CHAPTER 3

METHODOLOGY

This was a qualitative study using grounded theory methodology. As a method to investigate phenomena important to nursing, grounded theory was chosen as the most appropriate for this study for several reasons. Grounded theory focuses on the discovery of new theory. It can explain phenomena in the social world (Glaser & Strauss, 1967) as well as the results of multiple data collection methods. Grounded theory diminishes bias by increasing the wealth of information available to the researcher (Hardiman, 1993). Grounded theory meets the need for more middle-range theories in nursing that can be empirically tested. This is one reason for using grounded theory to conduct scientific investigations of phenomena important to nursing. Additionally, the use of grounded theory methodology is used to study particular phenomenon in a natural setting by examining in in-depth fashion the practice, behaviors, belief and attitude as the normal function in real lives. This will support the generated theory that is likely to be intelligible and usable by those in the situational study, and it is open to comment and correction by informants (Hardiman, 1993). Finally, grounded theory is useful when phenomenon, in terms of the individual's point of view, has not been fully identified, or when the phenomenon has not been previously investigated, has limited information (Streubert & Carpenter, 1995) and is particularly appropriate for studying complex areas of human behavior and social lives where little research has been done (Chenitz & Swanson, 1986). As little is known about the perceptions and management of everyday life among Thai

men with paraplegia, grounded theory methodology is well-suited to explicate the social and psychological process through which Thai men live with paraplegia.

Roots of Grounded Theory

In 1967, grounded theory as a research method was explicated by two socialogists, Borney Glaser and Anslem Strauss (Glaser & Strauss, 1967), who were at that time members of the Chicago School of Sociology. They developed both a new philosophical approach and a method to identify basic social processes within the context in which these processes occurred (Morse & Field, 1996). Grounded theory is rooted in the symbolic interactionist school of sociology, which is concerned with understanding the meaning of events for people in everyday situations and with understanding the symbols they use to convey this meaning (Baker, Wuest, & Stern, 1992). Symbolic interaction (SI) is the study of human beings interacting symbolically with one another and with themselves, and in the process of that symbolic interaction making decisions and directing their streams of action (Charon, 1995). This theory has useful concepts to aid the work of exploring the person's self in interaction with others in the sub-cultures of society, and for analyzing processes within those interactions (Chenitz & Swanson, 1986; Walker, 1996).

SI is a sociological perspective based on the work of Cooley, James, Mead, and Blumer (Crooks, 2001). Relying on the work of Mead, one is able to become and object to oneself through the words "I" and "Me"(Bowers, 1988). The "Me" component is conceptualized as the object of self-reflection (self as object). The "Me" component of the self experiences doing, thinking, acting, interacting and being, in multiple social contexts, from the time of birth. The "I" component is the

active, interactive, and dynamic, which interprets social cues from the environment and attempts to understand how others view the "Me" of himself. This is done through an ability to imagine oneself in other social roles, to take the role of the other and to have an internal dialogue with ourselves (Walker, 1996). Human behavior can be viewed as a series of initiations of acts by the "I" and acting-back-upon the act by the "Me" (Thampanichawat, 1999).

Construction of a personal biography develops through the observation of others, life experiences, reflection within, and discussion with others. Central to one's developing biography is the "Self"(Crooks, 2001). The "Self" was viewed by Blumer (1969) as a uniquely human attribute developed through a continuous process of social interaction and a human being can be an object of his own action. Charon (1995) described that the "Self" arise from symbolics action by others toward the actor. Others use symbols to talk, encourage, restrain, identity, and describe the actor. The actor takes these same symbols to act back on himself. The human being comes to understand who he is through using symbols, throughout life continuously uses symbols in all actions taken toward self. Mind is also necessary for self. It is only through the action-with symbols-the actor perform internally, that he becomes aware of self, takes note of self, perceives self, judges self, and develops identities. Moreover, the actor can recognize himself and also act toward his self as he does toward others and communicates with his self. One can do this only by placing himself in the position of others and viewing himself from that position. This is called the "process of role taking".

Through social interaction people learn the meanings and symbols essential to expression of thought. This understanding in turn allows people to carry out action

and interaction. As people interpret their situations, they modify the meanings and symbols used in action. Modifications are possible because people possess the ability to interact with themselves and to examine possible courses of action and the consequences of each action. Interaction within the self and with others allows people to understand a situation, define their situation and make choices. Human action depend on the decisions he make along a stream of action (the reality of action is that it is continuous, a constant process that is never ending except when we die). The change of action also depends on his decisions. His decision in turn depend on interaction-with others and with self.
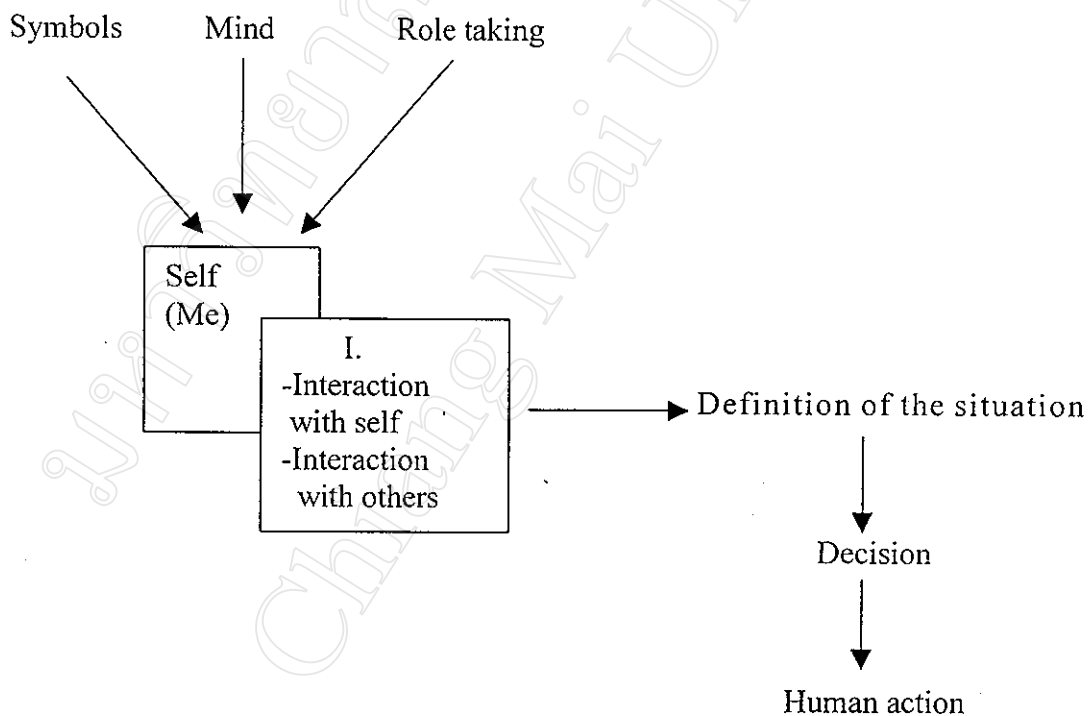
Symbols   Mind   Role taking

Self
(Me)

I.
-Interaction
with self
-Interaction
with others   → Definition of the situation
                                              ↓
                                          Decision
                                              ↓
                                       Human action

Figure 1. Summarizes the point on "Self" and "Human Action".

A change in health, social crisis, or loss creates both upheaval and opportunity. Denzin (1992) explained that experiences rupture routines and lives and provide radical redefinition of the self. The "I" reacts creatively to the experience, and the "Me" stabilizes the meanings formed and choices made. In making choices, people

point out to themselves those things that have meaning in the situation through a process of inward communication. Interpretation of meanings leads to selection, grouping, and regrouping of meanings within the present situation, and the newly constructed meaning ultimately directs action. As a result, the person acts toward himself and guides himself in his actions in the situation (Blumer, 1969).

SI is a process of attempting to understand the meaning of what is happening when we interact with the social or object world, in order to decide how to act. SI is not reaction, but definition, interpretation and responses. Responses are made not to behavior but to meaning attached to behavior (Bowers, 1988). Thus, SI is a complex active series of social process involving the "fitting together of lines of behavior of the separate informants". For this reason, it is impossible to understand the action of any individual or group by extracting them from the social context within which they were created. Therefore, individual action is always contextual (Bowers, 1988). There are three points critical to any study using SI: a focus on the interaction between the actor and the world; a view of the actor and the world as dynamic processes; and the importance of the actor's ability to interpret the social world (Crooks, 2001). SI moves scientific enquiry from the mechanistic model of causation to a processual model. The viewpoint acknowledges that perceptions, understandings, and actions change overtime as new experiences and information are integrated. SI discovers phases or stages of that process, factors within stages, or links between them that propel a phenomena into existence and once in existence, sustain or recreate itself.

Study in this framework focuses on the interaction, pattern of interaction, and their consequence in a specific situation and analysis focuses on the symbolic

meaning that is transmitted via action. In order to obtain the informants' definition and shared meaning, microscopic analysis of interaction is conducted. In addition, macroscopic analysis for contextual circumstances in the setting and conditions that preclude the interaction is done to establish larger symbolic events that create definitions and shared meaning in the situation. Similarly, larger contexts are included in the macroscopic analysis to include shared meanings of groups, populations, and society. Analysis is complete when both symbolic and behavioral events in a situation are understood (Chenitz & Swanson, 1986).

Therefore, in the context of this study human behavior, the managing or coping of everyday lives among Thai men with paraplegia, was examined in interaction. The setting, family involved in their lives, and the larger social forces such as ideology and events that effect behavior, were analyzed. The full range and variation in relation to a phenomenon was examined to produce self and group definition and shared meaning. In order to do this, the researcher described social behavior and the management of everyday lives, as it takes place in the family or community. The actual setting was examined for social rules, ideologies, and events that illustrate shared meaning held by Thai men with paraplegia in interaction and affects their behavior in the interaction (Blumer, 1969; Chenitz & Swanson, 1986).

This research used grounded theory methods and adopted SI as its orienting perspective since they were guided to understand the behavior as the informants understood it, learnt about their world, learnt their interpretation of self in interaction, and shared their definitions (Baker et al., 1992). These perspectives, by focusing on process, subjectivity and an analysis of textual data related to the society and experiences of Thai men with paraplegia managing their everyday lives in society,

offer the possibility of developing a more complete understanding of living with paraplegia.

This study could best be explored using a grounded theory approach, where the informant data would most usefully be interpreted through the perspective of SI, assisted by my background knowledge of the socio-cultural environment of the northern part of Thailand.

Process of Grounded Theory

Grounded theory is a qualitative research method based on the SI perspective. The founders, Barney Glaser and Anselm Strauss, called the method "grounded" because a theory systematically was obtained from a broad array of data through a rigorous process of constant comparison (Glaser & Strauss, 1967; Strauss, 1987). The goal of this methodology is to develop a theoretical framework and a substantive theory that integrates a set of conceptual hypotheses about the substantive area under study (Glaser, 1992; Streubert & Carpenter, 1995). Grounded theory-substantive theory-emerges via the constant comparison of data, theoretical sampling and the use of a coding paradigm to assure conceptual development and density (Struass, 1987; Struass & Corbin, 1990). Theory building in grounded theory research approach emphasizes initial inductive strategies and is understood as a process. It is discovered, developed and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon (Struass & Corbin, 1990). Thus, theory "grounded" in the data, generated by induction and verified deductively by the researcher in a complex process of reflexivity, is substantive theory (Glaser & Strauss, 1967). The methodology of grounded theory includes the following steps.

Data Gathering Method

Data for a grounded theory study may be collected from an open-ended interview alone or through a combination of observation, or documents (Streubert & Carpenter, 1995). The gathering of data does not finish until the end of the research because ideas, concepts and new questions continually arise which guide the researcher to new data sources. The researcher collects data from initial interviews or observations and take their cues from the first emerging idea to develop further interviews and observations. This means that the collection of data becomes more focused and specific as the process develops (Holloway & Wheeler, 1996). Data collection ceases when no new information is forthcoming about a category or group. This is the stage known as " theoretical saturation" (Cowley, 1991).
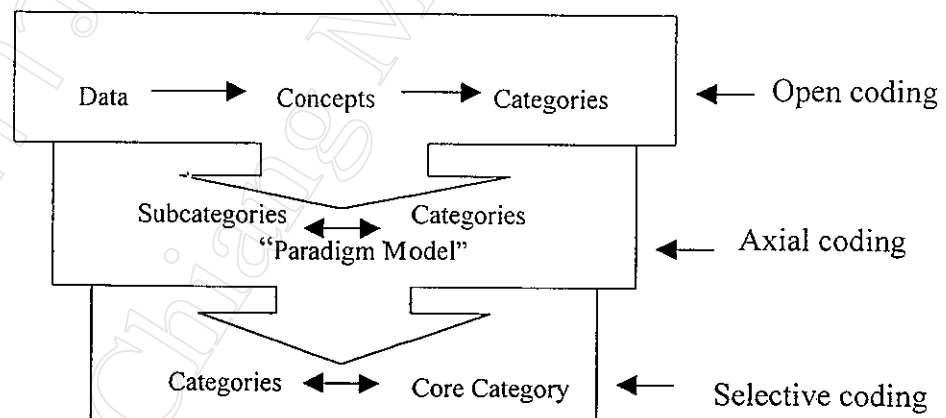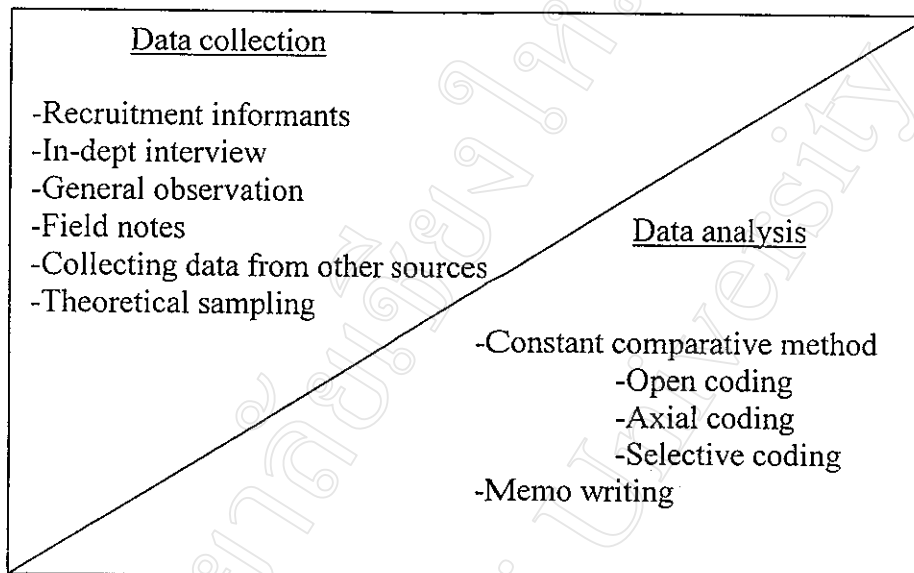
Literature Review

The literature tends to be useful in somewhat different and specific ways (Struass & Corbin, 1998). Inexperienced qualitative researchers ought to consult the literature in order to gain a general knowledge of the topic, to supplement and enrich one's conceptualization through literature which is either directly or closely related, to trigger broader and deeper theories and to integrate critique or relate the findings of any preceding studies to the one being conducted (Strauss, 1987). The literature can act as the foundation for developing general theory. It has various uses in grounded theory. It can be used to stimulate theoretical sensitivity, can be treated as secondary sources of data, stimulate questions, direct theoretical sampling and it can even hinder creativity if it is allowed to stand between the researcher and the data (Struass &

Corbin, 1998). Cutcliffe (2000) argued that the preliminary literature review can sensitize concepts and increase an awareness of the gaps in the knowledge. The second literature review turns to an entirely new body of literature, and is treated as data as the theory emerges just ahead of writing the theory (Cowley, 1991).

Concurrence of Data Collection and Analysis

In grounded theory, data collection and analysis occur concurrently (Table 1) and are based on the constant comparative method (Baker et al., 1992). The constant comparative method is a hallmark of grounded theory studies. This method involves comparing incidents, informants or segments of data within and between groups in order to generate categories, concepts or hypotheses relevant to the study area. This is intended to promote the identification of the properties of categories and also of the links and relationships between categories (Chamberlain, 1999). Constant comparative analysis involves the use of explicit coding and analytic procedure (Glaser & Strauss, 1967). There are three levels of coding procedure: open, axial, and selective coding, as depicted in Figure 2.

Table 1.

The concurrence of data collection and analysis

Data collection

-Recruitment informants
-In-dept interview
-General observation
-Field notes
-Collecting data from other sources
-Theoretical sampling

Data analysis

-Constant comparative method
-Open coding
-Axial coding
-Selective coding
-Memo writing

Data → Concepts → Categories ← Open coding

Subcategories ↔ Categories
"Paradigm Model" ← Axial coding

Categories ↔ Core Category ← Selective coding

Figure 2. The three levels of coding procedure.

Open coding is a word by word, line by line analysis that occurs every time data are collected (Glaser & Strauss, 1967). However, Glaser (1992) argue that open coding should be either line by line, sentence by sentence, paragraph by paragraph,

depending on the data's type and purpose and the density or thinness of ideas. The focus should be on the constant comparison of incident to incident, not on the fracturing of data. When concepts do emerge, the focus should then be on the comparison of incidents to concepts. These concepts and their dimensions lead the researcher to more focused data collection (Grbich, 1999). Grbich (1999) adapted some rules of thumb for open coding from Strauss (1987). They are: 1) to look for "in vivo" codes and attach existing sociological concepts; 2) to give a provisional name to each code; 3) to question all aspects: what are these data about?, what is actually happening?, what category does this incident indicate?; 4) to focus on dimensions that seem relevant to words or phases; 5) to locate comparative cases through these dimensions; and 6) to make sure that the coding has meticulously accounted for all data. The purpose of open coding is to name and categorize phenomena according to their properties and dimensions (Strauss & Corbin ,1990, 1998).

Once initial categories and relationships have been developed during open coding, the next stage of coding involves specifying the codes that have been developed more rigorously. Strauss and Corbin (1990, 1998) stated that axial coding puts those back together in new ways by making connections between categories and their subcategories. The researcher can think about such connections by using a paradigm model of causal condition, phenomenon, context, intervening condition, action / interaction strategies and consequences. The process requires a search through the empirical data, the researcher's life knowledge and experience and own theoretical and research literature knowledge, in order to adequately develop and expand the categories (Grbich, 1999). The coding uses the term "axial" because coding occurs around the axis of a category and links the categories at the level of

properties and dimensions. The purpose of axial coding is to look for how categories relate to their subcategories as well as to further develop categories in terms of their properties and dimensions.

The final coding procedure is selective coding. Selective coding is the process of validating the relationship between a core category and other categories. The core category can be identified by its centrality, frequent occurrence, good connections to other categories and implications for more general theory (Grbich, 1999). The purpose of selective coding is to integrate the categories along the dimension level to form a theory (Strauss & Corbin, 1990, 1998).

The final process of data analysis is that of integration. Several techniques can be used to facilitate this process. These include telling or writing a storyline, using diagrams, and sorting and reviewing memos. Once the theoretical scheme is outlined, the researcher is ready to refine the theory by trimming off excess and filling in poorly developed categories. Poorly developed categories are saturated through further theoretical sampling (Strauss & Corbin, 1998).

Sampling in grounded theory is associated with explicit sampling for information to refine and develop theory, rather than containing notions for representativeness or randomness. This is why grounded theory refers generically to its sampling procedures as theoretical sampling (Chamberlain, 1999). Glaser (1992) viewed theoretical sampling as a process of data collection in which codes emerge from raw data. These codes are used to direct further data collection, resulting in code saturation and integration into emerging theory. Chenitz and Swanson (1986) also emphasized that theoretical sampling is based on the need to collect more data to examine categories and their relationships and to assure that representativeness in the

category exists. This process of data collection is controlled by the emerging theory (Strauss, 1987). Strauss and Corbin (1998) stated that the focus of theoretical sampling changes according to the type of coding one is doing.

In an open coding phase, theoretical sampling is open to those persons, places, and situations that will provide the greatest opportunity for discovery. The researcher chooses initially who can provide a relevant source of data, and this relevance is determined by the requirements for generating and delimiting the theoretical codes. It is preferable to be purposive or systematic to obtain data which are relevant to the research question.

In the axial coding phase, the researcher uses relational or variational sampling, either purposive or systematic, to locate more data which can confirm and elaborate categories, identify relationships between them or suggest limits to their applicability.

In the selective coding phase, the researcher uses discriminate sampling, which involves deliberate and directed selection of further data from persons, sites or documents to confirm and verify the core category and theory as a whole, and to ensure that the theoretical account is saturated.

Chamberlain (1999) stated that saturation is an essential component of a grounded theory. Saturation of the theory is considered to have occurred when no new categories are found which relate to the central issue or process being researched, and the theory can account for all the data that have been obtained. To check saturation, the researcher examines negative instances or cases that do not fit the theory and attempt to incorporate all variations. Saturation will often be met part way through the analysis and can be confirmed as further data are sampled and analyzed. Data collection can cease when there are no gaps in the theory and all categories can

be linked meaningfully together to provide a comprehensive explanation of the phenomenon.

After the theory emerges, it is validated by comparing it to raw data or by presenting it to informants for their reaction (Strauss & Corbin, 1998). Glaser and Strauss (1967) stated that the theory must fit, grab, and work for the user. Fit means that "the categories that are generated must be indicated by the data and applied readily to the data". However, Strauss and Corbin (1998) stated that the theory that is grounded in data should be recognizable to informants, although it might not fit every aspects of their cases. To grab, the "theory must be relevant to an informant group and to the practice group". To work, "a theory should be able to explain what happened, predict what will happen and the interpret what is happening" (Glaser ,1978).

Methods and Procedures of the Study

The research methods and procedures employed in this study are based on Strauss and Corbin's (1990), and Glaser's (1992) grounded theory. The following identifies grounded theory method in study perception and management behavior in young adult Thai males with paraplegia.

Sample and Setting

Purposeful sampling was used to reach the informants in the first part of the study. Specifically, young adult Thai men with paraplegia who were living in their home and met the criteria of the study which includes: 1) between 18-39 years of

age; 2) lived with paraplegia for at least 1 year; 3) able to self-care in daily living activity and can use a wheelchair for movement; 4) able to communicate in Thai with the researcher; 5) willing to co-operate in this study; 6) lived with their family in a joint household.

This study was conducted in rural areas of Lamphun and Chiang Mai province, in the northern part of Thailand. The findings reflect the views and basic social processes experienced by young adult Thai males with paraplegia who lived at home in a rural area setting.

The Researcher as "Instrument"

The relationship of the researcher and informants in grounded theory studies create a powerful social context. The ability of informants to develop and maintain social relationships is an advantage when their known health care provider is the researcher studying them. The process of exploration is not passive but reciprocal in that both the researcher and informants are transformed. The informants and the researcher interact in a nonhierarchical relationship and the researcher attempts to diminish any power imbalance. The researcher told the informants that they have ownership of the data and the researcher is only interpreting the findings which the latter may be resolved by sharing the final interpretation with the informants. It is the theory of the informants in the researcher's words.

Therefore, the researcher is the key instrument, and understanding, theoretical knowledge, and insights are brought to bear on data collection and analysis. As a result, it is crucial that the biographical information of the researcher be identified and

stated to present the sources of bias and subjectivity, and document the "reflective" process engaged upon by the researcher. This is critical for the quality of the work.

I am a single, forty-six year old native northern Thai woman. I grew up in the countryside of Lamphun province in a middle-class background. When I was a child, I liked to help my family's occupation, which is trading. This circumstance let me meet many customers and later the villagers and I became familiar with each other. I have had the chance to join in northern traditional ceremonies since I was young until now. I think I have a good understanding of the villager's way of life. I believe in Buddhist-teaching such as the law of karma, and conducting the five precepts. However, I am less interested in Buddhism practices.

My interest in spinal cord injured patients started when I worked as a staff nurse in the Orthopaedic ward at Maharaj Nakorn Chiang Mai Hospital during 1981-1983. I noticed that despite providing nursing care as learned from an institution, all of the patients still had many much complications which caused them to have a long admission and eventually death. Later on, I had a chance to visit, study and train regarding spinal cord injury nursing in a spinal cord injury center at Japan. This place gave me a lot of knowledge about acute and rehabilitation nursing care in spinal cord injured patients. I realized that foreign spinal cord injured patients have a better quality of life than Thai spinal cord injured patients. They receive good nursing care which causes them to have good health and also receive many facilities and opportunities from their society. In that time (1985), these situations were different from the spinal cord injured person's situation in Thailand. This impression encouraged my attention to study the way of life in Thai paraplegic persons and their management of their situation. I recognize that my personal and professional

experiences are implicated in the process of data collection and interpretation. However, I also hope that the findings of this study can be a valuable resource for improving Thai paraplegics' quality of life in the future.

Procedure for Data Collection

Data collection was initiated following the approval of the proposal by the dissertation committee, Faculty of Nursing, Chiang Mai University and permission from the Lamphun and Chiang Mai Provincial Medical officer. Once approval was obtained, the researcher contacted the head nurse and nurse who provided rehabilitation services to paraplegic persons at the rehabilitation ward and outpatient department of Maharaj Nakorn Chiang Mai Hospital. The purpose and procedures of the study were explained to these individuals and recruited the names and addresses of potential informants for the study.

Recruitment informants. The researcher contacted potential informants through telephone or visited them to invite them to take part in the study. Most of them agreed to participate in this study because some of them knew the researcher before in the hospital and they felt glad to have a health care provider visit them at home. When the potential informants agreed to participate in this study, they were asked to give oral consent and agreed to a mutually convenient date and time in their home for completing the interview of personal information concerning the perception and management of everyday life with their situation. In all, fourteen young adult Thai men with paraplegia participated in the study.

Data collection. All informants were provided with information about the propose of the study and the potential benefits to nursing. They were given an opportunity to ask any questions in relation to the study. After obtaining informal consent, the questions regarding personal information were asked. Diagnosis data were obtained from the patient medical record. The researcher collected data in open-ended and semi-structured interview questions. The interviews were tape-recorded and conducted in northern Thai language. An interview guide, which was developed based on the study objectives, was used during the interviews. The interviews started with a broad statement: "Please tell me how paraplegia affects your daily life and how you manage with your situation". During the course of the interview, the researcher probed more deeply on specific topics and issues that informants may have initiated. Sometimes the researcher used a "reflexive interviewing technique" which is based on the researcher's own experience. Using this technique allowed the researcher to respond quickly and effectively to issues arising in the interview and made the researcher both an active listener and a participant in the interview process. The interview guide was reviewed for content validity by advisors before the pilot study and before this study.

Pilot studies involving five informants were conducted which gave me the opportunity to assess the effectiveness of the interview questions and process and to identify response biases. It became apparent to the researcher while reviewing the transcripts of these interviews that the informants had redefined the direction of the interview assuming that the researcher is primary interest as a nurse, which was known by all informants, was to follow up the informants' physical health and how they manage their physical life after the hospital. As a result of information gained

from the pilot studies, the researcher revised the interview guide, being careful to omit suggestions and emphasize the informants perception and management of their situation for the purpose of this study. For any physical health suggestion, the researcher provided this after the last interview with informants.

Interviews were conducted in the informants' homes. No family member was staying with the informants during the interview. Only in two situations were family members present, and the informants seem inhibited. All informants accepted being audiotaped. At the end of the interview, the research confirmed there were some things which the informants wanted to give more information. Informants were asked for a second interview to examine the transcript and add to or change what had been transcribed. The request was accepted by all informants.

In grounded theory method, data collection and analysis are concurrent, thus data analysis began after the first participant was interviewed. Interview questions were modified and also shifted to focus on those dimensions, which have been integrated into the developing theory.

Regarding the sampling procedure, as the research progressed, theoretical sampling was used to develop the categories. In this study, theoretical sampling was to sample the events and incidents related to the management of everyday life with paraplegia. It involved the informants' management of everyday life and in what condition, of action-interaction and their variation, and how conditions changed or remained the same management over time and their impact on the informants. The period of data collection was a long time of approximately 14 months, from March 2000 to May 2001. Since there was a wide range of time between each interview, the informants' circumstances and their ability to cope was changed. Therefore, in the

third interview of data collection the theoretical sampling represented different raw data which benefited category saturation.

In this study, ten informants were interviewed twice and four informants were interviewed three times. The length of each informant's interview was 1.5 to 2 hours. Therefore the total time spent in interviewing ranged from 48 to 64 hours. This variation was due to the researcher's judgment about the richness of data. After the 32 nd. interview, no new information was forthcoming, and it was felt that data saturation was achieved.

Collecting data from other sources. Collection data from other sources is intended to ensure that the emergent findings are comprehensive (Chamberlain, 1999). Relevant documents obtained from letters, health care providers, informants' friends, newspaper articles, and disabled newsletters published during the study period were also used as data in this study. Letters were sent to the four informants asking general questions relating to their management of their situation. Only two informants replied to the letters. One stated that he had changed the time for doing catheters and tried to prevent pressure sores from occurring and it had a good result. Another told that he had conflicted with his mother about as intimate relationship with a young woman and requested a suggestion from the researcher.

The head nurse of the rehabilitation ward was asked to describe the informants' behavior when they came for a urodynamic study or to cure their pressure sores. Health documents were also examined. The informants' friends who were paraplegic as well, talked about the informants. One told that the informant had attempted to work and now he was an owner of a book rental shop. Another told that his friend,

the informant, liked to join with his old friends and drink alcohol every evening. While analyzing the interview data, I also read newspaper articles and disabled newsletters that provided information for those living with spinal cord injury. All data were used to expand and substantiate the interview data from which the categories emerged. The many pieces of data ensured conceptual density and provided multiple perspectives for describing the social phenomenon under study.

Field notes. Field notes were recorded on the completion of each interview and throughout the data collection stage. These field notes contained information about the interview situation and the setting to remind the researcher of the event, action and interactions of the informants. The field notes were thoroughly reviewed each day and a list of unanswered questions was constructed to sensitize the researcher to particular aspects that required attention in the next interview.

Procedure for Data Analysis

The audiotapes of northern Thai language were transcribed and translated into standard Thai language taking into consideration the context and nuances of the language. The Thai transcripts were also translated into English language by the researcher. In order to ensure the accuracy of the English translated version, the researcher discussed and improved the content and meaning with an Australian health provider.

Data analysis. The preliminary data analysis was done by the researcher. To address the interpretation process, discussions were carried out by a panel of three

Australian instructors who are experts in grounded theory and two doctoral students experienced in grounded theory method. These groups met every three to four weeks during a four month period to discuss the English interview data. Many concepts and categories emerged. Each member proposed their own opinion about categories process, both accepted and refused. Finally, the panel was able to determine a core category or basic social process. The revised interview guide based on these categories was used in the second or third interviews instead of the original guide used in the first interviews. From the first analysis, the basic social process, labelled making the best of paraplegia, was identified and three categories were delineated as well.

The second analysis was started after the second and third interviews while simultaneously ensuring the accuracy and culture appropriateness of the findings in the English version. Thirty-two interview transcripts were analyzed with the assistance of a co-advisor who was experienced in grounded theory research. The constant comparative method was employed through coding processes: open, axial, and selective coding. The researcher coded all of the added interview data with open coding. The concepts which related to a similar phenomenon were gathered under each category. In the axial coding technique, categories were connected to each other and their subcategories through a paradigm model. During the selective coding technique, the core category, which was central to the theory, was identified and relationships between major categories were determined. It also involved further refinement and development of the categories. In this study, the core category was a basic social process called making the best of paraplegia. This basic social process

explains the process of young Thai men with paraplegia trying to manage their situation as well as they can.

Memo writing. Strauss and Corbin (1990) define a memo as "written records of analysis related to the formulation of theory". Memoing is a constant process that begins when first coding data, and continues through the reading of memos or literature, sorting and writing papers or monographs until the end (Glaser, 1978).

Initial memos focused on identifying the dimensions and properties of several categories discovered in the data. In theoretical memos, the researcher recorded comparing the relationships among categories, and compared how relationships vary under different conditions. The researcher also recorded important decisions about selective and theoretical sampling, shifts in the focus of interview questions and tentative ideas. Throughout memoing, the researcher tried to find out the answers to the questions: how was the perception of the young men after returning to their community with paraplegia? and what is the basic social process used to cope with those perceptions?. On the basis of responses, the researcher was enabled to capture causal condition, context, intervening condition, action/interaction strategies and consequence, and clarified insight. The memos writing procedure combined with the diagrams helped the researcher to gain analytic distance from those materials. This maintains the conceptual level of the analysis as relationship among concepts, and it prepares the researcher for the final writing.

Theoretical sensitivity. Throughout the data analysis, it was necessary for the researcher to remain theoretically sensitive to the data collection and analysis.

Theoretical sensitivity as defined by Strauss and Corbin (1990) refers to the researcher being aware of subtleties of meaning of the data and being analytically creative. Bowers (1988) stated that a grounded theory researcher intentionally becomes immersed in the world of the informants and attempts to take the role of the research informants to understand the phenomenon as they understand them. However, to prevent "going native", which results in the researcher losing the heightened theoretical sensitivity, the researcher had to maintain the ability to view the informant's world from inside while maintaining the distance necessary to raise analytical questions. This process is qualified by the researcher's past, professional, and personal experiences. Being skeptical about the data, as well as constantly checking one's own biases shows that the researcher is not imposing herself on data analysis.

Regarding the review of literature, the researcher was not constantly consulting the literature. However, the preliminary literature review was carried out to obtain a feel for the issues at work in the subject area, and to identify any gaps to be filled in using grounded theory. The access of the second body of literature was done after the basic social process had emerged from the data.

Human Subject Protection

The research proposal was submitted for review and approval from the Proposal Examination Committee, Faculty of Nursing, Chiang Mai university. Additionally, approvals from the Lamphun and Chiang Mai Provincial Medical Officer were obtained. Prior to entry into study, each potential informant, young adult Thai men with paraplegia, were informed about the purpose, nature of the study and rights as an

informant via a contact letter and telephone. With these methods, those who wanted could reject at ease when they did not want to participate in this study. At the initial day of data collection, the full purpose of the study, the method, the potential risks and benefits to the informant in this study, and the protection of confidentiality was explained verbally to each informant who met the criteria of study. After that, permission to tape-record the conducted interview was established and a verbal consent was taped.

In order to insure the confidentiality and anonymity of the informants and data, the researcher transcribed all of the tape-recorded interviews by myself. After completing the study, the tapes were erased. The informants' names were replaced with a numerical code number. Other identifiers such as the informants' address, or location of the interview were removed from the transcripts. All of the written data, including notes and the code book, used to keep account of the informants who participated in the study, were kept by researcher until the study was completed, and then was shredded. All of the study informants were specifically informed that they could withdraw from the study at any time without any impact on the benefits or services they received from hospital. With appropriate consideration for each individual, some informants were given a monetary compensation of 200 baht while others were given some accessories needed for physical care such as a unison enema, bulb syringe, and urine bags.

Since the nature of the interview and some of the questions asked might have caused some discomfort, one informant refused to express his feeling toward self in the first interview and the researcher accepted and understood his feelings. However, in the second or third interview, he felt more comfort taking about himself with the

researcher. He started to talk about himself and his life in the aspect which he refused at a first meeting. In this study, none of the informants decided to discontinue the interview. Furthermore, all informants were asked to give the researcher permission to publish the findings of the study, withholding their names.

Trustworthiness

Rigour in qualitative research is required to prevent error of either a constant or intermittent nature. Therefore, the qualitative researcher must show that the study is rigorous by establishing trustworthiness (Sandelowski, 1986). The establishment of trustworthiness in qualitative research includes: credibility, transferability, dependability, and confirmability (Holloway & Wheeler, 1996; Sandelowski, 1986). These terms are equivalents to the empiricist terms of internal validity, generalizability (external validity), reliability and objectivity, respectively. These criteria were used as a guideline to determine the trustworthiness of the qualitative findings in this study.

Credibility

Grounded theory is based on, or grounded in, the lived experiences of the informants. Therefore, the use of an external validity measure is not appropriate to determine the credibility which are related to the internal validity in empirical research (Bowers, 1988). Credibility refers to the believability, fit and applicability of the findings to the phenomenon under study (Glaser & Strauss, 1967). A qualitative study is credible when it presents such faithful descriptions or interpretations of

human experience that the people having those experiences would immediately recognize them as their own, from reading the descriptions or interpretations (Sandelowski, 1986). However, the factors that interfere with credibility include: 1) historical antecedents leading up to the research; 2) changing relationships between informants and researcher; 3) informant mortality; 4) difference between those studied and those not studied; 5) the reactive effects of the presence of the researcher; 6) contamination of the researcher by unit under study.

In grounded theory, credibility is achieved from methodological techniques which include: 1) using the constant comparative method, where data are continually validated by triangulating the information that is obtained from in-depth interviews, field observations, and other documents; 2) the theoretical sampling is flexible to verify information from multiple sources and informants, thus the relation between theoretical sampling and explanation is iterative and theoretically led. The theoretical sampling method also includes finding negative or "deviant" cases that add different dimensions of knowledge to the information of the emergent theory (May & Pope, 1996). In support of this claim, Strauss and Corbin (1998) stated that the grounded theory approach is an attempt to verify its resulting hypothesis through comparisons with incoming data. Sandelowski (1986) stressed that credibility is established through verifying the data. Additionally, several actions which improve credibility include: prolonged involvement, persistent observation, triangulation, peer debriefing and member checks (Holloway & Wheeler, 1996).

In this study, the four methods; prolonged involvement, triangulation, peer debriefing, and member checks, were used to enhance the credibility of the data collection and analysis. Although building trust as a goal of prolonged involvement is

not an easy task in a limited time, it was possible for the researcher to accomplish this as she is a native of northern Thailand same as the informants. Spending two or three times to visit the informants at their house seemed to increase the effectiveness of the in-depth interviews. It was noticed that the informants felt acquainted with the researcher, and thus felt more comfortable to tell their stories.

Triangulation of different data collection modes was also carried out in this study. Three different modes, such as observation, the in-depth interview, and field notes taken by the researcher and some letters and information from the head nurse of rehabilitation unit as well as their friends, were used to cross-check and verify the emerging interpretations and to increase the credibility of the findings.

Peer debriefing refers to an activity that provided an external check on the inquiry process. In this study, peer debriefing involved four university instructors who were experienced in qualitative research and spinal cord injury nursing (two with experienced in grounded theory research, one with experience in ethnographic research, and the other with experience in spinal cord injury nursing). Each instructor independently read the findings and confirmed or questioned the categories and emerging sub-categories. This peer review occurred one time during the analytic process and provided the researcher with the opportunity to reflect on, compare, and explore other possible interpretations. Consensus occurred regarding the emerging categories and core category.

The informal member checking for data and the preliminary finding was implemented by reinterviewing three informants. A summary of each interview was described to the informants during their third interview. Any error of the interview data was corrected by the researcher after discussing them with these informants. A

part of the analytic categories in the section on managing everyday life with paraplegia included: learning self-care, learning the system of care and support, and learning to live in society, and the basic social process of making the best of paraplegia were reviewed by these informants. These informants agreed that these preliminary categories and the basic social process were consistent with their thoughts about their situation.

Transferability

The establishment of generalizability (external validity) in quantitative research was undertaken within certain rules concerning statistical inference, with the purpose of the study to find out the distribution of phenomenon in a population. However, the establishment of transferability or fittingness in qualitative study is very different. In qualitative study, the purpose is to try and understand the phenomenon, which may not be distributed evenly in a population and the method of sampling is a selection of informants that fulfil the study needs (Holloway & Wheeler, 1996). Sandelowski (1986) stated that a test of transferability is passed when the findings are grounded in and reflect the phenomena being studied and when the readers of the descriptions, explanation or theory derived from the data find them meaningful in terms of their own or other familiar contexts.

To ensure transferability in this study, the researcher tried to explain an informant's physical and psychological as clear as possible so that the reader can make a judgement of transferability.

Dependability

Reliability in quantitative research refers to the consistency, stability, and dependability of a test or testing procedure (Sandelowski, 1986). In qualitative study, dependability is used to substitute criterion for reliability and one of the ways in which a research study may be shown to be dependable as opposed to consistent is for its process to be audited, that is, external checks are made (Holloway & Wheeler, 1996).

To address the dependability of the interpretation process in this study, two samples of interview transcriptions were analyzed by the researcher and one Australian nursing instructor who was experienced in grounded theory research. The concepts and the preliminary categories were compared and discussed to agreement between the researcher and nursing instructor regarding the preliminary categories of managing everyday life among Thai men with paraplegia. Following this process, the researcher continued with her own interpretation process.

Confirmability

Confirmability is a substitute criterion for objectivity or neutrality in quantitative research. Confirmability means that the data are linked to their sources for the reader to establish that the conclusion and interpretations arise directly from them (Holloway & Wheeler, 1996). The evaluation of confirmability is based on the characteristics of the data rather than on the researcher's characteristics. Audit is a major technique for establishing confirmability (Burns & Grove, 1997).

In qualitative research, the criteria for auditing the study should involve examining the following information: the raw data (tape recordings, field notes); the analyzed data (findings of the study); the formation of the findings (significant statements, categories, codes, and concepts); the process of the study (design strategies and procedures used); the early intentions of the study (the proposal and expectations); and the development of the measures (open ended questions, early interviews and observation strategies) (Holloway & Wheeler, 1986). These audits were used to determine the confirmability and closure of the data collecting process.

Morse and Field (1996) stated that confirmability was achieved when the researcher tries to prolong contact with the informants or uses long periods of observation. The researcher also tries to identify her own biases through the use of memos and through consultation with other researchers. Additionally, the researcher should be clear about document researcher decisions, choices and insights of the study, and an audit trial or auditability, which enables readers to know how methodological, analytic and theoretical decisions have been made and helps them to decide on the trustworthiness of the study (Sandelowski, 1986; Holloway & Wheeler, 1986).

In this study, quotations of the informant's statements were reported appropriately and adequately to assert that the findings were grounded in event rather than in the researcher's personal constructions. Moreover, the researcher established decision rules for categorizing data, arriving at rating, or making judgments. For example, the decision rule of the perception of life alteration included: 1) unable to do as before injury; 2) able to do but not the same; and 3) able to do but not equal to other people. Therefore, data which met this specific criteria would be placed in this

category. A record is kept of all decision rules used in the analysis of data. As the analysis progresses the researcher documents the data and the decision rules on which each decision was based and the reasoning that entered into each decision. Thus, evidence is retained to support the findings and the emerging theory and is made available on request.

Table 2

Summarizes the trustworthiness of the study.

Credibility

-Prolonged involvement.

-Triangulation.

-Peer debriefing.

-Member checks.

Transferability

-Adequately explained the setting of the study.

Dependability

-Compared and discussed interpreting data with

other researcher.

Confirmability

-Quotation of the informant's statement.

-Decision rules for categorizing data.

Summary

This qualitative study employed grounded theory methodology to explicate the basic social process of managing everyday life among Thai men with paraplegia. Symbolic interaction also informed the research process. Fourteen informants were interviewed two or three times in their house. Interviews were tape-recorded and conducted in northern Thai language by the researcher. The confidentiality of the informants was a major concern throughout the process of data gathering. Data collection and analysis were simultaneously conducted until data saturation was achieved. Prolonged involvement, triangulation, peer debriefing techniques, member checks, cross checking in the coding process, quotation of the informants' statements, and decision rules were employed to enhance the trustworthiness of this study. A detailed description of the findings is given in the next chapter.