CHAPTER 3

METHODOLOGY

This chapter presents aspects of the research design, population and sample, research setting, instrumentations, human rights protection, data collection procedures, and data analysis.

Research Design

The two groups pretest –posttest experimental design was employed to examine the effects of the cognitive adjustment program on parental attitudes toward child rearing and potential for child physical abuse among Thai parents of one to six year old children. The difference in effects between parents who attended the cognitive adjustment program and those who obtained the usual services was compared. The research design for this intervention is shown in Figure 2.

	Baseline		At 16 weeks follow up
Experimental group	O_{E1}	*X*	O_{E2}
Control group	O_{C1}		O_{C2}

Figure 2. A two group pretest –posttest experimental design

O_{E1} and O_{C1} refer to scores of parental attitudes toward child rearing and potential for child physical abuse prior to participating in a program for the experimental (O_{E1}) and the control (O_{C1}) samples, respectively.

X refers to the cognitive adjustment program which was given to the experimental group.

O_{E2} and O_{C2} refer to scores of parental attitudes toward child rearing and potential for child physical abuse at 16 weeks after entering the program for the experimental (O_{E2}) and the control (O_{C2}) samples, respectively.

Variables: The independent variable was the cognitive adjustment program for Thai parents. Dependent variables were parental attitudes toward child rearing and potential for child physical abuse.

Population and Sample

The target population for this study comprised of mothers, fathers, or anyone who functioned as primary caregivers of one to six year old children and lived in Muang district of Rayong province. The sample of this study was mothers, fathers, or primary caregivers of one to six year old children attending child care centers in Choengnoen, Natakhwan, and Tapong subdistricts of Muang district, Rayong province.

Inclusion criteria

Parents were included in this study with the following criteria: 1) had an abuse potential score of 166 or higher as measured by the Child Abuse Potential Inventory (Milner, 1986), 2) took care and lived together with a one to six year old child, 3) had

no history of mental disorders, 4) were able to read and write the Thai language, and 5) were willing to participate in this study.

An exclusion criterion

Parents were excluded from this study if they were involved in a known case of child physical abuse.

Discontinuation criteria

Parents were dropped out from this study if they were unable to complete the cognitive adjustment program or moved away from the area before program completion.

Sample Size

The sample size of this study was calculated using a sample size determinant formula for repeated measurement analysis (Viwatwongkasem, 1994) with a level of significance of α=.05 and a one-sided test with power of .80. The sample size formula is:

$$n = \frac{(Z_\alpha + Z_\beta)^2 \times 2\sigma^2}{\delta^2}$$

where n = estimated sample size

Z_α = 1.645 for significant level at .05 (95% confidence desired)

Z_β = 0.840 (20% beta error, 80% power desired)

δ = $\mu_1 - \mu_2$ (mean difference between experimental group and control group)

σ = standard deviation

No similar study has been conducted in Thailand. Therefore, the researcher used data from a meta-analysis of parent training programs for parents at-risk of committing physical child abuse and neglect (Lundahl, Nimer, & Parsons, 2006). According to that analysis, the average effect size for attitudes linked to abuse was 0.60, 0.53 for emotional adjustment, and 0.51 for child rearing skills. To meet all of the outcomes of this study, the effect size for calculating the sample size was 0.51.

The sample size is:

$$n = \frac{(1.645 + 0.840)^2 \times 2}{(0.51)^2}$$

$$n = 47.50 = 48$$

The sample size for each group is 48. Similar studies conducted by other researchers reported an attrition rate of around 20% (Cowen, 2001; Fennell & Fishel, 1998). In order to increase the confidence in the results of the experimental study, the sample size should be estimated based on a 20% attrition rate.

$$n = \frac{48}{80} X 100 = 60$$

The sample needed for this study would be approximately 60 subjects per group. Thus, the total number of subjects needed in this study was 120 subjects.

With regard to recruitment procedures, in the first experimental setting, 120 children were listed. Ninety eight parents were asked to participate. Eighty-eight agreed and were screened in this study. Ten parents refused to participate in this study due to their inconvenience. After the screening process, there were 44 subjects having an abuse potential score above 166 as measured by the CAP inventory (Milner,

1986). Since this study needed 60 subjects, another child care center, similar to the first setting, was added to be an experimental setting. In the second experimental setting, 40 children were listed and 30 parents were asked to participate. Twenty-six agreed and were screened in this study. Four parents refused to participate. After the screening process, there were 12 subjects having an abuse potential score above 166 as measured by the CAP inventory (Milner, 1986). Finally, 53 subjects completed the study. Three subjects could not be retained in the experimental group; one moved to other area at the 8th week, two could not participate in the 2nd group education, (one had a crisis event and one shifted job schedule).

In the control setting, 250 children were listed and 230 parents were asked to participate. One hundred and sixty-five agreed and were screened in this study. Sixty-five parents refused to participate in the study due to their inconvenience. After the screening process, there were 70 subjects having an abuse potential score 166 or above as measured. Sixty three subjects completed the study. Seven subjects could not be retained in the control group (three moved away from the area, four were could not contact during post-test period).

The final sample for analysis included 116 subjects with 53 in the experimental group and 63 in the control group. The attrition rate for this study was 8.82%. Subject recruitment procedures are shown in Figure 3.

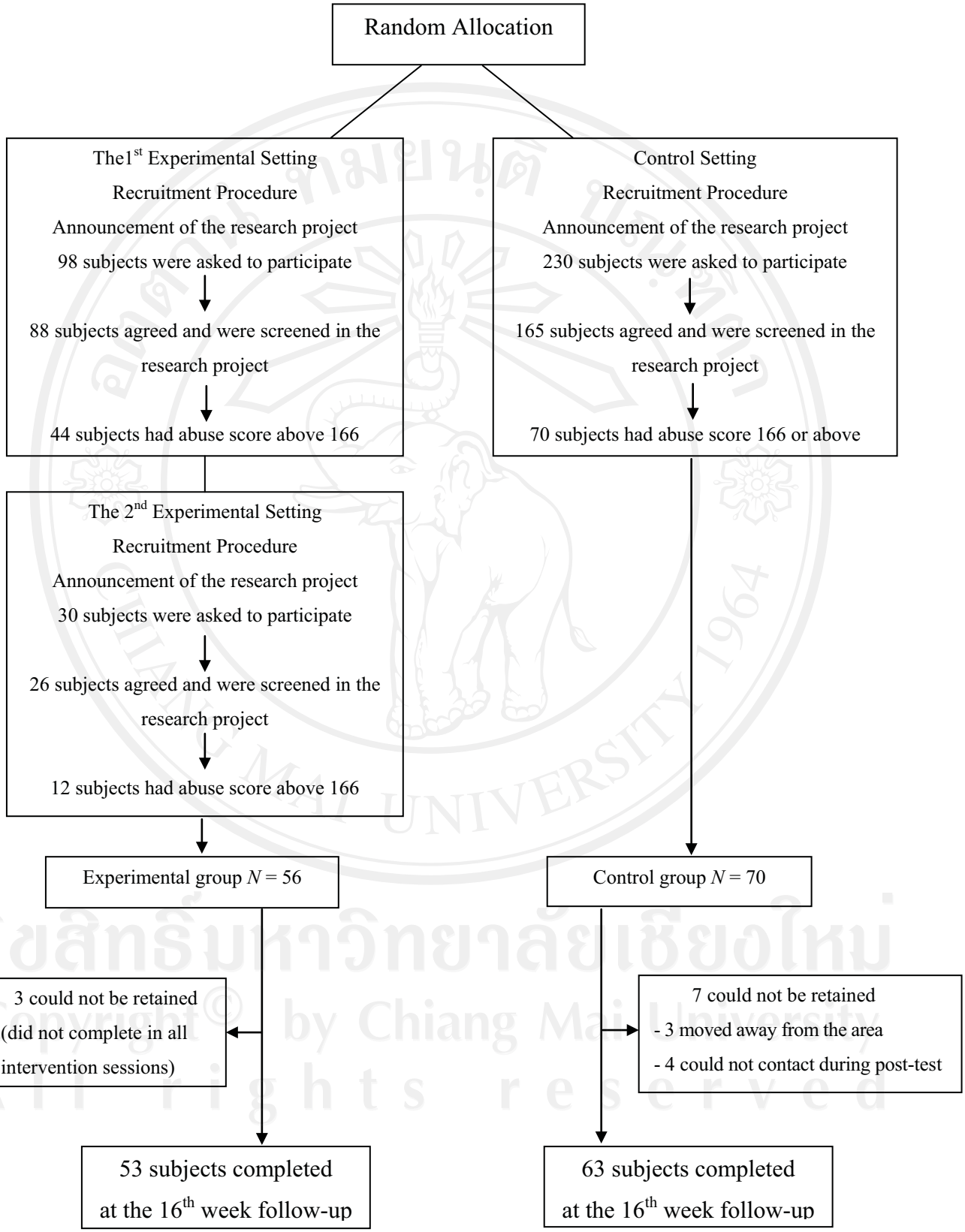

Figure 3. Diagram showing subject recruitment procedures

Research Setting

Rayong province is one of the industrial areas in Thailand that is likely to have violence against children problem. This problem caused by materialism and competitive values, many places of amusement, and economic pressure among laborers and immigrants (Institute for Population and Social Research, 2009). Additionally, Rayong hospital has taken the initiative and is now the leading medical center in Thailand that seriously intervenes with violence problems. The Center for the Children and Women Victims of Violence was established in the hospital in 1997 to provide preventive and curative services. This research was partly informationally and technically supported by this center. This experimental study was conducted at three child care centers located in Choengnoen, Natakhwan, and Tapong subdistricts of Muang district, Rayong province. These centers were similar in aspects of policy and environment.

In Muang district, Rayong province, there are 15 child care centers provided by local government organizations. Of the 15 child care centers, 11 centers are small centers which enroll approximately 40 children. Four child care centers are large centers which enroll children more than 100. Two of these centers were willing to participate in this study. With regard to program implementation, there were many steps including two home visits. The researcher required time for accessibility and familiarity with research field and subjects. Another reason for conducting research in two settings is that child physical abuse is a sensitive issue. Conducting interventions in too many settings makes it difficult to obtain reliable data. Hence, two large child care centers were recruited in this study. The first child care center is located 7 kilometers

away from the city of Rayong province. Budgets for management and supplies including mattresses, school bags, lunch, milk, and snacks were provided by Choengnoen Subdistrict Administrative Organization. The center opened on Monday to Friday from 07.00 a.m. to 4.00 p.m. There were 250 children and 14 staffs in the year 2008. Generally, staffs acted as a teacher and had additional jobs such as cooking and cleaning.

The second child care center is supported by Natakhwan Subdistrict Administrative Organization and is located 12 kilometers away from the city of Rayong province. There were 120 children and 7 staffs. This center also opened on Monday-Friday from 07.00 a.m. to 4.00 p.m. Staffs of this center took responsibilities of both teacher and housekeeper.

The study sample was also recruited from a small child care center of Tapong Subdistrict Administrative Organization as the research setting to meet the desirable number of subjects. This child care center is located approximately 18 kilometers away from the city of Rayong province. Budget for child care center management is supported by Tapong Subdistrict Administrative Organization. There were 40 children and 2 staffs in this center. This center opened on Monday to Friday from 07.00 a.m. to 4.00 p.m. Staffs took responsibilities as teacher, cooker, and cleaner.

Instrumentation

There were two kinds of instrument utilized in this study: instrument for research implementation and instrument for data collection. The details of each instrument are described as follows:

The Instruments for Research Implementation

The instruments for research implementation consisted of four types: intervention protocol for adjustment of parental cognitive process, parental booklet, scenarios, and videotaped presentations. The details of each instrument are explained below:

1. Intervention protocol for adjustment of parental cognitive process. This protocol was developed by the researcher based on a cognitive-behavioral approach and guided by the Social Information Processing Model of Child Physical Abuse (Milner, 2000). The program promotes cognitive process of parents which includes: increased parental perception toward child rearing and child abuse; increased positive parental interpretation and evaluation toward child rearing and child abuse; and increased parental integration and response selection toward child rearing. The program components were two group educations and two home visits (Appendix A). The detail of group education and home visit sessions are described as below:

1.1 Group education. There were two sessions of group education implemented at the 1st and 8th weeks of the program. In the first session, topics included the challenge of parenting role, parent-child relationships, child development, child abuse, and child rights. The key point of the first session was child abuse prevention according to The Thai Child Rights Protection Act B.E. 2546 (2003) and The Protection of Domestic Violence Victims Act B.E. 2550 (2007) was introduced. Educational strategies consisted of group discussion, sharing experiences and feelings, value sharing, scenarios analyses, and homework assignment. Media included two videotaped presentations and three scenarios in relation to building

parent-child relationships, child behaviors, and child physical abuse case. In the second session, topics included child disciplinary techniques, child behavior problems, stress reduction and anger management, and information on available community resources. Educational strategies included group discussion and scenario analysis; and media consisted of a scenario regarding child disciplinary and two videotaped presentations. Each session of group education lasted approximately 2 hours and 30 minute.

1.2 Home visit. There were two home visits conducted during the 4th and 12th weeks. The first home visit aimed at identifying the problems in child rearing and/or child behaviors, discussing options for solving those problems, and assessing parental needs and setting the plan to reach such needs. The aims of the second home visit were to analyze parental efforts and successes in solving child rearing and/or child behavior problems, to identify unsolvable problems and /or further parental needs, to set the further plan as well as to enhance parental competency in their parenting role. The following techniques were used in home visit: individual discussion, parent' self evaluation, reflection on child rearing behavior, and positive reinforcements. Moreover, the home environment and signs and symptoms of child physical abuse victims were observed during home visits. Each home visit lasted approximately one hour.

2. The parental booklet. The booklet named "Full Love in the Family Protects Your Kids" was developed by the researcher (Appendix B). This booklet was used for parents to review the necessary contents of group education and to record their homework on child behaviors. The booklet's content included the challenge of the parenting role, parent-child relationships, child development, child rights, child abuse

in the family, consequences of child abuse, child discipline, stress reduction, anger management, and child behavior problems. The last part of parental booklet was used for homework assignment on parental record regarding child behaviors and the way in which parental responses. The readability and understandability of the booklet was also evaluated by three parents. Then, some words that were unclear and difficult to understand were revised according to the parents' suggestions.

3. Scenarios. There were four scenarios developed by the researcher. The first scenario was aimed at providing parental alternative to give child positive reinforcements. The second scenario was aimed at demonstrating the ways to appropriately interpret, evaluate, and response to child behaviors. The third scenario presented a child physical abuse case from newspapers. This scenario aimed at raising parental awareness on child physical abuse by discussing definition, causes, consequences, and preventive strategies. Lastly, the fourth scenario showed different styles of parental attitudes toward child disciplinary.

4. Videotaped presentations. There were four videotaped presentations. The first videotape developed by the researcher presenting two styles of parent-child relationships (abusive mother and non-abusive mother). The second videotape presents child development which was developed by the Department of Health, Ministry of Public Health. This presentation was aimed at increasing parental knowledge on child development and child needs. The third videotape was child behavioral problems entitled "Love is the 6th Essential Food" which was conducted by the Family Network Foundation. The third videotape was pointed at stimulating parents to analyze their child behaviors and parental behaviors which contributed to child physical abuse. The third videotape also used to enhance appropriate parental

response to child behaviors. The fourth videotape was a scene of a soap opera produced by Television Channel 3 “Sud Rak Sud Doung Jai”. This presentation was aimed at enhancing parenting role even though it involved a single or low income parents. The 2nd, 3rd, and 4th videotaped presentations were used in this study with the permission of producers (Appendix C). The summary of intervention protocol is presented in Figure 4.

Content/Objectives	Activities	Media	Duration	Stage
Week-1				
1st Group education			2 hrs 30 min	
- The challenge of parenting role	Sharing experience	-	15 min	1
- Parent-child relationships	Videotaped presentation	Video "two styles of parent-child relationships"	20 min	1,2
	Value sharing	Scenario of building parent-child relationships	20 min	3
- Child development	Videotaped presentation	Video "child development"	35 min	1
	Value sharing	Scenario of child behavior		2,3
- Child abuse and child rights	Scenario analysis	Scenario of child physical abuse	50 min	1,2,3
- Homework assignment	Explanation	Parental booklet	10 min	4
Week- 4				
1st Home visit			60 min	
- Identifying problems	Checking parental record	Parental booklet		1,2
- Discussing options for solving problems	Individual discussion	-		3
- Assessing parental needs and setting the plan to reach such needs	Individual discussion	-		3
- Evaluating home environment	Observation	-		

Figure 4. Summary of intervention protocol

Content/Objectives	Activities	Media	Duration	Stage
2nd Group education			2 hrs 30 min	
- Child disciplinary techniques	Discussion	Scenario of child disciplinary	30 min	1,2,3
- Child behavior problems	Videotaped presentation Sharing experience	Video "Love is the 6th Essential Food"	50 min	1,2,3
- Stress reduction and anger management	Discussion & sharing experience	-	45 min	1,2,3
- Information on available community resources	Discussion	-	15 min	1
- Wrap-up	Videotaped presentation	Video "Sud Rak Sud Doung Jai"	10 min	1
2nd Home visit			60 min	
- Asking for parents' self-evaluation	Parents' self-evaluation	-		1,2
- Identifying parental efforts and successes	Reflection for parents	-		1,2
- Identifying unsolvable problems and setting the plan	Individual discussion	Parental booklet		1,2,3,4
- Enhancing parental competency	Positive reinforcement	-		1

Week- 8

Week-12

Figure 4. Summary of intervention protocol *(continued)*

The intervention protocol, parental booklet, scenarios, and videotaped presentations were reviewed for content validity by five experts including one pediatrician who is expert in child abuse, one child and adolescent psychiatrist who has experience related to child abuse and parent training program, three nurse instructors who are experts in child abuse, maternal-child nursing, and psychiatric and mental health nursing (Appendix D). The intervention protocol, parental booklet, scenarios, and videotaped presentations were adjusted based on the experts' suggestions for improving their clarification and appropriateness.

Prior to program implementation, a pilot study was conducted to determine whether the intervention protocol did really work and had been described in sufficient detail, and to determine unanticipated effects. A pilot study was conducted with subjects similar to those who typically received the intervention in the child care center and similar to those in which the intervention was implemented. Observation and field note techniques were used to gather the information for revising the intervention protocol and improving the capability of the researcher in implementing the program.

The Instruments for Data Collection

Three instruments were employed for data collection. These instruments were the Demographic Data Sheet, the Adult-Adolescent Parenting Inventory-2, and the Child Abuse Potential Inventory. Details of each instrument are described as follows:

1. Demographic Data Sheet. This sheet was developed by the researcher to obtain personal data of parents and their child including parent's age, gender, religion,

marital status, educational levels, occupation, alcohol consumption history, smoking history, gambling history, abuse childhood experience, relationship with child, child rearing assistance, number of children in household, child's gender, child health status, type of family, family income, sufficiency of income, and other financial support (Appendix E).

2. Adult-Adolescent Parenting Inventory [AAPI-2] Form B. This inventory was originally developed in English by Bavolek and Keene (1999). The AAPI-2 is a norm-referenced inventory. It has been utilized to assess parental attitudes of adult parent and adolescent parent populations in several studies (Britner, Reppucci, 1997; Combs-Orme & Cain, 2008; Cowen, 2001; Palusci et al., 2008). The AAPI-2 consists of five subscales: (a) inappropriate parental expectations, (b) parental lack of an empathic awareness of children's needs, (c) strong belief in the use and value of corporal punishment, (d) parent-child role reversal, and (e) oppressing children's power and independence. This inventory contains both positive and negative statements and has 40 items presented in a five-point Likert scale (strongly agree, agree, uncertain, disagree, and strongly disagree). The AAPI-2 is designed for people with a fifth-grade reading level, and the time required for completing the AAPI-2 is 15-20 minutes. Internal consistency reliability of the 40-item AAPI-2 and five subscales, listed above, were obtained at 0.85, 0.64, 0.79, 0.79, 0.59, and 0.50, respectively (Conners, Whiteside-Mansell, Deere, Ledet, & Edwards, 2006). With regard to construct validity, the AAPI-2 consists of two parallel forms: Form A and Form B. Factor loadings obtained from the factor analysis and the corresponding correlations between the two forms ranging from .80 to .92 and between the constructs ranging from .75 to .49 which strongly support the validity of the inventory (Bavolek & Keene, 2005).

The AAPI-2 was translated with the permission of the authors (Appendix F). The back translation technique was employed to ensure the accuracy of translation. (Brislin, 1970). The first step was forward translation of this inventory into the Thai language by the researcher and accuracy was confirmed by the advisory committee. The second step was back translation of the Thai version into the English version by three bilingual experts (Appendix G). By this step, three bilingual nurse instructors were blinded to the original English version and worked independently. Then, the researcher compared the back translated version with the original version to check the discrepancies. It was found that there were no discrepancies in the meaning of the items used. However, 3 of 40 items of the Thai version were adapted for understandability and cultural appropriateness.

The total raw scores of AAPI-2 ranged from 40 to 200. From 40 items, scores of 9 items needed to be reversed before scoring computation. For clinical interpretation, the raw scores were administered into the AAPI-2 online scoring program (Bavolek & Keene, 2005) and then the raw scores were automatically converted to standard ten (sten) scores and plotted on the AAPI-2 Parenting Profile Sheet (Appendix H). Sten scores on the Parenting Profile Sheet ranged from 1 to 10. Low sten scores (1 to 4) generally indicates a high risk for abusive parenting attitudes; medium (4 to 7) represents the parenting attitudes of general population; and high sten scores (7 to 10) indicates the non-abusive parental attitudes (Bavolek & Keene, 2005). In this study, the internal consistency reliability of the AAPI-2 was tested with 20 parents of one to six year old children. The Cronbach's alpha coefficient obtained for the AAPI-2 was 0.80.

3. Child Abuse Potential [CAP] Inventory (Milner 1986). This inventory was used as an initial participant screening and outcome evaluation of parental potential

of child physical abuse. It is a criterion-referenced inventory. The CAP inventory is a self-report questionnaire and consists of 160 items, 77 of which constitute the abuse potential scale containing six subscales: distress, rigidity, unhappiness, problems with child and self, problems with family, and problems from others. Seventy-seven items of abuse potential scale randomly distributed throughout the questionnaire. In addition to the abuse potential scale, there are three validity scales; a lie scale, a random response scale, and an inconsistency scale. These three validity scales are used to assist in the detection of respondents who attempt to misrepresent themselves on the inventory. The CAP inventory has a third grade readability level and requires 20-30 minutes for completion. The validity of the CAP inventory is well established. Scores in the abuse potential scale accurately differentiate between abusive and non-abusive parents (Milner, 1994). Concurrent validity studies reported that abuse scores showed correlation with several factors such as a high level of parental stress (Haskett, Scott, & Fann, 1995), and physiological reactivity responses to standardized infant cry stimuli (Milner, Halsey, & Fultz, 1995). A recent study supported the static predictive validity of the CAP inventory and the use of it for screening purposes (Chaffin & Valle, 2003).

Internal consistency of the abuse potential scale ranged from 0.92 to 0.95, whereas the split-halves coefficients with a Spearman-Brown correlation for test length for the abuse potential scale varied between 0.93 and 0.99. Temporal stability for one day, one week, one month, and three months intervals were 0.91, 0.90, 0.83, and 0.75, respectively (Milner, 1994). Note, the CAP inventory has been translated into multiple languages and is in use across many cultures as research tool (e.g. as a proxy for child abuse, screening tool, and treatment outcome measure), such as Spanish (Arruabarrena & de Paul, 1992; Bringiotti, Barbich, de Paul, 1998), Greek (Diareme,

Tsiantis, & Tsitoura, 1997), Chilean (Haz & Ramirez, 1998), and Chinese (Chan, Lam, Chun, & So, 2006).

The CAP inventory was translated with the permission of the author (Appendix F). The back translation technique was employed to ensure the accuracy of translation (Brislin, 1970). The first step was forward translation of this inventory into the Thai language by the researcher and accuracy was confirmed by the advisory committee. The second step was back translation of the Thai version into the English version by three bilingual experts who were blinded to the original English version (Appendix G). Then, the back translation version and the original version were compared and checked for the discrepancies. It was found that there were some discrepancies in meaning of the items used in Thai language such as upset, confused, and mixed-up. Discrepant or problematic words were discussed with three experts for modifying until a satisfactory version was reached. Eighteen of 160 items of the Thai version were adapted for understandability and cultural appropriateness.

The response choice of each item of the CAP inventory is either “agree” or “disagree”. Specifically, there were different item weights. Item weights for the 77 abuse potential scale were developed based on the item beta regression weights (Milner, 1986). Scores on the abuse potential scale ranged from 0 to 486. There are two cut-off points; 166 and 215. Based on literature review, the 166 cutoff score produces relatively more false positive (determine a non-abuser as abuser) while the 215 cutoff score have relatively false negative classification (determine an abuser as non-abuser) (Milner, 2006). However, the cut-off score selected should be determined by the intended use of the researcher. The 166 cut-off point was used in this study since it was the intent of the study to capture the maximum number of

potential subjects and misclassification could not lead to stigmatization. An abuse potential score of 166 or higher indicated of greater potential for child physical abuse. In addition, an answer sheet for the CAP inventory using the Microsoft Excel program was conducted by the researcher for preventing error of score computation. In this study, the internal consistency reliability of the CAP inventory was tested with 20 parents of one to six year old children. The Kuder-Richardson 20 [KR-20] reliability obtained for abuse potential scale was 0.90.

Human Rights Protection

This study was approved by the Research Ethical Committee of the Faculty of Nursing, Chiang Mai University prior to data collection (Appendix I). Then, the researcher asked for permission to conduct a research project by sending official letters to the chief executive and staff of the Choengnoen, Natakhwan, and Tapong Subdistrict Administrative Organizations, Muang district, Rayong province.

The researcher provided a full explanation and written description of the study, including objectives, procedures, subject's participation, benefits, potential risks, and the protection of confidentiality to the parents who met the inclusion criteria at child care centers before recruiting them to the study (Appendix J). All potential subjects were informed of their rights to participate or refuse to participate, and to withdraw from the study at anytime. They had an opportunity to ask questions about the study before signing the consent form. Written consent was obtained from each subject prior to data collection. Transportation expense (200 Baht) was paid by the researcher. In addition, blood pressure examination, vitamin $B_{1\text{-}6\text{-}12}$ or other common medications

were offered to all subjects as another means of expressing the researcher's appreciation.

The subjects in the control group also received a full explanation and written description of the study. The researcher informed the staff of child care center to monitor subjects who had high score indicating potential for child physical abuse. At the end of the research project, a three- hour parent education class, parental booklet, and brochures regarding child rearing were provided to subjects in the control group.

Data Collection Procedures

Prior to program implementation, the researcher conducted the following steps to approach both the experimental and control groups.

1. After the approval of the study by the Research Ethics Committee of Faculty of Nursing, Chiang Mai University was obtained; the research purpose and procedures were explained to the chief executive of the Subdistrict Administrative Organizations and the staff of child care centers in Choengnoen, Natakhwan, and Tapong Subdistricts, Muang district, Rayong province.

2. Child care centers were randomly allocated to either the experimental or the control groups in order to reduce extraneous variable in term of treatment diffusion. Regarding the randomization, the researcher made 2 pieces of paper, one piece was marked with the character "E" for the experimental setting and another one was marked with the character "C" for the control setting. Both child care centers were similar in terms of policy and environment and had an equal chance to be assigned

into either the experimental or the control groups.

3. The researcher made initial contact with all of the parents of a 1-6 year old child on the date of school break at the child care centers. The researcher asked for permission to provide information about the study entitled the "Full Love in the Family Protects Your Kids". The parents who expressed their interest and met the inclusion criteria were assessed. A complete verbal explanation about the research objectives, procedures, required participation, benefits and potential risks were described to the potential subjects. The one who agreed to join this study was asked to sign the consent form. The subjects were assigned to the group according to which child care centers they enrolled. None of them knew in which group they were.

4. Demographic data and phone number of parents who joined the study were recorded using the personal record of child care centers. Screening procedures using the CAP inventory were done during the first week prior to program participation. Parents who had an abuse potential score 166 or above were eligible to participate in the study. Then, they were asked to complete the AAPI-2 at the first week prior to program participation by the research assistants who were trained by the researcher.

5. After screening procedures, another child care center was recruited to be the 2nd experimental setting in order to increase to number of subjects. By this mean, three small child care centers that similar to the first experimental setting were randomly assigned. However, both child care centers of the experimental group were similar. Steps of initial contact with potential subjects, an explanation about the study, and screening procedures were done in the 2nd experimental setting.

Procedures for the Experimental Group

After screening procedures, the researcher conducted the following steps to approach the experimental group.

1) The researcher assigned subjects to participate in the small group education session. There were six groups. The number of group members ranged from seven to twelve subjects. Then, the researcher set the appointment dates for the small group education and individual home visit.

2) Four sessions of intervention were conducted by the researcher at the 1st, 4th, 8th, and 12th week. The details of each session are described as follows:

2.1) At the 1st week, the first session of group education was conducted by the researcher. Topics of this session included the challenges of parenting role, parent-child relationships, child development, and child abuse and child rights. During the first twenty minutes, the researcher encouraged subjects to introduce themselves and share their experiences and feeling of being parents as a means of building feelings of group membership. Then, a videotaped presentation of two styles of parent-child relationships (abusive mother and non-abusive mother) was presented. Next, how children feel or think and children's needs were discussed in group. A videotaped presentation of child development was used to increase parental knowledge on child development and child needs. A demonstration of how to respond to child behavior in a positive way by value sharing from subjects was used in this session. Moreover, strategies to enhance parent-child relationships were discussed in group. During the 1st week group education, positive attitudes toward child rearing were enhanced and awareness regarding child abuse and child rights was raised using scenarios analyses.

According to scenario analyses, such child physical abuse case can be preventable and how to prevent it were discussed in group. Most importantly, The Thai Child Rights Protection Act B.E. 2546 (2003) and The Protection of Domestic Violence Victims Act B.E. 2550 (2007) were introduced to increase parental awareness on child rights and encourage them to involve or report suspected victims of child abuse. At the end of this session, the parental booklet was provided and the homework assignment on parental record was explained on how to record.

2.2) At the 4th week, the first home visit was conducted by the researcher. The aims of this session were identifying problems in child rearing and/or child behavior, discussing options for solving the problems, and assessing parental needs and setting the plan for attaining such needs. Subjects were asked to share their ideas and feelings about their parenting role, their children, and their family. Then, the parental record in the last part of parental booklet of each subject was checked. Moreover, undesirable child behaviors and/or parental problems on child rearing were pointed out and discussed. With regard to individual discussion, each subject was assessed and their cognitive process toward child behaviors and/or child rearing was adjusted accordingly. A positive attitude toward child rearing was promoted and alternative child disciplinary techniques such as using logical reasoning, using quiet time, and using planned ignoring were encouraged to use in child rearing practices. In addition to discussion, the researcher observed for signs of child physical abuse, child expression, parental manner toward their child, parent–child relationships, and home environment during the home visitation.

2.3) At the 8th week, the second group education session was started with discussion about homework. Then, the topics of child disciplinary techniques were shared and discussed. How to appropriately evaluate, interpret, and responses toward child's behaviors were analyzed through a videotaped presentation "Love is the 6th Essential Food" and a scenario regarding child disciplinary. The researcher presented the link between parents having a misunderstanding or misinterpretation of their child behaviors with what will happen as a result. By this means, inappropriate parental cognitive process on child rearing and/or child behaviors could be adjusted to positive views and consequently manifesting appropriate parental behaviors. Stress in the family and anger experiences were shared and discussed in group. The strategies to reduce stress and feelings of anger were provided by the researcher. A scene of a soap opera entitled "Sud Rak Sud Doung Jai" was used to enhance positive feeling in parenting role. Wrap-up all sessions were also briefed before finishing the session.

2.4) At the 12th week, the second home visit was conducted for asking individual parents' self- evaluation, identifying parental efforts and successes, identifying their unsolvable problems and/or further needs, setting the plan to achieve their own needs as well as enhancing parental competency in their parenting role. In addition, a brief summary about child rearing and/or child behaviors and an encouragement to continue a more positive parental role were provided. Prior to the home visit, a telephone call was made as a reminder of the appointment.

3. The AAPI-2 and the CAP inventory were administered at the 16th week by the research assistants who were trained by the researcher.

Procedures for the Control Group

Using the AAPI-2 and the CAP inventory, cognitive and behavioral changes were measured at the 16th week by research assistants who were trained by the researcher. The subjects in the control were provided with a three-hour parent education class about child rearing after the program completion or in the 18th week. They were informed that they were in the control group. Moreover, all subjects of the control group were offered the parental booklet and brochures about child rearing. The timeframe for data collection procedures are presented in Figure 5.

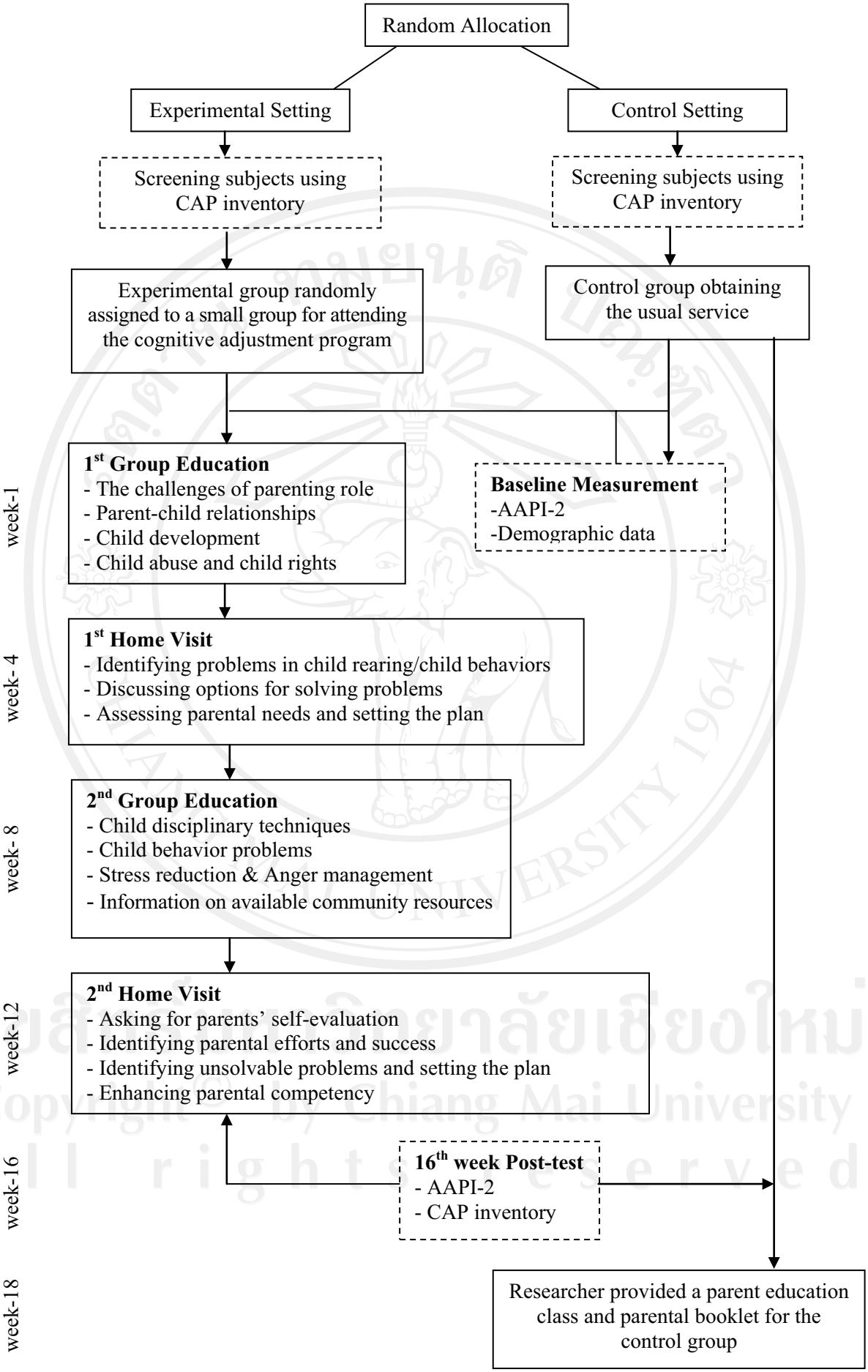

Figure 5. Diagram showing data collection procedures

Data Analysis

Data analysis procedures were conducted according to types of data and objectives of the study. The details of the data analysis are described as follows:

1. The demographic data of subjects were analyzed using mean and standard deviation, range, frequency, and percentage. The Chi-square test or Fisher's exact test was employed to examine the difference in characteristics at baseline between the experimental and the control groups on categorical variables. The independent sample t-test was used to analyze the differences in the means of parent's age, parental attitudes toward child rearing, and potential for child physical abuse between both groups at baseline.

2. Paired t-test was used to compare the differences in the mean score of parental attitudes toward child rearing and potential for child physical abuse at the time of entering the program and at the end of the program in both the experimental group and the control group. Prior to data analysis, all assumptions of t-test including continuous dependent variables, randomization, and normality were considered (Munro, 2005). The Kolmogorov-Smirnov test showed normal distribution (Appendix K: Table K1, Table K2). The results of assumption testing were met and allowed to use paired t-test analysis.

3. Analysis of covariance [ANCOVA] was used to compare the differences in the mean score of parental attitudes toward child rearing and potential for child physical abuse between the experimental group and the control group by adding the pretest as covariates. The assumptions of ANCOVA were tested to ensure a valid

interpretation of this study. The Kolmogorov-Smirnov test showed normally distributed dependent variables. The homogeneity of variances of parental attitudes toward child rearing and potential for child physical abuse were tested using the Levene's test (Appendix K: Table K3). Then, the relationships between the covariate and the dependent variables were tested. Results showed there were robust linear relationships (Appendix K: Table K4). Moreover, the assumption of homogeneity of regression for covariate and the dependent variables were analyzed. Results illustrated there were no interaction between the covariate and the dependent variables or no homogeneous regression slopes (Appendix K: Table K5).