CHAPTER 3

METHODOLOGY

This study aimed to understand the coping process among Thai women during hospital birth. Because of the intricacy of human interaction during this process, a grounded theory research was suitable for the purpose of this study. In this chapter, the philosophical features and background of grounded theory research have been explicated. The description of the method of study including research design, setting of study, population and sample, research instrument, data collection procedure, data analysis, establishment of rigor and human subject protection are also described.

Philosophical Features and Background of Grounded Theory

Grounded theory (GT) research was firstly generated by Barney G. Glaser and Anselm L. Strauss under the struggle of the positivist paradigm in sociology in 1967. This methodology is described as a general method of comparative analysis for generating a theory based on the data (Glaser & Strauss, 1967). The originators argued that this methodology closed the gap between theory and practice. The term grounded theory reflects that theory emerges from the data by systematic collection and analyzing through the research process (Strauss & Corbin, 1998). The aspiration of this methodology is to construct a middle range theory by collected data from field work, in order to merge theory and practice (Strauss, 1987).

Early grounded theory research did not clarify the relationship and interacting effect between the participant and the researcher, in which reality is "out there" to be

discovered by the researcher. Charmaz (2000a, 2000b, 2002) considers that traditional grounded theory implies objectivism, which searches for the objective reality or fact. Grounded theory research has been modified according to ontological alteration from positivist to constructivist (Charmaz, 2000b). Charmaz endorses constructivist grounded theory that places emphasis on the meaning of experience as conceived by participants. Charmaz (2000b) regards the realities as only the reconstructions of experience, not the original experience. They are the narrative evolving from participants' self-interpretation (Charmaz, 2000b), subsequently co-constructed by researcher and participants. Grounded theory researchers require the addressing of reflexivity and the relationality of the researcher-participant interactive effects (Hall & Callery, 2001). Reflexivity explicates the influence of researcher-participant interactions on the research process. Relationality describes power and trust relationships between researcher and participant.

Grounded theory has its roots in American pragmatism and Chicago sociology, proposing that social interaction and social process are focuses of constantly-changing social life (Strauss, 1987). The background of grounded theory development include several reasons, as the following: (a) The necessity of field study; (b) The importance of theory created from data of social action; (c) The complexity and variability of human action; (d) The belief about active interacting roles of persons for problem solving; (e) The understanding of meaning-based action of persons; (f) The understanding of constantly changing meaning through interaction; (g) A sensitivity to the nature of event as dynamic process; and (h) A consideration of conditions (structure), action (process), and consequences interconnecting (Strauss &

Corbin, 1998). By focusing on the social process of human interaction, symbolic

interactionism is conceived of as a theoretical basis of grounded theory methodology.

Blumer (1969) has argued that human behavior is not merely the product of

various psychological and sociological factors. He has referred to George Herbert

Mead's categorization of social interaction into two levels: non-symbolic and

symbolic interaction (Blumer, 1969). Non-symbolic interaction involves reflex

reaction without interpreting. In contrast, symbolic interaction involves a process of

self-interaction in order to interpret the meaning of a certain object interacted to

before. Objects could be categorized into three groups: physical objects, social

objects, and abstract objects (Blumer, 1969).

According to Blumer (1969), people in a society or human groups are

interacting in a process of continuous activity in which they run into multiple social

connections. They approach each other differently through the process of

interpretation. The interpretive process guides individual's interaction by the

different sets of meanings. Blumer (1969) proposed basing the nature of symbolic

interactionism on three premises: (a) Humans act toward things on the basis of the

meanings that things have for them; (b) Such meanings arise out of social interaction;

(c) These meanings are modified through human's interpretative processes.

Symbolic interactionism explains how people endeavor to fit their roles to

those of others. In a society, members' expectations and influence shape the

development of each individual's social self. During early lifetime, the significant

others in an individual's life act on his or her role model, so learning occurs as a result

of acting according to others' expectations. Finally, the individual can take a number

of social roles simultaneously (Holloway & Wheeler, 1996). Therefore, members of a

society take action according to their interpretations from the language and
appearance of others.

According to Charmaz (2002), symbolic interactionism is harmonious to
constructivist grounded theory because of the following assumptions: (a) realities are
multiple; (b) data are co-constructed by the researcher and participant; and (c) the
participants' worlds affect the researcher. Therefore, the constructivist grounded
theory researcher pursues the understanding of the social process and meaning from
participants' experience as views rather than hard facts (Charmaz, 2002). The
philosophical underpinning of this study is constructivist, based on symbolic
interactionism.

Methodological Features of Grounded Theory

Basically, the specific major methodological features of grounded theory that
provide the theoretical basis for this study are as follows: (Charmaz, 2000a; 2000b;
2002; Strauss, 1987; Strauss & Corbin; 1990, 1998)

1. Inductive and deductive approaches. Grounded theory methodology is both
inductive and deductive in approach. From the beginning, small bits of data are
compared and contrasted, then are grouped into categories according to their
properties. Hypotheses emerge from asking questions of the data. This beginning
step is called the inductive approach. Then emerging categories, properties, and
hypotheses are checked out against incoming data, reflecting a step that is more
deductive (Strauss & Corbin, 1998). Therefore, data collection and analysis are
simultaneous in grounded theory.

2. Researcher as an instrument. Although grounded theory methodology

provides the specific procedures to the researcher, the researcher's capabilities are

also very important. These abilities include self-reflection, awareness of prejudice,

abstract thinking, creativity, flexibility, sensitivity to the words and actions of

participants, and commitment to work (Strauss & Corbin, 1998). During interviews,

the researcher is required to balance between hearing a participant's story and probing

for processes, because quality of data in qualitative research heavily relies on the

researcher's capabilities as well as researcher-participant interaction. The researcher

requires training and skills before actual interviewing. Thus the researcher practiced

herself by taking five pilot interviews following the interview guide. Also Strauss and

Corbin (1998) emphasized that the researcher should understand the logic

underpinning these procedures and be able to apply them flexibly and creatively.

3. In-depth interview in grounded theory. The use of interviews in grounded

theory is an important method for gathering qualitative data. Charmaz (2002)

describes the differences of interview between objectivist and constructivist grounded

theory. For objectivist grounded theory, interview questions are the methods for

obtaining facts, whereas for constructivist grounded theory, the interview provides the

co-constructive views of researcher and participant rather than hard facts.

Additionally, the constructivist grounded theory interview also pays attention to the

context of specific researcher-participant interaction during interview, the context of

the individual's life, the context of research problems within the setting and society,

and careful use of the participant's language. The philosophy of interview technique

in this study is constructivism, for which the researcher believes in co-constructive

views of data, and tries to reflect the interactive effect between the participants and the researcher.

For the interaction during interview, Charmaz (2002) places an emphasis on the comfort of participants by asking them slowly to encourage their reflections. The researcher should carefully choose questions that both explore the interviewer's topic and fit the participant's experience. Another important suggestion is that the ending of the interview should be positive for participants. It should not suddenly stop or end up with a negative feeling.

In addition, grounded theory interview should involve multiple interviews in order to achieve depth, detail and resonance (Charmaz, 2002). The initial interview guide should both be broad enough for the research topic and fit the participant's experience. As the research process proceeds, later the range of interview guides should be narrowed down according to the emergent theoretical framework. In this study multiple interviews were obtained with each participant, but the interview guide was the same throughout the study because supplementary data for elucidating the core category could be obtained.

4. Data analysis. The process of data analysis begins at the step of description, which already implies concepts. The descriptive details are either consciously or unconsciously selected on the basis of their importance to the researcher. Therefore, description is a step of interpretation as well. The next step is the conceptual ordering that classifies events and objects in accordance with various dimensions. The final step of analysis: theorizing is the act of constructing an explanatory diagram that integrates related concepts from data (Strauss & Corbin, 1998).

Data analysis is an interactive process between the researcher and data

obtained by asking questions of the data (Charmaz, 2000a; Strauss & Corbin, 1998).

A basic rule for data analysis is to study the data (Charmaz, 2000). Concepts and

theories grounded in the data are derived from the back and forth process of data

analysis, including open coding, axial coding, selective coding, asking questions,

making comparisons, writing memos, doing diagrams, and using sensitivity (Strauss

& Corbin, 1998).

Coding is the process of understanding the data (Schreiber, 2001) by creating

the codes or naming concepts according to their meaning in the data (Charmaz,

2000a). The first-level coding or open coding is an initial step to identify all tentative

concepts or categories from the data (Charmaz, 2000a; Schreiber, 2001; Strauss &

Corbin, 1998). The data are broken down into discrete pieces of ideas, events, and

acts and then named for grouping the similarities. The second-level coding or axial

coding is the process of relating categories to subcategories in order to describe the

relationship between categories (Strauss & Corbin, 1998). The third-level coding or

selective coding is the process of defining central or core categories and refining the

theory by writing a storyline to describe the pattern of phenomena (Strauss & Corbin,

1998).

Asking questions and making comparisons were done throughout the process

of data collection and analysis in this study. Four types of questions consisted of

sensitizing questions, theoretical questions, practical and structural questions, and

guiding questions (Strauss & Corbin, 1998). The questions look like the following:

What is going on here? What would happen if…? Making comparisons are

important characteristics of grounded theory. There are two types of comparisons: the

comparing of incident to incident to classify them, and theoretical comparisons to stimulate thinking about properties and dimensions and to direct theoretical sampling (Strauss & Corbin, 1998).

According to Charmaz (2000a, 2000b, 2002), coding includes at least a two-stepped process: initial or open coding and focused or selective coding, and these should be in action codes. Focused codes are more abstract and cover the most data. Categories are created from focused codes and subsequently related to an analytic framework.

Throughout the research process, the researcher needs to maintain theoretical sensitivity (Strauss & Corbin, 1990) or sensitivity (Strauss & Corbin, 1998). Sensitivity refers to competence to see the obscure meaning of data in order to assign meaning to the data (Strauss & Corbin, 1998) and build the theory from the data (Schreiber, 2001).

Also memo writing is important comprising continuous note-taking of thought and questions all through the research process (Schreiber, 2001). Data analysis in this study followed Strauss and Corbin (1998) and Charmaz (2000a, 2000b, 2002, 2003).

5. *Theoretical sampling.* The early participants are selected purposively because of their knowledge of the problem being studied. Categories and properties from the data guide further data collection. Later participants are sampled based on the emerging findings from the data analysis. This is a specific sampling method for grounded theory called theoretical sampling. Theoretical sampling is sampling for the events that will disclose maximum variations among concepts (Strauss & Corbin, 1998). Charmaz (2002) proposes that theoretical sampling should be conducted after concepts have already emerged in order to protect forced analysis. In this study the

researcher also performed theoretical sampling according to the questions from data analysis. For example, when a couple of participants were private clients or "special cases" of an obstetrician and they obtained narcotic drugs for pain relief by obstetrician's decision, the researcher asked whether a public client's strategies for pain relieving would be different. Actually, all participants were selected in the expectation that they would teach the researcher about their coping with childbirth. The participants were not chosen by statistical random sampling.

6. Theoretical saturation. According to Strauss and Corbin (1998), data collection and analysis will be continued until each category is saturated. Theoretical saturation is the point in categorization that there are no new properties, dimensions, or relationships emerging during analysis (Strauss & Corbin, 1998). For this study, the data were saturated at the eighteenth participant because no new properties or subcategories emerged after that point.

7. Technical and non-technical data. According to Strauss and Corbin (1998), qualitative research data can come from multiple sources, including technical and non-technical data. Technical data are obtained directly from participants through interviews, participant observation, or field study. Non-technical data are obtained from publications, letters, diaries, other documents, and the researcher's experiences. However, Charmaz (2002) has a preferred form of interview, noting that, "Interviewing is a flexible, emergent technique; ideas and issues emerge during the interview, and the interviewer can then immediately pursue these leads" (p.676). For this study, data were mainly obtained from the interview and participant observation of the setting, not from non-technical data.

Research Design

This qualitative research employed grounded theory methodology, mainly guided by Strauss, and Corbin (1998) accompanying with Charmaz's (2000a; 2000b; 2002) constructivist grounded theory techniques and procedures. Grounded theory is appropriate for learning how an individual understands and deals with potential or existing health problems (Schreiber, 2001). Constructivist grounded theory approach was pursued in this study for the reason that the purpose of this study placed emphasis on understanding the women's coping process with childbirth and the researcher's belief in constructivist paradigm.

In this study, the researcher employed in-depth interviews in addition to participant observation as a method of data collection. Data collection and data analysis took place simultaneously. The procedures of data analysis, such as coding the data, making comparisons, asking questions, memo writing, theoretical sampling, diagramming and storyline writing were employed as the specific methods for grounded theory research.

Setting of Study

This study was performed in a public general hospital in the central region of Thailand. This public hospital was allocated the policy of service and health care management by the Ministry of Public Health. Health service was supervised through the standard of hospital accreditation. The hospital had 506 inpatient beds in the fiscal year 2004. Maternity care included more than 3,000 births yearly, covering by six obstetricians, 11 professional nurses and five aids. Three of them alternately worked on eight-hour shifts from 4 p.m. to midnight, or midnight to 8 a.m. Four or

five of them worked between 8 a.m. to 4 p.m. Hence, there was generally more staff during the day-shift than night-time. An obstetrician investigated women for high-risk and complications on the daily round in the morning. An obstetrician was on call as a consultant from 4 p.m. to 8 a.m. next day. There were nursing students practiced in labor-delivery unit during the period of study from 8 a.m. to 4 p.m. occasionally. In general, a student attended one woman and conducted the delivery under supervision of a nurse-midwife or a nurse-instructor. By hospital policy, husbands and relatives were not permitted to come into labor-delivery unit, except for some teenage mothers who could not control their behavior. The parturient women could go outside to meet others in front of the labor-delivery unit.

<div align="center">Participants</div>

The participants in this study encompassed healthy first-time parturient Thai women who had been expecting vaginal birth. Initially two participants were recruited purposively from the postpartum unit. Subsequently, the participants were purposively chosen according to emerging questions from data analysis. This method was understood as theoretical sampling by the researcher. For example, in order to compare the birth experience of women who gave birth during the day to those who gave birth during the night, participants were chosen according to their birth time. In order to compare the experiences of women who perceived birth in different ways, participant selection was according to a variation of several characteristics of birth, such as satisfaction with birth, length of labor, and labor support reception. Each eligible participant was asked to participate in the study while she was fully conscious and able to make a decision.

The number of participants in grounded theory depends on saturation of all categories (Strauss & Corbin, 1998). In this study no new category emerged after the eighteenth participant data analysis. Morse (2000) recommended that the number of participants should depend on a variety of aspects, including the scope of the study, the nature of the topic, the quality of data, the richness of data from each participant, the number of interviews per participant, the use of shadowed data, and study design. The principle on the scope of the study included the broader scope, which needs much more data to reach saturation. For the nature of the topic being studied, if it is obvious, the themes emerged easily, and fewer participants are needed. Regarding the quality of data, it relates to the scope and nature of the topic and the characteristics of participants. Then again, the study design allows more interviews per participant, which can generate more data than one interview provides. Thus, fewer participants are required. Finally, shadowed data means stories of others that the participants referred to. In this study, shadowed data from the seventeenth participant reported that a woman asked for help by seizing the participant's hands. Then the researcher returned to previous received data for seeking out the data about *"asking help from a friend."* Morse (2000) has suggested that a grounded theory study through two to three unstructured interviews per participant, may need 20 to 30 participants. For this study, the number of participants was 20 because data were saturated at 18 participants. Therefore, the number of participants in this study also confirmed Morse's (2000) suggestion. One woman refused to participate in the study and one participant dropped out after the first interview because of unavailable time. Final data were obtained from 20 participants in 41 interviews.

Participant Selection

A purposive sample of two initial participants was recruited after birth. The following participants were chosen by theoretical sampling. Each participant was purposively selected based on the questions or hypotheses from earlier incoming data in order to add further understanding of the phenomenon. Inclusion criteria were as follows: (a) first-time Thai pregnant women expected to give or just having given birth vaginally in the hospital; (b) both mothers and babies were healthy and normal; (c) the women granted permission for twice tape-recorded interviews on their childbirth experiences.

Exclusion criteria were as follows: (a) The woman had a cesarean birth, or later diagnosed as having a high-risk birth; (b) The baby had complications, including intrauterine growth retardation, fetal anomalies, or fetal demise.

Methods of Access and Recruitment

The researcher scanned the lists of first-time laboring women from the document in the labor-delivery unit. The medical document of each woman was reviewed. Then the researcher chose one or two women who met the inclusion criteria, then introduced herself to the women and informed them according to the consent form (Appendix A). At the beginning of each interview, the researcher repeated described again the purposes of study then asked for a written consent from the participants. The participants were informed that they could withdraw from the study at any point. Some women hesitated because they had just gave birth for the first-time. They were anxious about their mistakes during birth. The researcher reassured them that the interview was the researcher's attempt to learn about birth

from the women's point of view. The researcher also answered all questions, then waited for their decision-making. Five women (case 7 to 11) were approached during labor, before giving birth, for rapport and taking participant observation. Two of them were asked for participation during labor and three were asked after birth.

Research Instrument

The research instruments included an initial interview guide, a demographic background questionnaire, and an audiotape recorder. In qualitative research, the researcher herself is an instrument. Therefore, the background of the researcher and researcher-participant interaction informed the results of this study. Observation of environment and general practice in labor and during interview were obtained in the field notes.

Background of the Researcher

The researcher is a middle-aged Thai woman who has been a nurse-midwife in an urban hospital from 1981 to 1992 and has been a nurse instructor in the Department of Maternal and Child Nursing at a school of nursing from 1992 to 2000. Therefore, the researcher has worked in the labor-delivery unit for 19 years. In the researcher's background of work, almost all the women she cared for gave birth in a public hospital without family presence or support. Only members of hospital staff were privileged to have a family presence during childbirth. Generally, the primary caregiver in the public hospital was a nurse-midwife. An obstetrician was involved only for abnormal childbirth. Usually, nurse-midwives could not provide one-to-one labor support for women because of various reasons, such as the system of staffing, the overload of cases, and the culture of care. In general, midwives conduct normal

childbirth in public hospitals. However, women cannot obtain continuity of care from the same midwife throughout their childbearing period because of the disconnections of the maternity care system.

The researcher had two vaginal births, delivered by obstetricians in her previous workplace in 1991 and 1994. Reflecting back on her previous childbirth experiences, despite the most vigorous pain, she was satisfied with the climate of love and care from all familiars: husband and professional colleagues. The first birth was induced labor causing by premature leakage of the membranes and ended up by vacuum extraction due to prolonged second stage accompanied by persistent occipital posterior. The second birth was spontaneous delivery after induced labor. She also received intravenous narcotic drugs for pain relief in both vaginal births.

Interview Guide

The researcher created the initial interview guide from the research questions, literature review and suggestions of experts in childbirth care and qualitative researchers. The interview guide started from grand tour questions which were succeeded by more focused questions. Initial interview guides include five questions, as in appendix B.

In grounded theory research, follow-up questions are dynamic according to the emerged issues. The follow-up questions were the questions to broaden the understanding about categories in a specific condition for probes, such as the questions of "where", "when" (Charmaz, 2002).

Maternal Pregnancy and Birth Recording Form

The Maternal Pregnancy and Birth Recording Form includes personal profiles and family status, maternal impressions on pregnancy, place and number of prenatal care visits, childbirth expectations and preparations, feelings of childbirth and obstetrical records (details in appendix C). These data were planned to be asked about after a tape recorded in-depth interview, depending upon opportunity. The researcher attempted to obtain these data by talking together with the subject in a natural manner, so they were not heard on the audiotape. The obstetrical records were obtained from both patient charts and talking to the participants.

Data Collection Procedures

Data collection procedures relied mainly on in-depth interviews. Participant observation was conveniently performed when gathering data about women's reaction to labor pain and their interactions with other persons and the environment. Field notes and reflexive journals were written during the process of data collection and analysis. The pilot tape-recorded interviews with five first-time mothers were conducted in order to gain more confidence. The processes of data collection and analysis were concurrent and modified throughout the research process against incoming problems. For example, the plan of data collection relied mainly on the interview accompanying participant observation of some participants. Recruitment of participants was planned for both parturient women and postpartum women. The researcher found that observing a lonely painful woman giving birth without providing care was rather stressful, and a woman would be excluded later if she ended up by cesarean birth. Thus the researcher recruited only postpartum women. At the

beginning of this study, the researcher learned how to build relationships with the participants and their relatives, how to introduce herself, how to choose participants, how to draw a map of participants' residences, how to make appointments for the second interview and how to solve accidental problems. Where conducting most of the second interviews at participants' residences were concerned, traveling and safety were the issues of concern for participant selection.

In-depth Interviews

Data collection and analysis were concurrent. Preliminary interviews with each woman were conducted within 48 hours after childbirth in a private room or private area in the postpartum unit. The subsequent interview with each woman was conducted within one month after childbirth, mostly in the participant's home. Two participants had the second interview in hospital by their preference. Each interview section lasted 45 to 90 minutes. The length of each participant's interview varied from two and a half to four hours. Total duration of the recorded interviews was 31 hour 52 minutes. Average time was 46.6 minutes per each recorded interview and 95.6 minutes per participant. Nineteen participants were interviewed twice and one was interviewed three times because of her outstanding experience. Finally, most of the data were obtained from twice tape-recorded interviews for each woman. Five participants' behaviors, environments of childbirth and surrounding people were observed and written up in field-notes. Field-notes including the interview climate, the researcher's feelings and the women's actions were recorded as soon as possible. The researcher wrote memos about thoughts and questions about data in many styles. Additionally, a reflexive journal also kept. All 41 printed verbatim transcripts on 583 pages of interview data were generated by the researcher.

The researcher made the relationships with the participants to gain mutual interaction. It was easier to gain mutual interaction if the researcher helped them take care of babies and share information about her previous childbirth experiences. When participants said that they had no experiences to share, it might reflect negative feelings about childbirth. The initial interview was conducted when participants were ready to talk. Some women said that they were ready to talk only because of their politeness. The researcher had to observe the clues about getting ready to talk and wait for the appropriate moment. It was not easy to get an uninterrupted one-hour interview. The babies mostly were present during the interviews. Some mothers left them with relatives if the babies were sleeping. All interviews were tape-recorded with permission; subsequent printed verbatim transcripts were accomplished by word processor. A follow-up interview was planned before the participants' leaving hospital. Interviewing at home was more relaxed than in hospital. The researcher has learned that interviewing is a somewhat challenging and emotional activity. Mutual trust and respect are important for an interactive interview.

The evidence from multiple interviews demonstrated the constructivist paradigm that reality was created from an individual's perspective. Two participants reversed their perceptions of childbirth in the second interview after they had talked together. The only one participant who was not proud of herself after childbirth desired to reverse her words to the opposite after one month. The evidence through the process in this study has caused the researcher to become aware of co-construction roles in the qualitative research.

Another issue of interviewing is being asked the questions back. There were many participants who asked the researcher if what they did during childbirth was

right or wrong. They really needed to be sure that they knew the answers if someone asked them about childbirth practice. It was appropriate for them to ask the researcher who was claimed to be an expert. The researcher answered their questions as conscientiously as possible. Later this issue was referred to by Oakley (1999), and Hall and Callery (2001).

Participant Observation

The researcher was granted permission from hospital and participants to carry out observation in the setting of study at anytime. However, she could perform observation of general practice in the labor-delivery unit between 7 a.m. and 6 p.m. and periodically observed some participants during labor. The researcher also observed the behavior of participants, events and surrounding people during interviews. The participant observation was performed in participant cases 7, 8, 9, 10, and 11 in order to obtain more understanding of participants' childbirth experiences. The researcher learned that participant observation without clarification might lead the observer to misunderstanding. Because of ethical issues and conflicts, the researcher mostly gave verbal support and advice to lonely painful participants when taking participant observation. As reflected back, participant observation without contamination was somewhat difficult as is mentioned in Jordan's (1993) illustration in her book entitled, "Birth in Four Cultures". It was for the reason that the researcher assigned code only to interviewed data, and kept field-notes from participant observation for further understanding the context of childbirth.

Data Analysis

Data analysis in this study included coding, memo writing, reflexive journal writing, and storyline writing and diagramming. The researcher basically believes that data analysis in qualitative research is an interacting process between the researcher and the data and all analyses are tentative. Not surprisingly, data analysis was driven back and forth and several tentative diagrams were drawn. Data analysis was not a step by step process. Understanding the data presentation was facilitated by absorbing oneself into the data. Data analysis in this study was made explicit as follows.

Coding was the process of assign a name to each bit of data. The name indicated the meaning according to the frame of the research questions. The researcher sought out participant's viewpoints of childbirth and participant's action for dealing with that viewpoint. In the beginning of the coding process, more than 50 open-codes were placed on data by cutting and pasting. Each data bit from 20 participants was cut from each transcript and was pasted into the data table of each case by the word processing program. Codes were modified many times in accord with new data. Several clusters or tentative categories of codes were emerged, including fear, fear management, expectation about birth, viewpoint of birth, decision-making of birth method, pain, pain management, result of pain management, feeling, the pushing event, interaction, baby, husband and family, results from childbirth experiences, and resources of childbirth coping.

Memoing was commonly written as researcher's thought about the data. Memoing was written when comparing incoming data to the existing code along with asking questions of *'why, how, and then what.'* A Code note or memo was written in

each bit of the data during open coding. Making senses of data could be grasped by asking questions, comparing incidents, and writing memos. Hence, coding was rearranged by grouping the same meaning of data into the same code. For example, *"I had terrible backache as if my back would be broken." (Case 6, p.136)* was coded as *"backache"* in the beginning. Later it was recoded to *"pain: location- - backache"* because this bit of data specified the location of pain. *"Pain"* was classified as a category, whereas *"pain location"* was classified as a property of *"pain"* and *"backache"* was classified as a dimension of the property *"pain location."* When codes could be grouped into categories, coding was easier.

Axial coding was employed by linking subcategories to a category. Causal conditions were women's perception of childbirth as *"fear"* and *"suffering."* Fear of the baby being unhealthy and fear of pain and difficult birth were linked into the categories of fear. *"Characteristics of labor pain"* and *"reactions to labor pain"* was linked into the category *"suffering."* Actions included five categories of coping: *"building hope"*, *"self-preparing for childbirth,"* *"self-encouraging,"* *"self-managing with labor pain"* and *"seeking encouragement and help."* *"Hope for a normal and healthy baby"* and *"hope for giving natural birth"* were linked as subcategories of *"Building hope."* *"Learning about childbirth,"* *"mind-preparing"* and *"seeking assurance"* were linked as subcategories of *"Self-preparing for childbirth."* *"Adhering to the baby and family,"* *"positive thinking,"* *"enduring,"* *"thinking of supernatural power,"* and *"comparing to other parturient women"* were linked as subcategories of *"Self-encouraging."* *"Moving and changing positions,"* *"holding objects,"* *"Effleurage, compression and massage,"* *"breathing techniques and concentration"* and *"crying"* were linked as subcategories of *"self-managing*

with labor pain." "Husband and family," "health care providers," and *"other parturient women"* were sources of *"Seeking encouragement and help."* Intervening conditions included *"loving baby"* and *"being loved." "Feeling glad," "feeling relieved,"* and *"feeling proud"* were linked as subcategories of *"self-fulfillment"* as a consequence.

In selective coding, the researcher attempted to identify a central or core category by writing the story of all women and drawing diagrams. The researcher read all stories of women again and again in order to draw a diagram of each participant and concluded all into one diagram. Next, details of data in each subcategory were grouped by comparison, and then were subcategories in the diagram filled by asking questions of women's perception and what actions women performed. Relationships of categories were understood by asking certain questions of the data. The chosen core category to answer the research questions was, *"Coping with childbirth by loving baby and being loved"* because it appeared recurrently in the data and linked to all major categories. By this time, the findings of this study were not concluded as a theory. However, the data portrayed only what women thought, what happened during the childbirth process of Thai women and what helped them go through childbirth. These were enough answers to the research questions.

Struass and Corbin (1998) suggest maintaining a balance between objectivity and sensitivity by three main procedures, including making comparisons, asking questions and sampling on the basis of emergent concepts. The researcher found that these three procedures were spontaneously integrated when data collecting and analyzing were coincident. Furthermore, discussion with someone balanced the sensitivity and objectivity of the researcher. Throughout the research process,

periodical discussion of analysis and findings with the advisors was done to enhance

the researcher's sensitivity and check agreement of the interpretation. Also regularly

discussion with a doctoral student who had been working in a grounded theory

research in order to share ideas with each other was very helpful.

Establishment of Rigor

Rigor of research is essential for ensuring that the research grants an addition

to existing knowledge through its contribution to theory, explanation of phenomena,

or addition to inquiry methods (Meadow & Morse, 2001), which imply the worth and

usefulness of the study. In general, validity refers to the truthfulness of results,

whereas reliability refers to consistency or stability of results. Lincoln and Guba

(1985) and Sandelowski (1986) have recommended the four familiar criteria of rigor

in qualitative research: (1) credibility, (2) transferability or applicability or fittingness,

(3) dependability or auditability and (4) confirmability or neutrality; which are

compatible to (1) internal validity, (2) external validity, (3) reliability and (4)

objectivity, in consequence. Beck (1993) has also proposed the three criteria of

establishing rigor, including credibility, fittingness and auditability. These

recommendations are similar, thus establishing of rigor in this study followed both

Lincoln and Guba's (1985) and Sandelowski's (1986) strategies.

Establishing Credibility

Establishing credibility as internal validity in this study, prolonged

engagement, triangulation, and peer debriefing were applied. Prolonged engagement

was maintained by the researcher employing enough time with each participant to

gain trust and obtain full understanding of their childbirth experiences (Lincoln &

Guba, 1985). Data collection accompanied by a data analysis period had been

continued for twelve months as prolonged engagement in this study. The researcher

established rapport by talking about the participant's baby and sharing her childbirth

experience when she was asked. Moreover, the researcher addressed the participants

simply word in order to reduce social distance between the researcher and

participants. Hammersley and Atkinson (1995) explained data-source triangulation as

the comparison of data of the same phenomenon but obtained from different phases of

field work. In this study, applying both multiple interviews and observation of birth

setting lead to some degree of data triangulation.

According to Sandelowski (2002), member checking is participants'

confirmation of the researcher's conclusions about them. The problem includes

members forgetting their words, regretting what they have said or wanting to change

their mind (Sandelowski, 2002). Thus, a full member check was not performed in this

study. Although confirming the emerging codes with all participants was not

performed as member checking, the first interview transcripts were read by many

participants and later discussed the findings were discussed with one participant. In

this study, peer-debriefing by reviewing on the data analysis presentation in order to

check credibility of research results by outsiders was set up once. The final results

including assigned data in each category and the model were justified by the doctoral

dissertation committee and another two experts in qualitative research as peer

debriefing.

Establishing Transferability or Applicability or Fittingness

Transferability as external validity in qualitative research can be ensured only

by thick description (Lincoln & Guba, 1985) because the findings cannot be

generalized to others by methodology. Morse (1999) argued that the findings from

qualitative research are generalizable by ensuring that theory is comprehensive,

complete, saturated and covers the negative cases. Thus, the theory is applicable to

all similar situations and problems, despite different demographic characteristics of

the groups, such as becoming a teacher can be transferred from becoming a nurse

(Morse, 1999). In this research, the researcher has illustrated the details of

participants, settings and process of study, and the findings so that readers can justify

applicability.

Establishing Dependability or Auditability

Dependability as reliability refers to consistency of findings. Auditability in

this study was achieved by pursuing the decision trail in the study, including field

notes and reflexive journals, memos and diagram during data collecting and

analyzing.

Establishing Confirmability

Confirmability as objectivity is the criterion of neutrality or freedom from bias

in the research process and findings, which is achieved by auditability, truth value,

and applicability. The strategies for ensuring neutrality are audit trail and reflexive

journal writing (Lincoln & Guba, 1985). Audit trail, a documentation of the

researcher's decisions, options and insights of subjective interpretation, was

established by keeping all documentations of the research processes, such as field

notes, memos, diagrams and transcripts, which could be randomly checked.

The researcher also maintained reflexive journal writing. Reflexivity and relationality, including illustration of the participant-researcher interaction and relationship, were also explicated in this report.

Human Subject Protection

The three basic ethical principles for human subject protection include (a) respect for person, (b) beneficence, and (c) justice (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). These principles are ensured through three practices: (a) the voluntary participation of the subject, (b) the balance of risk-benefit ratio, and (c) the fair selection of research subjects.

Practically, this study took place under the approval and control of the Ethics Review Committee of the Faculty of Nursing, Chiang Mai University. All participants in this study were voluntary. One woman refused to participate and one woman declined after the first interview because of inconveniences. Regarding the risk-benefit ratio, several benefits of sharing birth stories include having a chance to discuss feelings of birth experience and having a chance to understand her own strength (Callister, 2004), and most of mothers prefer talking about birth to the midwife who delivered them (Olin & Faxelid, 2003). As for the risk, women who are dissatisfied with childbirth may feel unhappy when talking about it. In this study, one woman expressed deep sorrow about her childbirth experience. In this case, the researcher attentively listened to her story without interruption or judgment until she calmed down. As to Charmaz's (2002) suggestion about ending the interview; the researcher carefully closed the interview with normal conversation and a positive tone of emotion, such as teasing, praising their baby, and expressing appreciation.

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Regarding fair selection of research participants, all participants were selected without prejudice, on the basis of their characteristics of having the first birth naturally.

The proposed participants were both verbally and in writing informed about the purpose and procedures of the study and were assured of the confidentiality, privacy, and the right to withdraw from any point of the study. Risks and benefits were described in the consent form. Participants were asked for written consent. The names of each participant did not appear in transcript. Tape-recording without participants' name was granted permission from each one before recording. All recorded tapes were kept in a locked drawer and will be destroyed in the next five years. Participants received a compact disc of classical music for the baby as a souvenir.