWHA network leader, and a health care volunteer at the community hospital, to encourage exchanging their opinions, and making suggestions about the possibilities of applying the program.

2. The researcher provided brief details of the program, and the outcome of the program implementation.

3. The leader of the CWG presented the reflections of the CWG implementation team about delivering the program content and conducting learning

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activities for each topic in the program, and made suggestions to improve the program in the future.

Figure 8. The leader of the CWG presented the reflections of the CWG implementation team

4. The researcher encouraged all participants to share their experiences and suggestions about the program and how to integrate the program into the hospital service.

5. The researcher then summarized their ideas and suggestions about how to integrate the program to enhance HIV treatment adherence and HIV risk behaviors into the community hospital.

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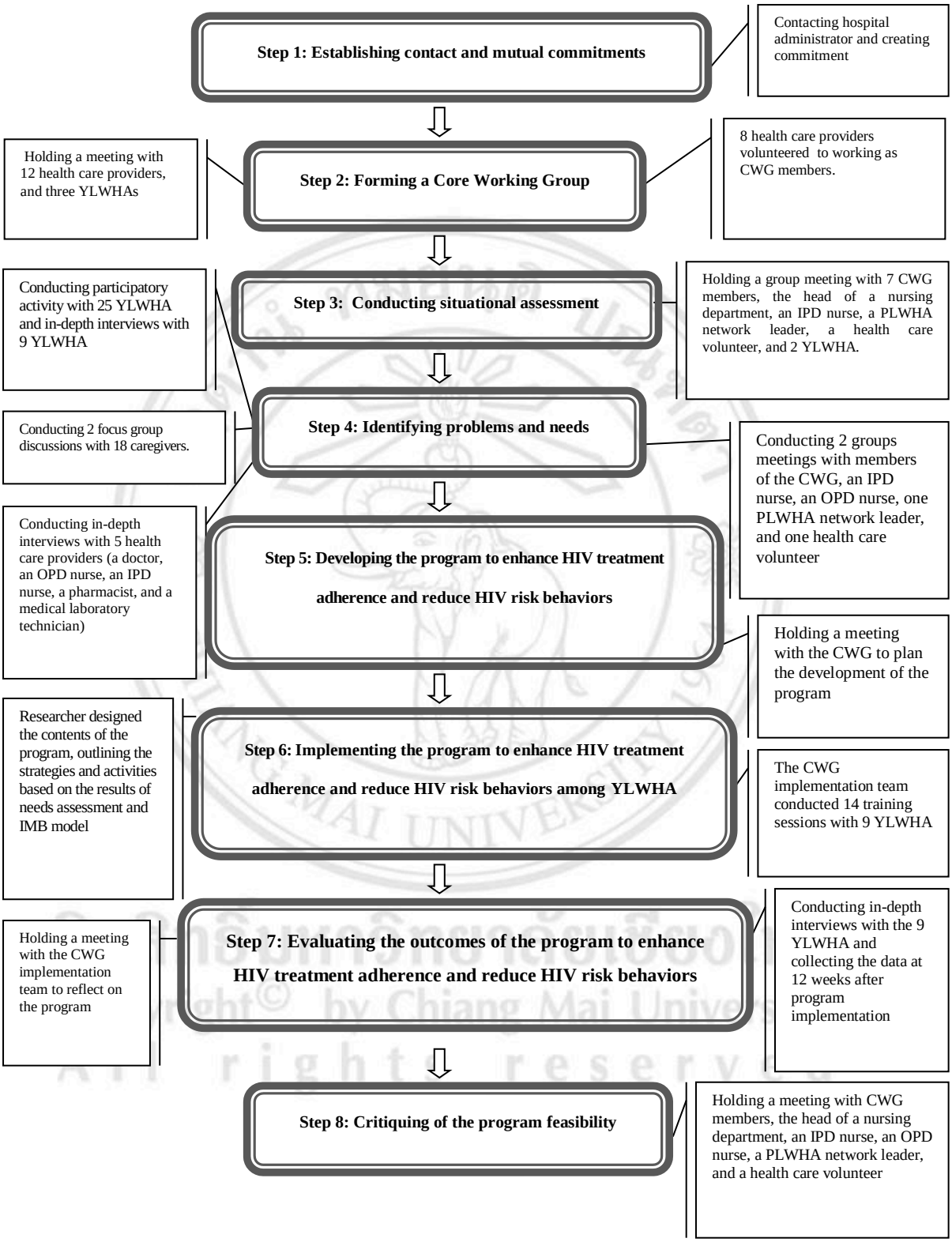

Figure 9. Diagram of the research process in this study

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Strategies to Ensure the Rigor of the Study

The researcher used various strategies to ensure trustworthiness in this study, including applying the criteria for developing the effective evaluation of qualitative research, following the four criteria from Guba and Lincoln (1989) regarding credibility, dependability, transferability and confirmability. This study used three criteria for developing the effective evaluation of qualitative research as follows.

Credibility

Credibility was strengthened by the two strategies of enhancing it through triangulation and member-checking, as follows.

1. During every meeting with each participant, credibility was strengthened by using multiple methods of data collection (methodological triangulation) regarding participatory activity, participatory observation, and in-depth interview, comparing a variety of all data sources and methods in order to confirm the accuracy of the findings. The researcher used interviewing, participatory activity group discussion, and participatory observation in order to assess the changes and confirm the accuracy of the findings on the understanding that, if the findings from all of the methods came to the same or similar conclusions, then validity had been established

2. Member-checking means ensuring the researcher adequately and accurately represents the perspectives and experiences of the participants. To succeed in this strategy, the summary of HIV treatment adherence and HIV risk behaviors

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needs assessment, and the contents and activities of this program were checked for validity with YLWHA, caregivers, and health care provider participants by group discussion of the findings. Participants were given opportunities to review the data analyses from research procedure by using reflection. This enabled them to verify that the research adequately represented their perspectives and experiences. Additionally, this issue provided opportunities for participants to clarify and extend information related to their experiences.

Dependability

Dependability means the stability of the data, which can be strengthened by using multiple methods and inquiry audits (Stringer & Genet, 2004). Concerning dependability, the researcher used multiple methods in data collection to confirm the accuracy of the data in the participatory activity, with in-depth interviewing and participatory group discussion used to collect information from participants. The researcher also checked and re-checked the findings of this study at each step for each participant. Then the data were audited by experts who were dissertation advisors who examined both the process and the products of the research for consistency during the research design phase.

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Confirmability

Confirmability asks if findings can be confirmed by others, and is established through the auditability of the research process (Lincoln & Guba, 1985). The researcher ensured the viability of this strategy by involving the use of written

field notes, memos, a field diary, process and personal notes, and a reflexive journal for accurate, thorough record-keeping for potential inspection in all the activities of this study. The study process was also confirmed with the participants and the CWG. Additionally, the data analysis process was reviewed and approved by the dissertation advisors.

Data Analysis

In this research, data obtained from the research process were both qualitative and quantitative. The data analysis divided into two parts as follows:

Quantitative Data

There were five quantitative sets in this study, namely -

1. The demographic data were analyzed using descriptive statistics in terms of frequency and percentage.

2. The ARV adherence score. Data were used to calculate the percentage of the prescribed doses taken and the percentage of the prescribed doses missed. The percentage of ARV adherence was calculated by division between the amount of the drugs taken and the amount of drugs prescribed. The normal distribution of the scores was tested by using the Kolmogorov-Smirnov test and the result indicated normal distribution for these scores of 12 weeks. The comparisons of ARV adherence scores were tested by using the paired t-test.

3. The HIV risk behaviors data were analyzed, using descriptive statistics in terms of frequency and percentage.

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4. The attitudes toward condom score was calculated by summing item responses across all eight items. The paired t-test was performed to compare the score between baseline and after implementing the program.

5. The sexual self-efficacy score was calculated by summing item responses across all twenty items. The paired t-test was performed to compare the score between baseline and after implementing the program.

Qualitative Data

The data were analyzed iteratively using thematic analysis (Miles & Huberman, 1994). The transcripts in each group were read and categories were reviewed several times in order to ensure that concepts pertaining to the same phenomena were placed in the appropriate categories, and the ranges of views expressed were within each code. The themes and the content of the data throughout the data collection and analysis processes were identified by the primary author and subsequently verified by two co-authors for coding consistency, emergence of main themes, and extraction of statements to support the themes. Coding, themes, and key findings were discussed by the co-authors until consensus was reached.

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Protection of Human Subjects

The researcher followed the protection of human subjects procedure. Before conducting the research study, approval for conducting this study was obtained from the Institute Review Board of the Faculty of Nursing, Chiang Mai University. The permission to conduct this study was also obtained from the hospital administrator. All participants were informed in advance about the purpose and the research process of this study. They were informed that participation in this study was voluntary. Informed consent for caregivers and an assent form for the YLWHA were reviewed with all participants. For the YLWHA who participated in this study permission was gained from their caregivers, who completed a consent form. Participants were assured that none of the information gained in the study would affect their day-to-day lives or their jobs. All data were treated as group information, with no personal identifiers. Individuals who agreed to participate were asked to sign a consent form. The nature of their rights was respected and the participants were verbally told that they had the right to refuse to answer any of the questions posed at any time during the interviews, and the right to stop the recording during the interview at any time they chose. The participants' names were replaced with code numbers. A list linking the code numbers and the samples' names was accessible only to the researcher. Information obtained was used for research purposes only and names were kept confidential. The results of the study were used only in the analysis of content by CWG members and research supervisors. All the written data including reflection and field notes will be destroyed three years after completion of the study. All MP4 recordings will also be erased three years after the completion of the study. A token of appreciation was given to each participant at the end of the study.

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