



**Development of a Professional Caring Model for Enhancing
the Quality of Nursing Care for Critically Ill Patients in Indonesia**

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Thesis Title Development of a Professional Caring Model for Enhancing
the Quality of Nursing Care for Critically Ill Patients in Indonesia

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Abstract

This study aimed to develop a professional caring model in order to improve the quality of nursing care in an intensive stroke care unit at Pirngadi General Hospital in Indonesia. The professional caring model was developed based on Watson's theory of human caring and concept of nursing care quality. It was believed that the use of these two concepts as a theoretical framework for the study would allow nurses to return to nursing's deep professional roots and values, and assist the nurses in providing high quality care.

Action research was used in this study. Seventeen nurse participants, seven nurse supervisors, a physician, a physiotherapist, a pharmacist, thirty patients, and thirty family members were involved in the research process. Data were collected by various methods over the course of three cycles. In-depth interviews, observations, and photo recordings were the techniques used to collect qualitative data. Meanwhile, quantitative data were gathered through several questionnaires covering family satisfaction, nurse satisfaction, nurses' knowledge of critical stroke care, and nurses' caring behaviors. Data then were

analyzed by using Weft QDA software for the qualitative data and using paired t-tests for the quantitative data.

The professional caring model was developed over three cycles, each of which included the stages of planning, acting and observing, reflecting, and replanning. The first cycle involved the creation of a caring atmosphere and the introduction of the tentative professional caring model. The second cycle centered on the nurse-client interactions that occurred during the implementation of the model. The third cycle concerned maintaining the sustainability of the model. The professional caring model composes of three components: structural, process, and outcome component. Structural component of the professional caring model consists of seven essential aspects: manpower, philosophy of nursing, policy, protocol, training, nurse staffing, and job description. Process components focuses on process of care, meeting human needs of critical patient, meeting family needs, working method, and interpersonal of care process. Outcome component consists of patient/family outcomes and nurse outcomes. Besides the three main components, there are also two core values: caring relationship and caring environment.

The outcomes of the professional caring model demonstrated that there were significant improvements in family satisfaction, nurse satisfaction, nurses' knowledge of critical stroke care, and nurses' caring behaviors. In addition, the implementation of the model also had an impact on decreasing incidences of infection, although it had no influence on patient length of stay or decubitus rate.

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CHAPTER 1

INTRODUCTION

Background and Significance of the Problem

Critical care is one of the core services needed by patients who are in intensive care in the hospital. It is a labor-intensive activity that provides observation and treatment for patients with immediate life-threatening crises, together with support for their families and friends. Patients' lives may depend on machines; complex drug therapies; or nursing, medical, or technical resources. In critical care, attempts are made to maintain homeostasis and promote the recovery of patients (Beeby, 2000).

Caring for patients in critical care settings involves many dimensions, and critical care nurses prioritize their efforts to focus on critical illnesses and the survival of patients. However, some studies have shown that nurses' caring in critical care situations is less than adequate, especially in the areas of humanity and compassion (Ashworth, 1990; Cooper, 1993). In addition, Rushton (1991) stated that the critical care setting is viewed as an inhuman place. Rushton identified some factors that contribute to dehumanizing the critical care setting, such as inconsistent philosophies about patient care delivery and decision making, a shortage of human and material resources, a lack of professional skill in the various dimensions of human care, unresolved ethical dilemmas, inadequate administrative support, ever more complex technology, and the physical design of the environment in units.

The intensive stroke care unit (ISCU) at Pirngadi General Hospital (PGN) in Medan, Indonesia, is one of the public hospitals that serves as a teaching hospital, and provides acute and intensive care for stroke patients. Consisting of eight beds, this unit received 362 patients during the year 2006. Its bed occupancy rate was 90.3%. At the time

of this study, the medical model approach was still being used by nurses in daily practice. General procedures and a manual developed by an administrator nurse were being used as guidance for nurses giving care to patients.

As quality has become the main issue in healthcare settings, the nursing department at PGH has put a lot of effort into enhancing the quality of nursing care in the hospital. A series of in-house training programs have been conducted in order to increase the nurses' cognitive, affective, and psychomotor skills. However, it was also found that patient satisfaction with the quality of nursing service was only at a moderate level (Setiawan, Saleh, & Lubis, 2003). This suggested that there was a need for the improvement of nursing care quality, which could be accomplished by rigorously and routinely examining the modes of care delivery and the quality of care. Concerning this matter, the development of a model based on nursing theory was considered a vital key to improving the quality of nursing care.

In Indonesia, there is a lack of research regarding caring and quality of nursing care. In addition, no publications were found regarding any caring theory for nursing practice. Meanwhile, a research by Jauhari (2005) in a hospital in Indonesia found that nursing care for patients mainly focuses on the physical, functional aspects of care, rather than on holistic caring.

Several hospitals in the USA and other countries have adopted the theory of caring as a guide for a new model of practice (Angelucci, 1994; Dingman, Williams, Fosbinder, & Warnick, 1999; Johns, 1994; Wadas, 1993). There were found to be two existing caring models: the quality caring model (Duffy & Hoskins, 2003) and the attending nurse caring model (Watson & Foster, 2003). Johns (1994) found that the implementation of a caring model produces effective care, causes nurses to strive to improve care, and raises the status of nursing. Use of a caring model promotes professional accountability,

collaborative practice, job satisfaction, job enrichment, and professional and personal growth opportunities (Wadas, 1993).

In addition, the practice of caring in nursing has been shown to offer a lot of therapeutic benefits in terms of nurse and patient outcomes. Nurse outcomes that were identified included personal enrichment and intrinsic rewards (Benner & Wruble, 1989), such as increased self-esteem, job satisfaction, motivation, and joy in giving and receiving. Increased understanding, greater emotional capacity, and a sense of personal worth were other nurse outcomes found (Griffin, 1983). On the other hand, caring outcomes relating to patients included enhanced health and well-being, comfort, self-integration, and patient satisfaction (Morse, Bottorf, Neander, & Solder, 1992). It is believed that through caring, patients can experience a special type of love which assists them in the restoration or maintenance of their health, or at least provides them with an environment conducive for a peaceful death. In terms of mutual outcomes, caring has been shown to result in the experience of self-actualization for both nurses and patients (Bevis, 1981), as well as increased spirituality for both parties (Watson, 1999).

Concerning quality of nursing care, findings from many research studies have confirmed the connection between caring practice and quality of care (Duffy, 1991; Leenert, Koehler, & Neil, 1996; Wadas, 1993). Leenert, Koehler, and Neil (1996) found that the use of caring in applying the Nursing Care Partnership Model resulted in a reduction in inpatient admissions, a shorter mean length of stay, and lower total costs for patients. Meanwhile, Wadas (1993) proved that the implementation of a caring-guided model improved the job satisfaction of nurses. Duffy (1991) also found a positive relationship between nurse caring behaviors and patient satisfaction. In addition, Ludwig-Beymer et al. (1993) stated that professional caring in nursing and quality of nursing care are undoubtedly linked. They also implied that professional caring was the largest aspect of nursing care quality for individuals with chronic illnesses.

This study aimed to develop a professional caring model (PCM) in order to improve the quality of nursing care in the critical care setting at Pirngadi General Hospital. The PCM is a model for nursing practice in intensive stroke care units, and the researcher developed it based on Watson's theory of human caring and the quality of nursing care. It was believed that the use of Watson's theory as a theoretical framework for this model would allow nurses to return to nursing's deep professional roots and values, as the theory represents the archetype of an ideal nurse (Cara, 2003). When implemented, Watson's theory of human caring has been shown to result in the soul-satisfying care for which many nurses enter the profession and which patients deserve to receive (George, 1995). Ryan (2005), who integrated Watson's theory of human caring into nursing practice, revealed many benefits to the theory, such as nurses' realization of their uniquely essential role in healthcare and the establishment of a common vision and language for nursing. A study by Erci (2003), using Watson's caring model for patients with hypertension, found a positive relationship between the provision of care according to the model and increased quality of life for the patients. The study also uncovered a relationship between the use of the caring model and a decrease in the patients' blood pressure levels. In another significant study, Clark (2004) used Watson's framework as the basis for nursing practice at Baptist Hospital, and found that it resulted in slightly shorter patient lengths of stay, increased employee satisfaction, and moderately increased patient satisfaction with nursing care.

This proposed model will benefit both patients and nurses. It will ensure that patients and family members are involved in decision-making regarding care and that patient and families receive open and timely communication from nurses. It will also ensure professional autonomy and accountability, efficient and effective nursing care, continuity of care, greater freedom for nurses to make care decisions within their scopes of

practice, and the establishment of a framework of care delivery that supports nurses as self-regulating professionals.

In search of a method to improve the quality of nursing care in the intensive stroke care unit in this study, among the three modes of research paradigms, critical social science was believed to be the appropriate paradigm to employ due to its characteristics of change in behavior and situations (Kincheloe & McLaren, 1994). In line with the critical social paradigm, action research was chosen as the most suitable research method.

Action research is a participatory, democratic process concerned with developing practical information in the pursuit of knowledge worthwhile to human purposes; to this end, it includes both action and reflection (Reason & Bradbury, 2001). Action research generates knowledge about systems while at the same time attempting to promote social and organizational change (Titchen & Binnie, 1994). It facilitates change and helps practitioners in better researching their areas of specialty. It offers the possibility of working with participants in a way which is non-hierarchical and non-exploitive, a way that may be used to make changes and close the theory-practice gap (Webb, 1990). It is a suitable research method in terms of improving nursing care quality, since action research generates practical knowledge intended to assist in raising standards of nursing care and the delivery of nursing services (Holloway & Wheeler, 2002).

Action research was selected for use in this study based on its usefulness in improving practice through changes. In developing this professional caring model, it was expected that changes in the current practice of the nurses would result, and that enhanced quality of care in the intensive stroke care unit would become sustainable. Action research can be useful, as it encourages openness, self-criticism, and reflection among participants, and empowers them to take control of their own work situations and acquire knowledge from practice (Hambridge, 2000). It is for these reasons that the researcher was interested in developing a professional caring model based on Watson's theory of human caring and

concepts of nursing care quality by using action research in the intensive stroke care unit at Pirngadi General Hospital in Medan, Indonesia.

Research Objective

The main objective of this research was to develop a professional caring model for enhancing the quality of nursing care in the intensive stroke care unit at Pirngadi General Hospital.

Research Question

What is an appropriate professional caring model for enhancing the quality of nursing care in the intensive stroke care unit at Pirngadi General Hospital?

Theoretical Framework for the Research

Watson's theory of human caring and concept of nursing care quality were employed as the theoretical framework for this study (Figure. 1.1). Watson's theory was selected for the framework of this study due to its holistic and comprehensive nature and its applicability in nursing practice. It covers not only physicals aspect of care, but also spiritual aspects (Watson, 1979). It results in the soul-satisfying care that causes many nurses to enter the profession in the first place, and it assists nurses in providing the quality of care that patients deserve to receive (George, 1995). The attention given by this theory to the spiritual aspects of human existence and the human soul provides the potential for the personal growth of nurses as they engage in transpersonal caring relationships (Fawcett, 2000).

Watson's theory of human caring served as a guide in developing the model proposed in this study. The theory is based on non-paternalistic values that honor another's development, autonomy, and freedom of choice. Watson's theory is based on a

humanitarian, metaphysical, spiritual, and existential-phenomenological orientation (Conway, 1997; Fawcett, 2005; Sarter, 1997). Watson argued strongly for a humanist perspective in developing knowledge that is meant to support a science based on caring, such as nursing (Watson, 1979). The first carative factor is one example of this. Watson (2003) believes that by attending to, honoring, entering into, and connecting with our deep sources of humanity, nurses can find ethical and artistic methods of being, loving, and caring. There is also a high value placed on the subjective-internal world of the person, as well as on how the person (either patient or nurse) perceives and experiences health-illness conditions (Watson, 1999).

Furthermore, Watson (1999) believes that the study of metaphysics is useful for any nurse to better examine nursing as a professional, social, scientific endeavor that exists as a service to humankind. Spiritual evolution is a strong theme in Watson's theory. Indicators of spiritual evolution are self-transcendence and the transcendence of space and time to gain higher consciousness levels and mystical experiences. Finally, within the existential-phenomenological philosophy, human beings are viewed as subjects (not objects), free decision-makers in life situations (not hostages to situations), choosers of meaning and values, and bearers of responsibility for their development (Smith, 1991).

Transpersonal caring is realized through ten carative factors that characterize human-to-human caring (Watson, 1999). Although the factors are hierarchical in nature, they also comprise an interrelated cluster of characteristics that lead to the holistic development of human caring. The carative factors represent the core of nursing practice and its primary ingredients. They provide a language, structure, and order for studying and understanding nursing practice.

Watson (1979) has defined care as a universal social phenomenon that is only effectively practiced interpersonally. Ten carative factors are identified, which represent both feelings and actions pertaining to nurses, patients, and the profession as a whole. The

purpose of these actions is to serve as structured guides to help one understand the phenomenon of care as an interpersonal process. In Watson's philosophical foundation of caring, characteristics such as kindness, concern, and love of self and others are identified as important components in a nurse's understanding of his or her role. Sensitivity to one's own feelings and those of others is encouraged, along with the ability to form meaningful, trustworthy, and empathetic relationships with patients.

Quality of nursing care was another part of the theoretical framework for this study. The quality of nursing care was used as a guideline in the process of model development. It was also used to determine the outcomes of the model. Basically, quality of nursing care can be understood by three approaches: studying the structural variables involved, studying the processes of care provision, and studying the outcomes of care (Donabedian, 1966). An assessment of the structural details can be accomplished by examining settings in which the process of care takes place. Included in this are the administrative and financial procedures which direct the provision of care, staffing levels, the availability of equipment and other facilities, and environmental factors.

Assessment of processes can be used to provide quality nursing care. This can be done by examining the performance of nurses in relation to their patients' need. The effectiveness of a process depends on the nature of a patient's needs and how nurses use resources to address those needs (Wywiałowski, 1993). The process of providing quality nursing care varies with patients' health problems and responses to treatment. This process is likely to change and evolve between admission and discharge.

Assessment of outcomes can be done by looking at a patient's health status and satisfaction (Wright, 1984). It also includes staff perceptions and cost effectiveness (Wywiałowski, 1993). This technique has several advantages, especially the fact that outcomes are often easy to observe. However, problems develop when nursing takes a

holistic view of patients, especially when social and emotional factors are considered in defining a patient's health status.

Methodological Framework for the Research

The action research method developed by Kemmis and McTaggart (1988) was used in this study (Figure 1.1). Action research studies in nursing are typically grounded in critical social theory (Fontana, 2004). Research based on critical social theory has emancipation as a goal. The research process is characterized by the continual redefinition of problems and by cooperative interaction between researchers and those whose environment is being researched (Weaver & Olson, 2006). It results in practical knowledge that can help people better understand and change social aspects of the world.

Action research was deemed an appropriate method due to its characteristic use of self-reflective enquiry undertaken by participants in order to improve their rationality and effectiveness of practice, as well as their understanding of their practice and the situations in which that practice is carried out (Kemmis & McTaggart, 1988). In this study, action research was used to develop and refine a tentative professional caring model between the researcher and the participants.

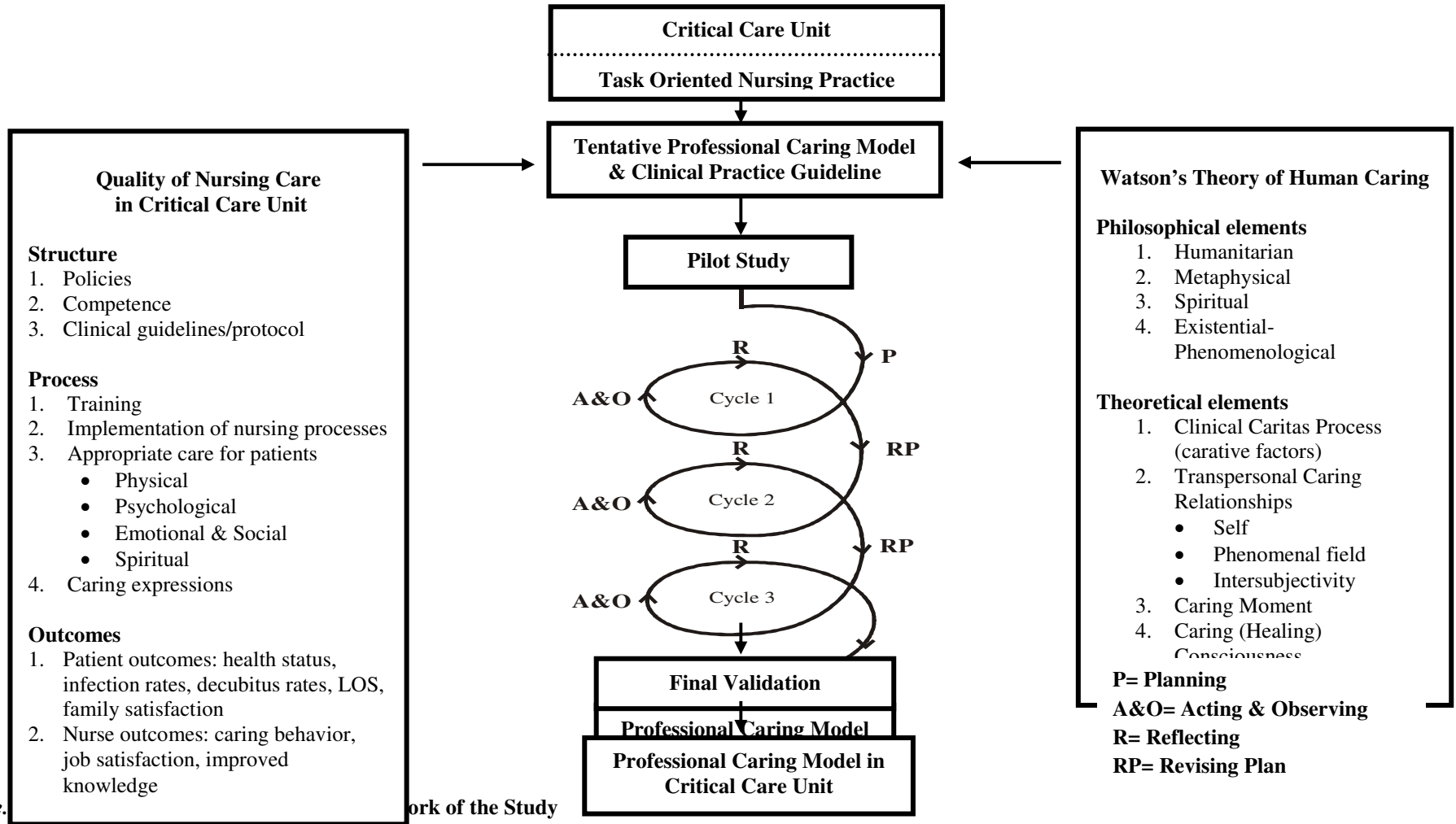


Figure.

There are 4 steps in conducting action research: reconnaissance, planning, acting and observing, and reflecting (Kemmis & McTaggart, 1988).

1. Reconnaissance

In this first step, the researcher and participants examined the current situation in the research setting by means of surveys and a general analysis. These efforts were meant to help the parties develop a clear understanding of current nursing practices in the setting. It was expected that this initial diagnosis of the research setting would provide the researcher and participants with an overview of the nursing context and would help to orient future actions.

2. Planning

In this step, after discovering the thematic concerns, the emphasis was on the importance of the problems and the changes that would take place, and on discovering ways of solving the problems. Aspects of the setting were categorized as either improvable or unimprovable. Action plans were formulated and strategies and a work schedule were defined.

The roles of the participants and the researcher were identified, and the changes that would affect other parties were predicted. Open and critical reflection by the participants on their responsibilities was deemed necessary, as it would ensure that they understood the study and could commit themselves to participating freely, honestly, and sincerely.

In this planning step, plans to monitor the changes that took place were also made. It was considered important to set the plans in advance so that the change could be carried out properly, as explained previously.

3. Acting and observing

In this step, the action plans were implemented. The actions developed in the planning step were implemented by the participants in their patient care efforts. The researcher functioned as a facilitator to help challenge and stimulate the participants to help them implement the planned actions. In this step, the researcher also collected data using various methods, such as observing, taking field notes, distributing questionnaires, and interviewing both nurses and patients.

4. Reflecting

In this step, reflection was conducted. Reflection means to analyze, synthesize, interpret, explain, and draw conclusions (Kemmis & McTaggart, 1988). Reflection was conducted based on both the evidence that was collected and findings and claims others in nursing literature had made. The reflection examined what happened during the implementation, what factors were helpful and unhelpful, what had been learned, and how further improvements could be made. Recommendations and revised plans were then produced and were implemented into the next cycle of the action research.

After reflection had been conducted, some revisions were made to the previous plans. These revisions were needed to adjust the overall plan to the most

appropriate context by considering the inhibiting and supporting factors identified during the previous steps.

Definition of Terms

The Professional Caring Model refers to a model of care designed to deliver nursing care in the intensive stroke care unit by professional nurses. This model was developed through collaboration with critical stroke care nurses, patients, family members, physicians, a physiotherapist, a pharmacist, and the researcher. Watson's theory of human caring, and concept of nursing care quality were all used as guidelines in developing the model.

Quality of nursing care refers to the degree to which nursing care is appropriately delivered to critically ill patients. In this study, quality of nursing care is measured in terms of structure indicators (policies, trainings, and protocols), process indicators (nurse caring behaviors), and outcome indicators (infection rates, decubitus rates, length of stay, family satisfaction, nurse satisfaction, caring behavior, and the nurses' knowledge of critical stroke care).

Significance of the Study

1. This study seeks to produce new knowledge and skills for the nurses in the critical care unit at Pirngadi General Hospital.
2. This study will determine guidelines for nurses in similar settings to improve the quality of their nursing care.

CHAPTER 2

LITERATURE REVIEW

This chapter presents the literature review, which is organized into the following categories: professional caring, critical care nursing, quality of nursing care, and action research. The topics are organized as follows:

1. Professional Caring
 - 1.1. Caring process
 - 1.2. Watson's Theory of Human Caring
2. Critical Care Nursing
3. Quality of Nursing Care
 - 3.1. Quality
 - 3.2. Quality in nursing
 - 3.3. Quality in critical care
 - 3.4. Quality of care for critical stroke patients
4. Action Research
 - 4.1. History of action research
 - 4.2. Philosophy of action research
 - 4.3. Principles of action research
 - 4.4. Characteristics of action research
 - 4.5. Types of action research
 - 4.6. Process of action research
 - 4.7. Trustworthiness of action research

Professional Caring

In the nursing profession, the concept of caring is widely accepted as a central component of practice. Caring has been identified as the essence and unifying domain of nursing (Watson, 1999). It is the central focus of nursing practice, a human mode of being (Boykin & Schoenhofer, 1993), and a foundation that provides a framework for nursing practice (Watson, 1999).

Gaut (1983) considered the meaning of the word “caring” in lay and scholastic terms. The notion of caring involves three major attributes: attention to or concern for others, responsibility for providing for others, and attachment to others. These attributes can be illustrated with the idea of “caring for,” which is the behavioral aspect of caring, or the valuing of another person. Gaut (1983) concluded that caring is a vague and ambiguous word, with a family of meanings that shift according to context or situation. Caring is a practical activity associated with the perspectives, attitudes, and expectations of individuals.

Morse, Bottorf, Neander, and Solberg (1992) grouped caring into five basic perspectives: caring as a human trait (naturally part of the human condition), caring as a moral imperative (a fundamental virtue or value), caring as an affect (extending oneself towards a patient beyond the job description), caring as an interpersonal interaction (between two people), and caring as an intervention (with a deliberately planned goal). There are also outcomes of caring, which are categorized as the subjective experience of the patient, the physical response of the patient, and the subjective experience of the nurse.

Leininger (1988) distinguishes between generic and professional caring. In the generic sense, caring is viewed as, “...those assistive, supportive, or facilitative acts towards or for another with evident or anticipated needs to ameliorate or improve a human’s condition or way of life” (Leininger, 1988). Caring in the professional sense refers to, “...those cognitive and culturally learned behaviors, techniques, processes, or

patterns that enable or help an individual to improve or maintain a favorable healthy condition or way of life” (Leininger, 1988). On the other hand, professional caring also demands responsibility that is characterized by the career. This responsibility entails being responsible for oneself and respecting the humanity of the individual patient (Fealy, 1995).

Nursing caring involves more than just nursing care; it involves showing individual care for each patient. When the interaction between nurses and patients becomes a part of nursing care, caring becomes involved in all of its dimensions. Therefore, in order to provide professional caring, nurses need to understand how to show caring and the impacts that caring and lack of caring have on others. Additionally, a nurse needs to understand the caring process in nursing.

Caring Process

The process of caring in nursing can be conceptualized with four levels (Figure 2.1): acknowledgement, decision, caring acts, and actualization (McDaniel, 2003). Acknowledgement of the need for caring is the first level. This involves awareness of the human experiences of individuals and the sharing of experiences with other human beings.

Once the need for care has been recognized, a decision to care is the next level. The nurse’s self-assessment of personal resources is necessary. The nurse’s personal resources may include, but are not limited to, knowledge, expertise, time, and emotional energy. The choice to commit these resources to the well-being of the other person completes this phase.

The third level in the caring process includes the actions and behaviors of the nurse that are intended to promote the welfare of others. As Watson (1999) states, “The essence of the value of human care and caring may be futile unless it contributes to a philosophy of action.” Actions taken on behalf of others are external manifestations of the internal cognitive and affective processes of the nurse that have taken place at prior level. A nurse

should understand that providing care is an investment of oneself for the benefit of others, without regard for personal gain.

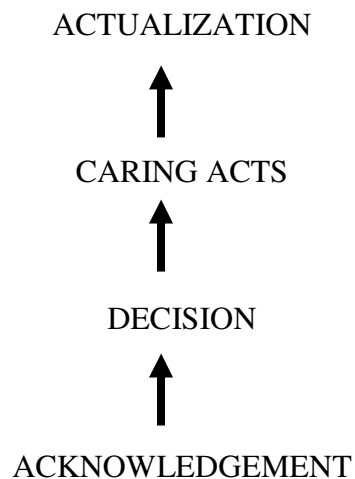


Figure 2.1 The process of caring in nursing (McDaniel, 2003)

Caring acts manifest themselves in the behavior of nurses. Ford (1981) described behaviors demonstrated in the process of caring. The behaviors that model caring include listening, helping, communicating, demonstrating, assessing, and meeting the needs of supporting staff. Studies have shown that the most important caring behaviors of nurses include demonstrating competency, being skilled at surveillance and dealing with patients, listening to patients, enabling the expression of feelings in patients, and talking to patients (Von Essen & Sjoden, 2003). In addition, Bush and Barr (1997) found that the major caring actions of nurses in critical care were administering physical care, communicating (listening and speaking), touching, supporting, teaching, mediating, advocating, making decisions, and taking responsibility for their actions.

Actualization of the caring experience is the ultimate result of the caring process. The perception of the other person as being cared for and cared about indicates a fulfilled caring interaction. This includes the realization that caring promotes growth and

satisfaction in both the nurse and the other person. This is shown as an intangible transformation in the person being cared-for and the caregiver. Benner (1984) described this as the transformative power of caring.

Watson's Theory of Human Caring

Jean Watson developed a theory of human caring. She received her doctoral degree in educational psychology from the University of Colorado in 1973. Carl Roger influenced her work, especially the emphasis on the interpersonal and transpersonal process of human care. Watson (1979) also acknowledged the works of Nightingale, Henderson, Hall, Leininger, Hegel, Kierkegaard, and Gadow as being influential in the development of her humanistic and existential philosophy of caring.

Watson (1999) defined caring as the moral ideal of nursing, with results that include protection, enhancement, and the preservation of human dignity. According to Watson, human caring involves values, will, commitment to caring, knowledge, caring actions, and consequences. All aspects of human caring are related to intersubjective human responses to health and illness, environmental and personal interactions, knowledge of the caring process, knowledge of one's own power, and transaction limitations.

Watson (1988) evolved a theory of nursing that centers on the interpersonal relationship that occurs between a nurse and patient. Watson (1979) viewed nursing as the science of caring, which involves a true concern for individuals and their health. Caring in nursing is not only seen as an emotion, concern, attitude or benevolent desire, but also as a moral ideal of nursing that protects, enhances, and preserves the human dignity of each individual (Watson, 1999). This may have elusive qualities, but Watson (1999) saw it as a primary aim.

The nurse is seen as a co-participant in a process that values and inspires holism in nursing practice. The nurse is required to be a scientist, scholar, clinician, humanitarian, and moral agent in this process. While presenting a dynamic, forward-thinking theory of nursing, Watson (1999) had high expectations of the capacity and knowledge of nurses in being skilled in all of these areas. Watson proposed basic assumptions for the science of caring in nursing; they are as follows:

1. Caring can only be effectively demonstrated and practiced interpersonally.
2. Caring consists of carative factors that result in the satisfaction of certain human needs.
3. Effective caring promotes health and growth for individuals and families.
4. Caring responses accept a person not only as he or she is now, but as what he or she may become.
5. A caring environment is one that offers the development of potential, while allowing the person to choose the best action at a given point in time.
6. Caring is more “healthogenic” than is curing. The practice of caring integrates biophysical knowledge with knowledge of human behavior to generate or promote health and to provide ministrations to those who are ill. The science of caring is therefore complementary to the science of curing.
7. The practice of caring is central to nursing.

Watson’s theory of human caring is based on a humanitarian, metaphysical, spiritual, and existential-phenomenological orientation (Conway, 1997; Fawcett, 2005; Sarter, 1997). Watson argued strongly for a humanistic perspective in developing knowledge to support a science of caring, such as the first carative factor (Watson, 1979). She views human beings as subjects, rather than objects, of experience. Watson believes in

a set of values associated with deep respect for the wonders and mysteries of life, acknowledgment of a spiritual dimension in life, and growth and change (Watson, 1999). Watson (2003) believes that by attending to, honoring, entering into, and connecting with humanity, a person is able to find the ethics and artistry of love and care. There is also a high value placed on the subjective-internal world of individuals (both patients and nurses) and how they perceive and experience health and illness conditions (Watson, 1999).

The field of metaphysics studies the most general concepts used in ordinary life and science by examining the internal structure of the language used in various disciplines (Harre, 1972, as cited in Silva, 1997). A metaphysical context becomes important in the present topic of caring, since it provides a clearer perspective of the values and beliefs of individuals. It is a useful way for any nurse to examine his or her career as a professional, social, and scientific endeavor that serves humankind (Watson, 1999). Metaphysics can be used to examine and reflect upon what nursing is, what it stands for, and what it could or should contribute to society.

Watson believes in a magnificent spiritual being (Watson, 1999). She acknowledges that the lived and experienced situation of an individual may not only be related to the external, or physical world, but may also include the inner, or spiritual, world. Spiritual evolution is a strong theme in Watson's theory. Indicators of spiritual evolution are self-transcendence and the transcendence of space and time to gain higher consciousness and mystical experiences.

Phenomenology calls for an appreciation of the human being as a supreme being with self-reflection and understanding as the basis of knowing and acting (Gortnert, 1997). Watson (1999) states that phenomenology allows for reflection upon personal and social experience, which includes the process of understanding meanings, insights, and expressions. Watson (1999) believes that transcendental phenomenology is an almost perfect methodological match for studying and developing nursing as a human science and

art and for researching the human care process and transpersonal caring. Within the philosophy of existential phenomenology, human beings are viewed as subjects (not objects) that are free in situations (not determined by them) and able to assign meanings and values while bearing responsibility for their formation (Smith, 1991).

There are three major elements in Watson's theory of human caring: the carative factors, the transpersonal caring relationship, and the caring occasion or moment. These elements are described below.

Carative factors. Carative factors play an important role in Watson's work. These factors include 10 elements (Watson, 1979). They are used as a framework that provides structure and order for the nursing phenomena (Tomey & Alligood, 1998). The carative factors serve as a guide for the core of nursing, which is referred to as those aspects of nursing that actually enhance therapeutic healing processes and relationships. These 10 carative factors represent both feelings and actions pertaining to the nurse, client, and professional; they include the feelings, experiences, communication, and expressions of the nurses (Tomey & Alligood, 1998). The first three interdependent factors serve as the philosophical foundation for the science of caring (Watson, 1979).

According to Watson, carative factors serve as a guide for the core of nursing. In nursing practice, carative factors are used as a bridge from traditional nursing qua medical framework to a more advanced nursing qua nursing practice model (Rawnsley, 1999). These factors provide a language designed for and used by the nursing profession, which is separate from the medical language and orientation.

As her theory evolved, Watson (2001) introduced the concept of clinical caritas processes, which have now replaced the concept of carative factors. The following are Watson's (2001) 10 clinical caritas processes (CCP):

1. The practice of loving kindness and equanimity within a context of caring consciousness.
2. Being authentically present, and enabling and sustaining the deep belief system and subjective perspective of oneself and the one being cared for.
3. Cultivation of spiritual practices and transpersonal self, going beyond the ego of oneself, and showing sensitivity and compassion to others.
4. Developing and sustaining a helping, trusting, and authentic caring relationship.
5. Being present to and supportive of the expression of positive and negative feelings as a connection with the deeper spirit of self and the one being cared for.
6. Creative use of self and ways of knowing as a part of the caring process in order to engage in the artistry of caring-healing practices.
7. Engaging in genuine teaching and learning experiences that attend to the unity of being and meaning, while attempting to stay within another person's frame of reference.
8. Creating a subtle healing environment at all levels, physical and non-physical, which includes elements of energy, consciousness, wholeness, beauty, comfort, dignity, and peace.
9. Assisting with basic needs with an intentional caring consciousness; administering human care essentials which enhance the alignment of mind, body, and spirit, as well as wholeness and unity of being, in all aspects of care; and tending to both the embodied and evolving spiritual emergence.
10. Opening and attending to spiritual mysteries and existential dimensions of life and death, and providing soul care for oneself and the one being cared for.

Transpersonal caring relationship. Transpersonal caring is an important component of caring. It occurs when a nurse realizes the subjective world of a patient,

experiences union with it, and expresses the union in such a way that both individuals experience freedom from isolation (Watson, 1999). Transpersonal caring is a spiritual union between two people that transcends self, time, space, and life history (Watson 1999). This transcendence allows both the patient and the nurse to enter the phenomenal spiritual realm of the other person.

A transpersonal caring relationship depends on the following (Watson, 1999):

1. The nurse's moral commitment to protect and enhance human dignity, allowing a patient to determine his or her own meanings of experiences.
2. The nurse's intent and will to affirm the subjective significance of the patient.
3. The nurse's ability to realize and accurately detect feelings and the inner condition of a patient through actions, words, behaviors, cognition, body language, feelings, thoughts, senses, and intuition.
4. The ability of the nurse to realize and assess a patient's condition of being-in-the-world and need to feel union with others.
5. The nurse's own life history and past, feelings, ability to imagine, and previous experiences dealing with various human conditions.

When nurses enter caring-healing relationships with patients, bringing with them an acknowledgement and appreciation of the body, mind, and spirit, they are engaged in the transpersonal human caring process (Quin, 2005). Through transpersonal caring, both the nurse and patient enter into the lived experience of one another and experience change and growth. Transpersonal caring calls for an authenticity of being and the ability of the nurse and patient to be present with each another. In this relationship, nurses know that they are interconnected with the patient and with the larger environment. Thus, nurses must be able to understand the subjective experiences of patients and interact with them through meaningful relationships.

Caring occasion/caring moment. According to Watson (1999), a caring occasion is the moment, or focal point in space and time, when a nurse and patient come together in such a way that an occasion for human caring is created. It is a situation where nurses and patients come together in a unique way that creates a truly transformational encounter, leaving both the nurse and patient changed (Frisch, 2005). A caring moment involves the actions and choices of both the nurse and patient (Watson, 2001). The moment of coming together in a caring occasion presents the two persons with the opportunity to decide how to be in the relationship and what to do in the moment.

According to Watson (1999), a caring occasion is not only located within a simple physical instance of a given moment in time, but the event or experience also has internal relations to other objects. A caring occasion becomes transpersonal when it allows the spiritual presences of the nurse and patient to interact. Then, the moment of interaction expands beyond the limits of openness and can expand human capabilities (Watson, 1999).

In addition, there is another dynamic aspect of the theory which is emerging as a more explicit component: caring consciousness. The concept of caring consciousness connects the individual who is caring and the person being cared for to other humans and the higher energy of the universe (Fawcett, 2005). Watson contends that consciousness is energy and caring consciousness transcends and exists through time and space. The authentic intentionality and consciousness of caring by a nurse has a higher energy than a non-caring consciousness and has greater access to the idea of an inner healer (Watson & Smith, 2002).

The role of consciousness includes the following factors (Watson, 2001):

- The caring-healing-loving consciousness is contained within a single caring moment.

- The one caring and the one being cared for are interconnected; the caring-healing process is connected with other humans and the higher energy of the universe.
- The caring-healing-loving consciousness of the one caring is communicated to the one being cared for.
- Caring-healing-loving consciousness transcends and exists through time and space and can be dominant over physical dimensions.

Critical Care Nursing

In 1984, the American Association of Critical Care Nurses (AACN) defined critical care nursing as a specialty that deals with human responses to life-threatening problems. This definition implies that critical care nurses deal with the total human being and includes individual responses to current and potential health problems. This suggests that critical care nurses are involved with prevention, as well as cures. Inherent in the human response is the notion that critical care nursing focuses on the family members of a patient and their responses, in addition to the responses of the patient (Hartshorn, Lamborn, & Noll, 1993).

Helping critically ill patients is at the center of the scope of practice for critical care nurses. The patients are characterized by the presence or possibility of being at risk for developing potentially life-threatening problems. Critically ill patients require constant intensive multidisciplinary assessment and intervention in order to restore stability, prevent complications, and achieve and maintain optimal responses (AACN, 1986). The more critically ill a patient is, the more likely he or she will also be highly vulnerable, unstable, and complex, and require more intense and vigilant nursing care.

Even though the focus of critical care nursing care is on the critically ill patients, there is a growing emphasis on caring for families and significant others and fostering

their role in helping the patient through the crisis (Hudak, Gallo, & Morton, 1998). Family members are now likely to actively participate in the caring process of critically ill patients.

Critical care nurses practice in settings where patients require complex assessment, high-intensity therapies and interventions, and continual nursing vigilance. Critical care nurses rely upon a specialized body of knowledge, skills, and experience to provide care to patients and families and create environments that are healing and humane (AACN, 2006). Foremost, a critical care nurse is an advocate for patients. AACN defines advocacy as respecting and supporting the basic values, rights, and beliefs of the critically ill patient. In this role, critical care nurses (AACN, 2006):

- Respect and support the rights of the patient or designated surrogate in autonomous and informed decision making
- Intervene when the best interests of the patient are in question
- Help the patient obtain necessary care
- Respect the values, beliefs, and rights of the patient
- Provide education and support to help the patient or designated surrogate make decisions
- Represent the patient in accordance with his or her own choices
- Support the decisions of the patient or designated surrogate, and transfer care to an equally qualified critical care nurse if necessary
- Intercede for patients who cannot speak for themselves in situations that require immediate action
- Monitor and safeguard the quality of care
- Act as a liaison between patient, family, and healthcare professionals

This section presents the concept of quality, quality of nursing, quality of critical care, and quality of care for critical stroke patients.

Quality

The importance of the quality concept emerged during the 1940s and 1950s in the business sectors (Katz & Green, 1992). The emphasis on quality brought about a reform in health care. The work of experts, such as Feigenbaum, Crosby, and Deming, influenced the concept of quality in health care. Feigenbaum (1951) defined quality as the capability of a product to fulfill its intended purpose with the lowest possible cost. While Crosby (1979) acknowledged the importance of the relationship between quality and cost, he broadened the definition by including conformance to requirements. Crosby emphasized the need to do things right the first time; his popular concept of zero defects has been implemented throughout the business industry. Lastly, Deming's (1986) concept of quality centers on the development of quality and its continual improvement. The main idea underlying his 14-point system is to do things right the first time, with an emphasis on meeting both company and customer expectations as the primary source of quality improvement.

In the health care sector, the concept of quality presented by Donabedian (1980) is widely used. Donabedian described quality in health care as the application of medical science and technology in a way that maximizes health benefits without increasing risks. Therefore, the degree of quality is the extent to which care achieves the most favorable balance of risks and benefits. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) defined quality as the degree to which patient care services increase the probability of desired outcomes and reduce the probability of undesired outcomes, given the current state of knowledge (JCAHO, 1991).

The definition of health care quality and its essential components has broadened in recent years. Many years ago, quality of health care might have been described with medical record documentations. The skills and behaviors of health care providers, as evidenced by such documentation, were considered the ultimate parameters of quality (Scroeder, 1993). This definition now extends to various components, such as the education, skills, and commitment of the caregiver. Also included in this definition are the needs of patients, caregivers, and payers, including such areas as patient satisfaction, availability of resources, management of risks and prevention, investigation, and follow-up of errors and accidents. Organization relating to leadership, productivity, and efficiency is also important (Scroeder, 1993).

In 2001, The Institute of Medicine (IOM) put forth the six characteristics of high quality care: safe, effective and reliable, patient-centered, timely, efficient, and equitable. Safe care means the avoidance of injuries during the time that care is provided. Patient safety is fundamental to high quality health care. Ensuring that care is safe for all patients requires examination of the systems and processes of care, identification of the points of failure, and modification of the factors that cause systems to break down.

Effective care means providing services based on scientific knowledge to individuals who could benefit from them and refraining from providing services to those who are unlikely to benefit from them. This means that patients receive care that will help them and provide more benefits than risks. Reliable care means that patients will consistently receive the same standard of care regardless of the time, location, and person delivering the care. However, significant variation in the quality of care that patients receive continues to be a prevalent issue.

Patient-centered care refers to care that is respectful of and responsive to individual patient preferences, needs, and values, and ensures that the patients' values guide all of the clinician decisions. It focuses on the patients' experiences with illness and

health care and the degree of success and failure of the system in meeting individual patient needs. Truly patient-centered care is characterized by respect for patients' values, preferences, and expressed needs, as well as the provision of accurate information about conditions and treatments, given in a language that patients' can understand. Other factors that are necessary for quality patient-centered care include relief from unnecessary physical pain and discomfort (such as shortness of breath, especially at the end of life), emotional support to address the anxiety that accompanies all injury and illness, and the accommodation of the needs of family and friends, as patients rely on these people for support and comfort.

Timely care means reducing waiting time and harmful delays for both those who receive and provide care. This concept is interconnected with the qualities of safety, efficiency, and patient-centeredness. Long waits may not only result in emotional distress, but also in physical harm. For example, a delay in test results can cause delayed diagnosis or treatment, resulting in otherwise preventable complications.

Efficient care means avoiding waste, including equipment, supplies, ideas, and energy. There are a number of strategies that can be used to reduce waste, such as managing access to care by matching supply with demand and managing flow through the system by eliminating tests, processes, and layers of control that add complexity or are unnecessary. Additional strategies include avoiding duplication of tests and procedures through consistent and accessible record-keeping and appropriate methods of recycling, reusing, and substituting resources.

The last characteristic of high quality care is equitable care, which means providing care that does not vary in quality based on the personal characteristics of patients, including gender, ethnicity, geographic location, and socioeconomic status.

Brown et al. (2003) describes eight dimensions of quality, which include technical competence, access to services, effectiveness, interpersonal relations, efficiency,

continuity, safety, and amenities. These dimensions of quality provide a useful framework which helps health teams define and analyze problems and measure the extent to which they are meeting program standards.

Technical competence refers to skills, capabilities, and actual performances of health providers, managers, and supporting health care staff. For example, to provide technically competent services, a health care provider must have the skills and knowledge (capability) to carry out specific tasks consistently and accurately (regarding the actual performance). Technical competence relates to how well providers execute and practice guidelines and standards in terms of dependability, accuracy, reliability, and consistency. This dimension is relevant for both clinical and non-clinical services. For health providers, this includes clinical skills related to preventive care, diagnosis, treatment, and health counseling. Competence in health care management requires skills in supervision, training, and problem solving. The requisite skills of supporting staff depend on the individual job description.

Access to service means that health care services are unrestricted by geographic, economic, social, cultural, organizational, or linguistic barriers. Geographic access is measured by transportation, including distance and travel time, and any other physical barriers that could keep a patient from receiving care. Economic access refers to the affordability of products and services to patients. Social, or cultural, access relates to the acceptability of service within the context of the cultural values, beliefs, and attitudes of a patient. Organizational access refers to the convenience and organization of services for prospective patients, which encompasses clinic hours and appointment systems, waiting times, and the modes of service delivery. Linguistic access means that the services are available to patients in their local language or a dialect in which the patient is fluent.

The quality of health services depends on the effectiveness of service delivery norms and clinical guidelines. Effectiveness is an important dimension of quality at the

central level, where norms and specifications are defined. Effectiveness issues should also be considered at the local level, where managers decide how to carry out norms and how to adapt them to local conditions. When selecting standards, relative risks should be considered.

The dimension of interpersonal relations refers to the interaction between providers and patients, managers and health care providers, and health teams and the local community. Positive interpersonal relations establish trust and credibility through demonstrations of respect, confidentiality, courtesy, responsiveness, and empathy. Effective listening and communication are also important in this dimension. Sound interpersonal relations contribute to effective health counseling and increase positive rapport with patients. Inadequate interpersonal relations can reduce the effectiveness of a technically competent health service.

Efficiency of health services is an important dimension of quality because it influences the cost of products and services, which are usually limited. Efficient services provide optimal care and benefits considering the available resources. Quality of efficiency requires that necessary and appropriate care be provided to patients. Poor care resulting from inefficient norms or incorrect delivery should be minimized or eliminated. In this way, quality can be improved and costs reduced. Harmful care, besides causing unnecessary risks and discomfort, is often expensive and time consuming.

Continuity means that patients receive the complete range of health services they need, without interruption, cessation, or unnecessary repetition of diagnosis or treatment. These services must be offered on an ongoing basis. The patient must have access to routine and preventive health care that is provided by a health worker who knows his or her medical history. A patient must also have access to timely referral for specialized services and complete follow-up care. The absence of continuity can compromise effectiveness, decrease efficiency, and reduce the quality of interpersonal relations.

As a dimension of quality, safety means minimizing the risk of injury, infection, harmful side effects, and other dangers related to the delivery of service. Safety involves the health care provider as well as the patient. It is important that patients are protected from adverse events of treatments.

The concept of amenities refers to health service features that do not directly relate to clinical effectiveness but may enhance patient satisfaction and willingness to return to a particular facility for subsequent health care needs. Amenities are also important because they may affect the expectations and confidence regarding other aspects of health services and products. When cost recovery is a consideration, amenities may enhance the willingness of the patient to pay for services. Amenities relate to the physical appearance of health care facilities, personnel, and materials, as well as such factors as comfort, cleanliness, and privacy. Other amenities may include features that make the facility more pleasant, such as music, educational or recreational videos, and reading materials.

Quality in Nursing

The history of quality in nursing can be traced to Florence Nightingale's attempt to improve conditions of care given to soldiers in the Crimean War in 1858. Her standards of care assessment have been established as one of the first documented efforts to improve care quality, and the quality of nursing care has ever since remained a priority for nurses throughout the world (Kahn, 1987). Subsequently, nursing has developed into a profession with an emerging body of knowledge, resulting in a growing interest in the improvement of the quality of nursing care.

Components of quality. Donabedian (1966) described the three domains of quality in medical care: technical care, interpersonal relationships, and amenities. Technical care is the ability of medical services and other services and technology to

manage health problems. Interpersonal relationships include relationships and interactions between recipients (patients) and care providers (doctors, nurses, and other health care professionals). Donabedian explains that the two domains can be inextricably intertwined within a complex whole, which is particularly true in the nursing field. The third component to these two domains is amenities, or the contextual properties of a health care setting. These may be structural, or physical, and may be inseparable from interpersonal care when described in abstract forms. Some examples of abstract amenities include comfort, promptness, privacy, courtesy, and acceptability.

In nursing, the focus and essence of quality care depends on processes of care, such as assessment, planning, care delivery, and interpersonal relationships and interactions. Parish (1986) describes quality nursing using process criteria, which include commitment to holistic and individualized care, involvement with patients and family, and provision of emotional support and comfort. This interpersonal focus accords well with the approach taken by the Royal College of Nursing (1987) in its position statement on the contribution of nursing to health care.

The RCN identifies three fundamental values that support high quality nursing service: equity, respect, and caring. To achieve equity, the nurse, the nursing profession, and society should value individuals as having intrinsic worth. In this light, personal integrity and independence are maintained when an individual receives nursing care. On a wider scope, equitable service is successful in balancing needs and resources fairly. An equitable nursing system is flexible, responsive to changing needs, and constantly strives to improve services.

To show that they recognize and have respect for individuals, nurses provide personal and compassionate care. This demonstrates the belief that each individual contains intrinsic worth. Respect is central to a nurse's relationship with a patient and results in autonomy, individuality, integrity, consultation, involvement, choice, dignity,

and security. A person-centered nursing system protects the individual, helps with planning appropriate nursing care, and operates within an open and collaborative communication network.

The abstract values of equity and respect are demonstrated within the process of caring for someone. The RCN (1987) sees the notion of reciprocity between nurses and patients as a central component to the caring relationship on the intellectual, emotional, and practical levels. This process enables nurses to more effectively negotiate therapeutic relationships with patients.

In addition, patients define quality care as the efficiency of nurses to deliver updated medical information and their willingness to communicate and assist patients with health problems and needs (Oermann & Templin, 2000). From the patients' perspective, care must be provided in a safe environment by sufficient numbers of trained, experienced, competent, and caring staff members who are supported by equipment in good working order. Patients and their families appreciate good communication with the clinical team, including explanations about short and long term implications of health conditions. They should also be involved in decisions about care. Continuity of care and appropriate facilities are important throughout the care period, but are especially crucial when transitioning to lower levels of care, such as a general ward or home.

Nursing quality can be evaluated with clinical indicators. Clinical indicators should reflect and measure the structure, process, and outcomes of nursing care (Donabedian, 1988). Structure indicators evaluate structural aspects required for care, such as physical, organizational, and other characteristics of the system (staffing requirements, education levels, and equipment preparation). Structure indicators are quantitative measurements that reflect the availability of resources. Process indicators focus on the actual manner in which care is delivered. Effectiveness, timeliness, and appropriateness of care rendered are factors included in this category. Both structure and process indicators

are related to outcome indicators. Outcome indicators assess the end results of the delivery of care. This includes not only health indicators, but also attitudes and knowledge. Patient viewpoints regarding nursing care also need to be assessed. It is important to assess the three clinical indicators; however, emphasis should also be directed towards evaluating the outcomes of nursing care.

Patient safety. Patient safety is a critical component of improving the quality of health care. Patient safety encompasses the processes that protect patients from injuries caused by medical mismanagement. The enhancement of patient safety involves a wide range of actions relating to recruitment of personnel. These actions include the retention and training of health care professionals, performance improvement of personnel, environmental safety and risk management (infection control, use of medicines, use of equipment, clinical practices, and environmental monitoring), the accumulation of an integrated body of scientific knowledge focused on patient safety, and the infrastructure to support patient safety development (ICN, 2002). Ensuring patient safety requires operational systems and processes that will most effectively prevent adverse medical events (Institute of Medicine, 1999).

Adverse medical events can be the result of human and technological errors, or of a system that fails to detect and prevent mishaps (Bernstein et al., 2003). One study in New York and another study in Utah and Colorado (Brennan et al., 1991; Thomas et al., 2000) estimated that between 44,000 to 98,000 Americans die every year as a result of adverse medical events.

To prevent and reduce the impact of latent adverse events, a systematic approach is required. One such approach is called Root Cause Analysis (RCA) (Wong, 2004). It provides a structured and process-focused framework that identifies flaws in a system and its organization that may lead to adverse events (AHRQ, 2001). In 1997, the Joint

Commission on the Accreditation of Healthcare Organizations in the United States implemented the requirement that all accredited U.S. hospitals use root cause analysis (AHRQ, 2001).

Root Cause Analysis has invaluable advantages. It provides the opportunity to build cooperative relationships among physicians, nurses, and other team members. It also provides excellent learning opportunities for health care professionals. It has the potential to correct system flaws that prevent the recurrence of similar events (Boyer, 2001).

Patient safety can also be improved at clinical and organizational levels (Wong, 2004). At the clinical level, there are four ways to improve patient safety, which include improving communication within the clinical team, reporting adverse events, increasing patient involvement, and developing protocols and guidelines. At the organizational level, patient safety can be improved through management of human resources, leadership commitment, public disclosure, and safety culture educational efforts.

Risk management. Risk management is an internal systematic program aimed at reducing preventable injuries to patients, employees, and visitors and reducing financial losses of the facility through risk identification and evaluation process, risk analysis, and risk control measures (Brent, 2001). This includes the use of available information to evaluate and estimate exposure to a substance that may result in adverse health effects. It is an extension of the quality improvement concept to a service profession like nursing.

There are certain known risk-prone areas in health care. For example, needle sticks are a known risk and occupational hazard in health care. Another example is the risk of falling, which is common in elderly or disoriented patient populations. Risk management programs focus on finding methods of identifying at-risk populations and hazards and creating planned surveillance programs that prevent these hazards from occurring as much as is possible (Huber, 1996).

Hayden (1992) describes three aspects of risk identification that should be monitored on a continual basis. These aspects include:

- Clinical settings, clinical problems, personnel, and specific incidents involving patients, employees, and visitors
- Safety management
- Procedures for evaluation and follow-up of identified risks

The monitoring system used in risk management may include reviews of pertinent documents, such as medical records, incident reports, infection control reports, and audits. It may also include a process for monitoring client and visitor complaints, and patient satisfaction questionnaires (Huber, 1996; Swansburg & Swansburg, 2002).

The risk management approach can be used to monitor and prevent sentinel events. Sentinel events are unexpected occurrences involving death or serious physical or psychological injury, or the risk thereof (The Joint Commission, 1998). Serious injury specifically includes the loss of a limb or limb functioning. “The risk thereof” includes any process that carries a significant chance of a serious adverse outcome. These events are called sentinel because they signal the need for immediate investigation and response. An example of a sentinel event is the use of infusion pumps in hospitals that leads to death or near-fatal drug overdoses. Experts have identified several human and mechanical errors; however, the main problem is the organizations' use of pumps that do not provide protection from the free-flow of intravenous fluid, or medication, into the patient. In addition, problems can occur when an incorrect drug concentration or rate is administered.

Factors related to quality of nursing care. Quality of nursing care is influenced by many factors. According to Cheng (2000), there are three main factors that influence the quality of nursing care. They include internal service quality, service ability, and factors relating to external quality. The factors of internal service quality consist of

management style, contact with other departments, the process of training, the support of the nursing department, rewards, correct and definite responsibilities, resources, job contents, and hospital goals. Service ability includes professional knowledge, techniques, and attitudes. External service quality factors pertain to information about the employee, including the content of service and the efficiency of service.

Radwin and Fawcett (2002) explain that nursing care outcomes are highly correlated with all components in the health care system. These components include characteristics of the nursing system and other supporting personnel; the plan under which personnel are hired, recruited, and retained; and cooperation among departments. Radwin and Fawcett explain that the characteristics and experiences of the hospital and its staff directly affect caring results. Furthermore, the quality of nursing care directly affects patient evaluations of hospital service quality.

Many other factors influence the quality of nursing care, such as manpower, nursing education, nursing research, leadership, patient expectations, and national policy. Manpower plays a vital role in improving quality. Fully qualified nurses are essential if care is to encompass high quality standards. To provide quality and safe clinical care, it is essential that nursing care contains the correct combination of highly skilled workers.

Nursing education is another important factor that influences the quality of nursing care. Nursing schools are expected to produce high quality nurses. These schools train the nursing students and equip them with skills that they will need to deliver nursing care in clinical settings. Quality assurance programs should also be introduced and become an integral part of nursing education from the very first day of clinical training (Larson, 1992).

Research in the field of nursing has also contributed to the overall quality of nursing care. Nurses who use valid research findings in daily practice are able to improve

overall performance. Findings of research studies can help nurses evaluate and improve their practice and stimulate critical thinking skills (Savage & Leigh, 2002).

Leadership is another crucial factor that can be used to improve and maintain the quality of nursing care. Appropriate types of leadership bring nurses into situations that help them work more carefully. Quality nursing leadership creates an internal and external organizational climate that enhances the quality of care (Smith, 2002). Leaders are expected to maintain a value system that supports team performance (McShane & Von Glinow, 2003).

Another important factor that influences the quality of nursing care is patient expectations. Today, consumers of health care are more knowledgeable and sophisticated than in the past. They are more exposed to information regarding health services, including nursing care. They expect that they will have the following when seeking health care: competent practitioners, information, education, partners in care, responsiveness, sensitivity to needs, and individualized care (Black, 1992). Finally, another factor that contributes to the quality of nursing care is national policy on health care. Policies relating to nursing strongly influence the quality of care provided by nurses. National policies determined by ministries of health have a strong impact on the health system of countries. Hospital policy is also an important factor that influences the quality of care. The policy that states a nurse must be licensed to work at hospitals or clinics ensures that care provided is from a competent nurse, and this helps to maintain the quality of the care. According to Huston (2008), policy-affecting quality of care decisions are made at several levels of government. At the governmental level, some financial assistance programs are directly offered to hospitals or people with low incomes. At the hospital level, funds and mandate programs are administered and regulated. In this sense, there are two major policy levels: funding and regulation.

Quality in Critical Care

The Critical Care Stakeholder Forum (2005) has identified a number of key features that describe high quality critical care services. The features include patient-centered care, evidence-based care, monitoring and evaluation, an appropriately trained and competent workforce, staff empowerment, support and development, and effective communication systems.

Patient-centered care emphasizes the need to keep patients at the center of care efforts by treating them as individuals, and whenever possible, respecting their choices about care. This means that care may have to be organized across a number of boundaries. The use of evidence, along with continuous monitoring and evaluation, aids in both clinical and non-clinical decisions and activities. This includes systematic auditing of packages of interventions, based on high level evidence, which are proven to enhance patient care and outcomes. The critical care area staff and individuals working elsewhere within the hospital are required to be competent in the recognition of critical illness.

Trained, competent health care providers are a key feature of high quality critical care service. They develop effective multidisciplinary teams in which members have clear individual roles and share knowledge, skills, and effective methods of practice. They also demonstrate a culture of shared learning and respect in which all disciplines recognize and work within boundaries of knowledge and experience and take full responsibility for their actions. To assure quality, they also create effective work places with cultures of openness, mutual challenge, and support, in order to ensure the delivery of effective patient-centered care.

Continuous support and development from all staff members is required to improve and maintain the quality of critical care. This improves the competencies, knowledge, skills, and experience of the staff, which are all necessary for the delivery of safe, effective, and patient-centered service. Finally, communication should be taken into

consideration. Critical care personnel need to develop effective communication systems within critical care teams, thereby increasing trust between patients, relatives, and the hospital. Critical care teams are also encouraged to contribute their time and effort to local clinical networks.

Quality in critical care can be achieved by maintaining a standard of care and practice. AACN has established a nursing standard that provides a framework for critical care nursing. The standards set forth by AACN describe the nursing practices for taking care of acutely or critically ill patients in the health care environment. The standards are authoritative statements that describe the level of care and its quality.

The Standards of Care for Acute and Critical Care Nursing consist of six standards and are prescriptive of a competent level of nursing practice (Figure 2.2). Standards of Professional Practice for Acute and Critical Care Nursing include eight standards: quality of care, individual practice evaluation, education, collegiality, ethics, collaboration, research, and resource utilization (Urden, Stacy, & Lough, 2002).

To monitor the quality of care and service measured in critical care, certain indicators can be used. These indicators are related to the structures, processes, and outcomes of care (Clafin, 1991). In critical care, structure indicators that are correlated with patient outcomes include the number of staff members, policies, procedures, and protocols. Process indicators measure caring activities for the patients and are believed to have an impact on patient outcomes. Examples of process indicators are assessment, treatment planning, test ordering and interpretation, medication administration, performance of invasive procedures, patient education, counseling, and discharge planning. Outcome indicators assess what happens or does not happen to a patient following a process. A lack of deterioration of neurological status, as measured by the Glasgow Coma Scale, is one example of an outcome indicator.

AACN Standards of Care for Acute and Critical Care Nursing, 1998
<p>Standard of Care I: Assessment The nursing caring for acute and critically ill patients collects relevant patient health care data</p> <p>Standard of Care II: Diagnosis The nursing caring for acute and critically ill patients analyze the assessment data in determining diagnoses</p> <p>Standard of Care III: Outcome Identification The nursing caring for acute and critically ill patients identifies individualized, expected outcome for the patient</p> <p>Standard of Care IV: Planning The nursing caring for acute and critically ill patients develops a plan that prescribes interventions to attain expected outcomes</p> <p>Standard of Care V: Implementation The nursing caring for acute and critically ill patients implements intervention identified in the plan of care</p> <p>Standard of Care VI: Evaluation The nursing caring for acute and critically ill patients evaluates the patient's progress toward attaining expected outcomes</p>

Figure. 2.2 AACN standards of care for acute and critical care nursing (1998)

In addition to selecting indicators, the quality of critical care can be measured by obtaining feedback, which is not part of an on-going monitoring program, but related to the quality of care (Claflin, 1991). Feedback can come from patients, families, other health care members, insurers, and so on. This can be accomplished by conducting surveys that collect information about patients, families, and other users of services. Complaints, comments, and suggestions can be used to improve quality of service.

Quality of Care for Critical Stroke Patients

In several countries around the world, initiatives have been made to measure the quality of stroke care. For example, external audits to describe national standards of stroke care have been implemented (Ruud & Person, 2002). Quality indicators are widely used

tools within programs that can improve the quality of acute care. They measure the performance of an individual facility over time, compare quality of care between different facilities, and identify areas of improvement.

When assessing quality of stroke care, the structure, process, and outcome measurements are complementary and should be assessed in order to gain an accurate picture of quality provided. Structure applies to the attributes of the setting in which the care occurs (staffing and accreditation). Organized stroke units have been shown to be more effective at improving patient outcomes than traditional medical wards.

Process refers to what is done during the exchange of giving and receiving care, and includes tests, referrals, procedures, and guideline adherence. These care "processes" are numerous and include identification and management of risk factors for stroke prevention, and acute, sub-acute, and outpatient management of stroke (Hinchey, 2003). Many procedures that are done while providing care to patients may not have a solid base of evidence (patient education or acute management of blood pressure in ischemic stroke), but the presence of such events may indicate quality care.

Outcomes can be clinically measured through measurements of morbidity, mortality, and functional status. Outcomes may also be patient-based, such as information regarding patient satisfaction or health-related quality of life. Outcomes may have an economic perspective with measurements that may include length of stay, days missed from work, and cost of testing and treatment. Most acute stroke clinical trials collect functional outcomes, including the modified Rankin--Barthel Index of daily activities and the National Institute of Health Stroke Scale Scores (Hinchey, 2003). Other important outcomes are complication rates, recurrence rates, information about health-related quality of life, patient satisfaction, and cost of services.

The Canadian Stroke Quality of Care Study (CSQCS) acute stroke advisory panel of 2004 proposed the use of 23 core indicators to measure the quality of stroke care in

Canada (Lindsay, Kelloway, & McConnell, 2005). These indicators focus on acute care and represent a significant component along the continuum of care. They address issues directly related to the acute phase of the stroke continuum of care for patients who have an ischemic stroke. The indicators focus on areas such as tissue plasminogen activase (tPA) administration, specific aspects of care, the goal of providing care, and initiation of secondary prevention therapies in hospitals. The goal of the CSQCS was to identify a minimum core set of indicators that focused specifically on acute stroke management, and which would potentially have predictive value for overall quality of care.

In conclusion, this section reviewed topics related to quality of nursing care, such as concepts of quality, components of quality, patient safety, and quality in critical care. This comprehensive discussion is helpful in determining quality indicators in a professional caring model within a critical care setting.

Action Research

Action research is a method of research in which positive social change is the predominant driving force. Action research developed from social and educational research and exists today as one of the few research methods to embrace principles of participation and reflection, as well as empowerment and emancipation for groups seeking to improve social situations.

Action research can be defined as "collective, self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social practices" (Kemmis & McTaggart, 1988). This type of research generates knowledge about systems and promotes social and organizational change (Titchen & Binnie, 1994). It may result in facilitated change and help practitioners to research and improve their practices. Stakeholders are included in the process to identify specific outcomes and to generate and test theories (Titchen & Binnie, 1994).

Action research has slowly emerged as a useful method to improve and understand professional practice, especially in the nursing profession. It can be used as a framework for improving working conditions for nurses. This helps them to organize themselves and be more effective in their practice and to clarify and reclaim their roles and statuses (Breda et al., 1997). It facilitates self-directed learning and provides a means of planning, evaluating, and dealing with problems (Owen, 1993).

Action research is a cyclical process that includes changing interventions. It is a research partnership between the researcher and the subjects of a study (Waterman, Tillen, Dickson, & Koning., 2001). McGarvey (1993) identifies the stages of the action research process as:

- Identify the problem
- Study and investigate relevant literature and problem concepts
- Design the plan of action to solve the problem
- Implement, observe, and monitor the plan
- Reflect about changes and modifications to the plan

This cycle of events is repeated until practical considerations like a lack of time or resources make termination of the study necessary.

History of Action Research

Action research began in the 1940s when Kurt Lewin investigated a wide variety of social practices. During that time, the phenomenon was poorly understood and the best interventions were unknown. It was proposed that an understanding of the phenomenon was not possible unless a variety of interventions were applied to the situation and their resulting effects noted.

Philosophy of Action Research

Action research studies in nursing are typically grounded in critical social theory (Fontana, 2004). They are used frequently in nursing with an emancipatory intent. As outlined by Fontana (2004), there are seven foundational processes that are consistently seen in critical studies. They form a recognizable methodology for critical science in nursing. These methods include critique, context, politics, emancipatory intent, democratic structure, dialectic analysis, and reflexivity. A study is considered critical when each of these processes is present and the study grounds itself, at least partially, within the critical tradition (Fontana, 2004).

Critical social theory was inspired by the writings of Marx, Habermas, and Freire, and also by the feminist, grassroots, and emancipatory movements. This theory is concerned with countering oppression and redistributing power and resources (Lutz et al., 1997). The critical social theory assumes that truth exists as realities shaped by social, political, cultural, gender, and economic factors become taken for granted and considered real over time (Ford-Gilboe, Campbell, & Bergman., 1995).

Habermas outlines three areas of research in his model of cognitive interests: explanation, understanding, and critique (Delanty, 1997, as cited in Wilson & McCormack, 2006). Explanation emphasizes the need for empirical-analytic sciences that focus on prediction and control of social phenomena. Understanding encompasses historical-interpretive sciences that focus on the need for understanding. Finally, critical social science unites explanation and understanding by using a critique based on the underlying emancipatory intent of social science.

The critical social science paradigm is concerned with the study of social institutions, issues of power and alienation, and new opportunities (Gillis & Jackson, 2002). Research based on the critical social theory contains the goal of emancipation. The research process is characterized by a continual redefinition of problems and cooperative interaction between researchers and those whose environment is being researched (Weaver

& Olson, 2006). As a result, practical knowledge is gained in order to help understand or change the social world.

Ontologically, the critical social theory paradigm is based on realism. It is a view of truth as universal and independent of human perception. It is based on the assumption that the universal truth may not be accessible to everyone (Lincoln & Guba, 1995). Epistemologically, researchers working within the critical social theory paradigm consider observations to be subjective and mediated by value (Lincoln & Guba, 1995). The methodology of the critical social theory reflects its ontological realism and epistemological subjectivity. Action research for critical social theory was developed to reveal hidden power imbalances, learn how people subjectively experience problems, and make this knowledge publicly available (Weaver & Olson, 2006).

Principles of Action Research

The following are some principles of action research, as stated by Kemmis and McTaggart (1988):

1. Action research is an approach used to improve practice by changing it and learning from the consequences of those changes.
2. Action research is participatory. It is research through which people work towards the improvement of practices.
3. Action research develops through a self-reflective spiral, which includes cycles of planning, acting, observing (systematically), and reflecting. Then, further re-planning, implementing, observing, and reflecting occur.
4. Action research is collaborative. It involves individuals responsible for action, individuals directly involved, and individuals affected by the practice.

5. Action research establishes self-critical communities of people participating and collaborating in all phases of the research process, including planning, acting, observing, and reflecting. It aims to build communities that are committed to learning about relationships between circumstances, actions, and consequences in whatever area of life is being researched. These communities are interested in emancipating themselves from the institutional and personal constraints that limit their powers to live with legitimate educational and social values.

Depoy, Hartman, and Hasslet (1999) outline three basic tenets of action research. First, action research is founded on the principle that those who experience a phenomenon are the most qualified to investigate it. To capture knowledge about the human experience, participants are involved in designing, conducting, and reporting research. Second, the purpose of action research is to generate knowledge that informs action. Third, action research is based on four principle values: democracy, equity, liberation, and life enhancement.

Regarding the principle of democracy, action research is meant to be participatory. Therefore, all individuals who are involved in a problem and its resolutions are included in the research process. The value of equity ensures that all individuals are equally valued in the research process, regardless of previous experience in research. Liberation suggests that action research is aimed at decreasing oppression. Meanwhile, life enhancement positions action research as a systematic strategy that promotes an expression of the full human potential.

Characteristics of Action Research

There are four characteristics of action research, as stated by Holter and Schwartz-Barcott (1993). These characteristics include collaboration between researcher and

practitioner, solutions to practical problems, changes in practice, and development of theory. Action research collaboration involves interactions between a practitioner, or a group of practitioners, and a researcher or team of researchers. The nature of collaboration is highly variable, ranging from simple periodic participation to in-depth and continuous collaboration throughout the duration of a study. During the collaboration process, the focus and intervention are identified, and changes to practice are suggested.

The problem in action research is defined in relation to specific situations and settings. A wide range of practical problems in diversified settings becomes the focus of action research. The degree of participation in problem identification is important for the results regarding the change process. Various methods are used to identify problems, such as observations, questionnaires, interviews, and audiotapes. In addition, some models are developed prior to the start of a study, while other models are outlined and must be developed further with participants during the process of the study.

Actual changes in practice depend on the nature of the problem or problems identified. The change process is based on the intervention created either by the researcher ahead of time or in collaboration with practitioners. The kinds of changes that have been made in the past have varied from revisions in the underlying assumptions of an organization to changes in personal values, as well as to the structure of an organization.

The last characteristic of action research, as stated by Holter and Schwartz-Barcott, is the generation of a theory. By using action research, the researcher develops a new theory, or expands or enhances an already existing scientific theory. The researcher can use this as a guide for inquiry and reflective action, which may produce a theory as it develops from of practical experience. Thus, action research involves a bottom-up approach in its development of practical knowledge leading to theory generation.

Streubert & Carpenter (2003) propose four characteristics of action, which are different from those stated by Holter and Schwartz-Barcott. The characteristics explain

that research is context bound; that the process seeks to have full engagement by researchers and participants; that those engaged pay regular attention to the process, an action or a change as the focal point of the process; and that the decision to implement the action or change is in the hands of the stakeholders.

Tripp (1990) proposed characteristics of action research which are quite different from those discussed above. Tripp's five characteristics of action research are participation, direction, consciousness, constraints, and outcomes. Participation refers to the mutual support among people involved in a study. This is often determined by the situation of the research and the nature of the project. Direction means that action research tends to be internally directed because the emancipatory interest of the participants influences the way they work to achieve goals. Meanwhile, consciousness describes one's worldview, including values embedded in lifestyle, aspirations, ideology, and habits. Therefore, consciousness relates to the idea of individuals as thinking, social beings. Constraints are features that determine certain methods, limitations, and other important features of a situation. In an action research project, it is important to specify constraints in order to examine them and discover their nature more precisely. Finally, outcomes means that action research tends to develop new practices, rather than modify existing ones.

Types of Action Research

Grundy (1982) classifies action research into three modes: technical action research, practical action research, and emancipatory action research. Technical action research aims for effective and efficient practice, but the idea by which the outcome will be measured already exists in the mind of the facilitator. It seeks to improve practice through the practical skills of the participants. Practical action research seeks to improve practice through the application of the personal wisdom of the participants. Emancipatory action research seeks to improve practice through traditions, precedents, habits, coercion,

and self-deception. It focuses not only upon particular practices, but also on the theoretical and on the organizational structures and social relations that support it.

Process of Action Research

The process of action research consists of four steps: planning, acting, observing, and reflecting (Kemmis & McTaggart, 1988). Prior to planning, there is a vital step that must be completed, which is an initial phase of reflection or reconnaissance. This provides information that guides decision-making about thematic concerns and serves as a foundation for planning and action (Kemmis & McTaggart, 1988).

Planning. The planning step of the action research cycle is the phase in which the researchers and collaborators orient themselves and prepare for action. Based on thematic concerns that are uncovered in reconnaissance, researchers will begin to plan for action by proposing the question, "What should be done?"

During the planning step of the study, researchers need to consider objective conditions (physical and material opportunities and constraints in the situation, availability of resources, and limits of time and space) and subjective conditions (opportunities and constraints in terms of the ways people think now, their expectations, and their existing patterns of formal and informal relationships).

Action. Action basically means implementation of a plan. In this step of the action research cycle, the researcher attempts to perform what has been planned. Instant feedback might appear, and the researcher will need to be ready to modify the plan almost immediately.

Observation. Observation is conducted while the action step is taking place. The researcher should monitor what happens closely. In this step, the researcher uses various

techniques to collect data. For example, the researcher may keep a project diary or journal. This journal will allow for the recording of ideas and impressions and will allow the researcher to recall more accurately what happened as the actions progressed. The journal is also helpful during the reflection stage.

Reflection. Reflection simply means to analyze, synthesize, interpret, explain, and draw conclusions about the research study. In this step of the action research cycle, the researcher thinks synthetically and integrates ideas. This process includes detailed comments concerning what happened and what can be learned from the study. Reflection is not only performed by researchers, but also by participants. A discussion should occur during this stage between the researchers and other members of the group. Participant reflections will stimulate the discussion, pose new questions, and provide new lines of inquiry.

Reflection is based on evidence collected by researchers and can further inform them on the findings and claims of other studies. During this stage, it is important for researchers to interpret the relevant literature and evidence from the research study. The researchers try to further understand the practice and organizational context of the work, and formulate the next action to be taken.

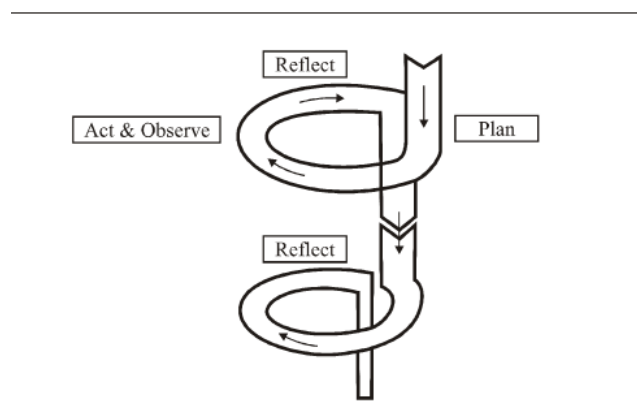


Figure 2.3 Action research spiral (Kemmis & McTaggart, 2005).

Trustworthiness of Action Research

According to Lincoln and Guba (1985), the trustworthiness of data in a qualitative study can be established by maintaining credibility, transferability, dependability, and confirmability. Credibility is the level of confidence a person can have in the veracity of data. Credibility also refers to the appropriateness and accuracy of data sources and interpretations. Credibility can be achieved through prolonged engagement, reflexive journals, triangulation (sources and methods), member checking, and peer examination.

Prolonged engagement is the investment of time to achieve a certain purpose, such as learning the culture, testing for misinformation induced by distortion (either of the self or of the respondents), and building trust (Lincoln & Guba, 1985). A reflexive journal is a kind of daily journal maintained by the researcher and used to record information about the findings and methodology of the study. Triangulation involves the use of two or more data collection sources, methods, or investigators. Member checking is a process through which respondents, or participants, verify data and the interpretations of the data (Lincoln & Guba, 1985). The researcher turns to participants to verify that the results and interpretations accurately reflect the information provided. Lastly, peer examination is the process of asking peers, who have not taken part in a study, to explore aspects of the study.

Confirmability is the extent to which data findings are objective (Lincoln & Guba, 1985). To establish confirmability within a study, a record of the on-going process, notes from interviews, and copies of all transcriptions should all be maintained. Important documents should be saved in order to submit this information to an objective reviewer to confirm the dependability of the conclusions. These documents contain information about the who, what, when, where, why, and how of the study, particularly regarding its

production and implementation. Raw data from data collection and records of the investigator's decisions throughout the process should also be saved.

Dependability refers to the reliability of coding procedures. Dependability can be established by use of an external expert who checks the transcriptions and themes that emerge from the study. Transferability is the extent to which data can be generalized to other groups (Lincoln & Guba, 1985). Transferability is related to representativeness and is concerned with the contextual boundaries of the findings. To achieve this principle, in-depth descriptive information, or thick description, is necessary to obtain early on in order to determine if data is generalizable. Thick description is a description of a phenomenon that provides information that a reader may need to know in order to understand the findings.

CHAPTER 3

METHODOLOGY

This chapter presents the research design and methods, which are organized into the following topics: the research design, participants, research settings, instruments, research process, data collection methods, trustworthiness of the data, and ethical considerations.

Research Design

Action research methodology was used in this study. This methodology identifies problems in practice and devises methods for solving these problems. It provided the rigor of a structured framework within which the study was conducted. In nursing, action research methodology has been extensively used in the areas of management and clinical practice development, and in managerial and educational changes. Action research was chosen due to its potential ability to bridge the gap between theory, research, and nursing practice. The action research method of Kemmis and McTaggart (1988) consist of four phases: planning, acting, observing, and reflecting, and this method was used as a guide for the present study.

Participants

The participants in the present study were 17 nurses who worked in the intensive stroke care unit (ISCU) on the fourth floor of Pirngadi General Hospital. They included three bachelor-prepared nurses, nine diploma-prepared nurses, and four SPK-prepared nurses (SPK is nursing education which is similar to senior high school level). Other participants in this study included three nurse supervisors, four nurse managers (including

the head of nursing division), one physiotherapist, one physician, one pharmacist, thirty patients, and thirty family members of patients.

Research Settings

This study was implemented within the intensive stroke care unit at Pirngadi General Hospital (PGN), which serves as the Medan District Hospital. Besides providing health services to the community, Pirngadi General Hospital also serves as a teaching hospital for medical and nursing students. It is located in the center of Medan city, Indonesia, and is an accredited hospital.

The intensive stroke care unit is located on the fourth floor of the PGN main building. It consists of eight primary beds and two extra beds. This unit is considered an intensive unit, so it is located on the same floor as other intensive units, such as the intensive care unit (ICU) and intensive coronary care unit (ICCU). The total number of patients admitted to this unit in 2006 was 362 patients. This unit only receives stroke patients who are in critical condition, such as being unconsciousness. For 2006, the bed occupancy rate in this unit was 90.3%. The average length of stay (ALOS) during 2007 was 5.5 days.

Previously, this unit provided intensive and rehabilitative services for stroke patients. Since being moved to a new building with limited space, it now serves as an intensive stroke care unit only. It is equipped with sophisticated facilities, including electrical beds, vital sign monitors, central oxygen and suction, electric decubitus mattresses, body warmer machines, infusion pumps, and syringe pumps.

In this unit, critical stroke patients are cared for by neurologists, nurses, and physiotherapists. At the beginning of this study, there were five neurologists, 13 nurses, and one physiotherapist available to help patients during the study. In addition, there was

one stand-by physician (general practitioner) who worked in shifts and two clerks who served as administrative officers and handled household affairs.

Team methods were used to deliver nursing services to patients. There were two teams: Team A, which was composed of six nurses, and Team B, which was also composed of six nurses. Each team was lead by a head nurse and a vice head nurse. Even though the team method was explicitly stated as being the primary method for delivering nursing care, in reality, the nurses actually implemented a functional method. Their work activities were based on completing necessary tasks, which were usually outlined by the head nurses or vice head nurses. The head nurses not only managed the unit, but also handled clinical work.

The nurses worked in three shifts: 7:30 to 14:30, 14:30 to 21:30, and 21:30 to 07:30. There were four to five nurses on duty during the morning shift. There were two nurses on duty during both the evening and night shifts. In addition, visiting hours for family members occurred twice a day, from 12:00 to 13:00 and from 17:00 to 18:00.

Instruments

Researcher as an Instrument

The researcher played an important role in the process of conducting the qualitative research. In this action research study, the researcher served as a catalyst to help participants define and think differently about problems and interventions, and also offered new methods for examining old problems. In addition, the researcher also functioned as a data-gathering instrument. The researcher asked questions, conducted observations, and reviewed artifacts. In this study, the researcher functioned as a facilitator and provided consultation for the nurses in the intensive stroke care unit. This was accomplished through the sharing knowledge about the development of the professional caring model and the improvement of the quality of nursing care. Workshops were

conducted and relevant books and articles were shared in order to increase the nurses' knowledge of proper nursing care for critical stroke patients.

Instruments Used in the Research Procedure

The instruments used in this study included a tape-recorder for recording interviews and group discussion sessions and a camera for capturing key moments in the research process.

Instruments for Data Collection

Instruments used in data collection included 1) Interview Guides, 2) a Demographic Questionnaire, 3) a Family Satisfaction Scale, 4) a Nurse Satisfaction Scale, 5) a Nurse's Knowledge of Critical Stroke Care Scale, and 6) a Caring Behavior Checklist. Details of each instrument are presented in the following sections.

Interview guides. Two interview guides (Appendix B) were used in this study. The first interview guide for nurses included five questions. This interview guide was developed by the researcher in order to gain an understanding of nursing practices in the intensive stroke care unit, especially caring-related practices. The second interview guide was for family members and also consisted of five questions. It was developed by the researcher in order to gain an understanding of the experiences of patients and their family members in receiving nursing care. The interview guides were composed of semi-structured interviews followed by key probing questions.

Demographic questionnaire. The demographic questionnaire (Appendix C) contained a checklist of demographic questions regarding the characteristics of the nurse participants. These questions included information about gender, age, religion, marital

status, educational background, years of employment in nursing, training in critical stroke care, monthly income, and years of experience working in an intensive stroke care unit.

Family satisfaction scale. Risser (1975) developed a Patient Satisfaction Scale to measure patient satisfaction with nurses and nursing care in primary care settings. This tool consists of 25 items that are subdivided into three subscales: a technical-professional area, an interpersonal-educational relationships area, and an interpersonal-trusting relationships area. This instrument has been tested on 138 patients in primary health care settings. The reliability of this instrument was established by Cronbach's alpha, which ranged from 0.63 to 0.91 in previous tests.

In this study, the researcher modified the Risser's Patient Satisfaction Scale (permission to use and modify the instrument was granted by Wolters Kluwer Health as the copyright holder) and named it as Family Satisfaction Scale in this study as the family members would be asked to fill it due to comatose condition of the patients (Appendix D). This Family Satisfaction Scale (FSS) consisted of 20 items. The researcher deleted some items from original instrument that were not related to critical stroke care and added five items that focused on patient and family member satisfaction toward nursing care in an intensive stroke care unit. The content validity of this modified scale was verified by a group of five experts, which consisted of two master-prepared nurses, two heads of intensive care units, and a director of nursing service at a referral hospital. The content validity index (CVI) was 0.86.

The minimum score possible for this questionnaire was 20 and the maximum was 100. The level of family satisfaction was based on the following scoring: 90 to 100 shows a very high level of satisfaction, 80 to 89 shows a high level of satisfaction, 70 to 79 shows a moderate level of satisfaction, 60 to 69 shows a low level of satisfaction, and below 60 shows a very low level of satisfaction.

Nurse satisfaction scale. A self-reported, ten-item questionnaire (Appendix E) was developed by the researcher based on the literature review. The content validity was verified by the same group of five experts that handled the FSS validity. The content validity index was 0.91.

The interpretation of this scale was based on the scores of the participants, with a maximum possible score of 50. In order to analyze the level of satisfaction, the maximum score was then converted into a figure based on a 100-point scale and the level of satisfaction was then determined in the same way as family satisfaction was, discussed above, was.

Nurse's knowledge of critical stroke care scale. Thomas's Nurse's Knowledge of Stroke Care Scale (Thomas et al., 1999) was modified by the researcher in order to capture the knowledge of the nurses in the intensive stroke care unit (permission to use and modify was granted by Sage Publication Ltd as the copyright holder). The original scale consisted of 22 items. The Nurse's Knowledge of Critical Stroke Care Scale (Appendix F) that was used in the present study consisted of only 20 items. Twelve items unrelated to critical stroke care were deleted, and ten items concerning the intensive nature of stroke care were added. The content validity was verified by four experts: a neurologist and three master-prepared nurse educators. The content validity index was 0.88.

The interpretation of the data from this scale was quite similar to the nurse satisfaction scale in that the maximum score was converted to a 100-point scale. The level of satisfaction was determined in the same manner as was the level of family satisfaction.

Caring behavior checklist. McDaniel (1990 in Watson, 2002) developed the Caring Behavior Checklist (CBC) to assess the prevalence of specific actions showing

caring behavior. The CBC consists of 12 items that represent caring behavior and its content validity index has been found to be 0.80. Meanwhile, the range of reliability of the CBC, as determined by agreement between two trained raters, has been found to be 0.76 to 1.00, with eight of 12 items rating at 0.90 or above.

In the present study, the researcher modified the CBC to capture the caring behavior of the nurses in the intensive stroke care unit (permission to use and modify original instrument was granted by Springer Publication Company as the copyright holder). The Caring Behavior Checklist (Appendix G) used in the present study consisted of 15 items—the researcher deleted five original items and added eight new items. Three master-prepared nurse educators verified the content validity of this instrument—the result was 0.93. The interpretation of this data is similar to the nurse satisfaction scale analysis mentioned above.

The Research Process

Preparation Phase

The preparation phase was a preliminary stage where the research context (reconnaissance) was explored, the tentative professional caring model (PCM) and the clinical practice guideline (CPG) were developed, and a pilot study was conducted.

Reconnaissance stage. The objectives of the reconnaissance stage included meeting participants, building positive relationships with participants, exploring situations involved in intensive stroke care units, understanding the nature of critical stroke care, and developing research tools.

To better understand the nature of the current clinical nursing practices in the intensive stroke care unit, the researcher conducted in-depth interviews with open-ended questions and group discussions. Participants in the in-depth interviews included staff nurses, a head nurse, and a nurse supervisor. Each individual interview lasted

approximately 30-45 minutes. Interviews with a physician, patients, and family members were also conducted in order to gain additional information regarding nursing practices in this unit. All interviews were audio-recorded.

Besides obtaining interview data, the researcher also performed observations. These were focused on the relationships between the nurses, patients, and families, especially concerning the caring shown by the nurses. Photo recording was also conducted to record critical caring moments in the unit.

Developing the tentative PCM and clinical practice guideline. The development of the tentative professional caring model (PCM) was conducted by the researcher, the head nurse, and two staff nurses. The process began with a comprehensive literature review based on Watson's theory of human caring, critical care, critical stroke care, quality of nursing care, and nursing practices in intensive stroke care units.

There were three core values embedded in the tentative professional caring model (Figure 3.1): caring relationships, caring environments, and caring touch. The nurses and the rest of the healthcare team were told to develop these values to more successfully care for critically ill patients. The tentative PCM highlighted four key parties: the critically ill patients, the family members of the patients, the nurses, and the rest of the healthcare team (physicians, physiotherapists, and pharmacists). The individuals and groups involved in the study interacted with each other, and the nurses and healthcare team members used collaborative caring relationships when interacting with each other and a humanistic approach when interacting with the patients and their families. The humanistic approach involved showing genuine interest in and concern for the patients, and expressing feelings of sensitivity, empathy, and loving kindness while taking care of patients and their families.

The final component of the tentative PCM was the quality of nursing care. This component was the output of the model. It was expected that when the model was implemented in a critical care setting, improvement in the quality of nursing care would be evident in terms of structure indicators (policy, competence, and protocol), process indicators (caring expressions and behaviors) and outcome indicators (health status of patients, infection rates, decubitus rates, family satisfaction, nurse satisfaction, and nurse knowledge).

Considering that the tentative PCM is very abstract and the two nurses felt that it was quite difficult to implement in daily practice, therefore, the researcher, supervisors, the head nurse, and two nurses worked together to plan the caring procedures for two critical stroke patients. Then, a clinical practice guideline (CPG) was developed. The CPG was developed to serve as a guideline for participants to translate the abstract nature of the model into a more applicable format. The CPG was derived from the model and described the model in more detail. The CPG (Appendix I) consisted of core values, principles of caring, and day-by-day caring activities. The researcher, supervisors, the head nurse, and two nurses developed it together. Due to the origins of the model, the CPG also made use of the Watson theory of human caring. The core values of this CPG include smiling in a friendly manner; speaking with a kind, soft voice and without judgment; listening with compassion and an open heart; maintaining a caring focus for all technical skills and interactions with patients; putting forth a caring conscience into every nursing action, focusing on the present moment when performing actions, and working from the heart. The principles of caring in this CPG include introducing oneself to patients, addressing patients by their names, and anticipating patient needs. Daily caring activities included all procedures and interventions needed by critical stroke patient.

Pilot study. A pilot study was conducted to carry out the tentative PCM and CPG in daily practice and also to practice one cycle of action research. The researcher and two nurses worked together in taking care of critical stroke patients by using the tentative PCM and CPG. While carrying out the tentative CPM and CPG with two staff nurses for selected patients, the researcher also conducted interviews with nurses and family members in order to gain more context-based knowledge on critical stroke care in the intensive stroke care unit. Questions focused on obtaining information about the implementation of the tentative PCM in the intensive stroke care unit, including nurses' experiences with the tentative model's use, nurses' feelings, obstacles involved, facilitating factors, and nurses' suggestions for better implementation of the model.

In this pilot study, the researcher and the nurse participants practiced use of an action research cycle which consisted of planning, acting and observing, reflecting, and re-planning. In the planning phase, the researcher and nurse participants made plans before bring to the tentative PCM and CPG into actions. Action and observation were carried out in order to obtain data for development of the tentative model. Meanwhile, reflection was conducted and plans were revised. During the reflection session, the two staff nurses revealed that changes in nurses' attitudes and caring behaviors, and nurses' intentions for

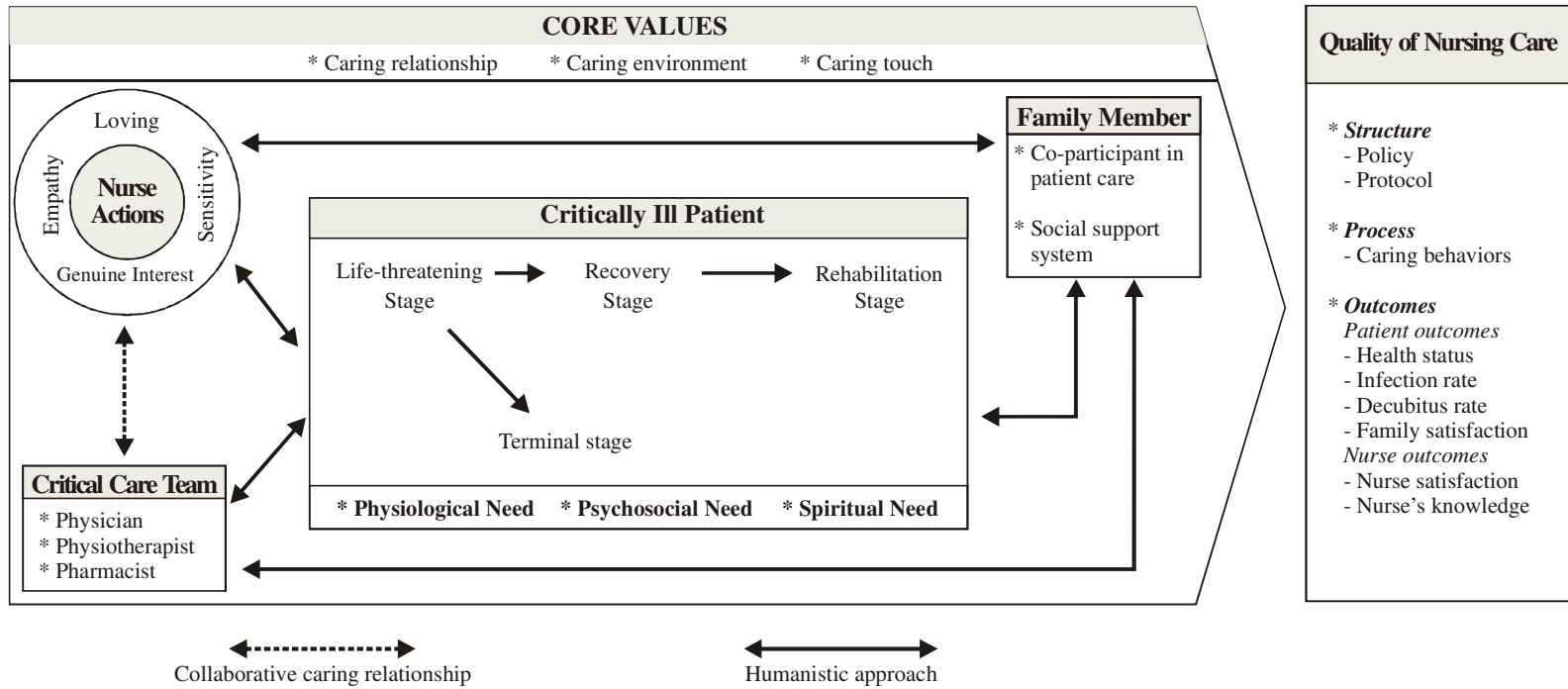


Figure 3.1 Tentative Professional Caring Model

conducting better practice in the intensive stroke care unit, were important areas related to the development of the model. They also suggested that there should be a training provided in critical stroke care and in caring for patients. In addition, the nurses involved in this pilot study were interested in using the tentative PCM and CPG since they felt that they had an influence on its creation, and because they became familiar with the patients. They were able to pay more attention to patient and family needs, which improved the health status of the patients.

The Action Phase

The process of action research in this study consisted of the following steps: planning, acting and observing, reflecting, and replanning.

Planning. The objectives of the planning step included the creation of an action plan to resolve the thematic concerns found in the preparation phase and the identification of strategies to implement the plan. As found in the preparation phase, the model of care in intensive stroke care units and the quality of nursing care were the main concerns. There was no model serving as a source of guidelines for nursing practice in the intensive stroke care unit. Instead, nurses worked based on a routine, and the quality of nursing care was not well managed. Quality indicators of nursing care for critical stroke patients were not clearly defined or monitored on a regular basis. Thus, the main action plan was to change the routine nursing practice by introducing and implementing the tentative professional caring model into the intensive stroke care unit.

Participants that were involved in this step included the researcher, the regular nurses, the nurse supervisors, the head nurses, the physician, the pharmacist, and a physiotherapist. The main role of the researcher in this step was to help the nurse participants comprehending the tentative PCM including CPG. Additional duties of the researcher included establishing good rapport with the participants and upper management in order to obtain administrative support for improvement of nursing practices, learning appropriate strategies for implementing the action plan, and obtaining baseline data. The nurses' duties included helping the researcher by reviewing comments and making suggestions on the draft of the tentative PCM and by learning appropriate strategies for implementing the tentative PCM and CPG. The physician, the pharmacist, and the physiotherapist were also asked to provide input on the tentative PCM and CPG.

Instruments used in this step included the family satisfaction scale, the nurses' knowledge of critical stroke care scale, the caring behaviors checklist, and the nurse satisfaction scale. All of these instruments were used to gather information to serve as baseline data.

Data collection methods used in this step included critical reflection, questionnaires, and observation. The researcher and participants performed critical reflection in order to analyze, synthesize, interpret, explain, and draw conclusions about the action plan and the strategies to implement it. Questionnaires provided baseline data about family satisfaction with nursing care, nurses' knowledge of critical stroke care, and nurse satisfaction. Observational efforts focused on the relationships between nurses and patients and their families, especially regarding

caring behaviors shown by the nurses. All nurses in the unit were observed and the caring behavior checklist was used to collect data.

Data were analyzed by using content analysis for qualitative data and simple statistics for quantitative data. All data gathered served as baseline data.

Acting and observing. The objectives involved in this step included the changing of nursing practices by implementing the tentative professional caring model and observation of the consequences of the tentative PCM's implementation on the quality of nursing care. Nurses used the tentative Professional Caring Model as a source of guidelines when taking care of critical stroke patients.

Participants involved in this step included the researcher, nurses, nurse supervisors, the physician, a pharmacist, and the physiotherapist. The duties of the researcher in this step included being involved in, and observing the implementation of the tentative PCM. The nurses' role was to implement the tentative PCM into their daily nursing practices. The duties of the nurse supervisors included supervising the nurses and providing feedback regarding the model's implementation. The duties of the physician, pharmacist and physiotherapist included developing a humanistic approach for the patients and their families, developing collaborative caring relationships with the nurses, and being involved in group evaluations regarding the implementation of the TPCM. In addition, the role of the family members during this step was to act as co-participants in the patients' care and to provide social support for the patients.

Instruments used in this step included the family satisfaction scale, the nurses' knowledge of critical stroke care scale, the caring behaviors checklist, and the nurse satisfaction scale.

Data collection materials and methods used in this step included interviews, questionnaires, field notes, observations, and photo-recording. Interviews with nurses, patients, and patients' families made use of open-ended questions in order to gain information about their experiences with carrying out, and being influenced by, the implementation of the model. Questionnaires were used to collect data about the quality of such nursing indicators as patient health status, family satisfaction, and nurse satisfaction. Field notes were taken to describe the context and events preceding and following the implementation of the tentative PCM. Data about the caring behaviors of the nurses were collected through observations. Photo-recording was used to capture images of nurses providing caring, which occurred when the nurses implemented the model. Other data that were considered to be quality of nursing care indicators were decubitus rates, length of stay, and infection rates, which were all gathered through medical records.

Two types of data analysis were performed in this step: qualitative data analysis and quantitative data analysis. For qualitative data analysis, all audiotapes of the interviews were transcribed and a content analysis was conducted using the Weft QDA program. Meanwhile, demographic data were analyzed using simple statistics, such as frequency and percentages. Data gathered concerning family satisfaction, nurse satisfaction, and nurse caring behaviors were analyzed with a paired t-test to compare differences in mean scores before and after model implementation.

Reflecting. The objectives of this step were to analyze, synthesize, interpret, explain, and draw conclusions about the implementation of the tentative professional caring model for each cycle of the action research.

Participants involved in this step included the researcher, the regular nurses, the nurse supervisors, the physician, the pharmacist, and the physiotherapist. The duties of the researcher in this step included comparing the initial plan with the situation as it developed, identifying inhibiting and facilitating factors for implementing the tentative PCM with other participants, and interpreting evidence based on the relevant literature. The nurses' duty was to share their experiences, opinions, and comments about the implementation of the tentative PCM, including what happened and what was learned. The nurse supervisors reflected on what happened during the model's implementation and provided suggestions and feedback. The physician and physiotherapist shared their opinions and ideas about using and refining the model. Data collection methods used in this step included critical reflection, field notes, observations, and photo-recording.

Re-planning. The objectives involved in this step included making revisions to the previous plan of action by using findings from the reflection step. Some modifications were made based on the agreement between the researcher and the participants.

Participants involved in this step included the researcher, the regular nurses, the nurse supervisors, the physician, the pharmacist, and the physiotherapist. The role of the researcher in this step was to reformulate the actions in the plan in preparation

for the next action step. The role of the participants was to share ideas and provide advice for the revision.

Data Collection

Data collection methods in the present study included individual and focus group interviews, participant observations, field notes, photography, and documented data resources. These methods were used in every cycle of the action research.

In-depth individual interviews with 12 key nurse participants were conducted in order to better understand the situation of the unit in the reconnaissance phase and obtain ideas for the process of the model's implementation. The interview guide was used to carry out the interviews. The interviews lasted from 30 minutes to one hour and were tape-recorded. Each key participant was interviewed at least three times (once at the end of every cycle). Besides conducting individual interviews, the researcher carried out focus group interviews during each cycle. These group interviews explored the feelings and opinions of participants regarding certain concerns or responses to proposed or implemented actions.

Participant observation was one of the data collection methods used in the present study. Participant observation enabled the researcher to develop familiarity with the cultural milieu and provided nuanced understanding about the context of the study during the reconnaissance phase. During the implementation of the model in each cycle, the researcher made careful and objective notes regarding what happened within the unit, including changes that occurred. This method was useful for gaining an understanding of the caring relationships that developed in the participants during the progression of the study, as well their behaviors and activities. In addition, data

gained from the participant observation were used to better understand the participants' subjective experiences and interpretations that were discovered in the individual interviews.

Field notes were used as a means of data collection. Examples of the types of structures used for the field notes included informal conversations and interactions with the participants in the unit. Field notes were taken shortly after the researcher left the unit in order to capture a fresh picture of the phenomena that were observed, seen, heard, or thought about during this part of the research process.

Photography was also used to collect visual data about the situations and activities that occurred during the implementation of the research project. The head nurse involved in the present study granted permission before photos were taken. Photos communicated valuable information about the work and experiences of the participants during the development of the model.

Documentary data sources were also used in this study. They consisted of nurses' notes and other records of nursing care for critical stroke patients.

Data Analysis

Content analysis was used to analyze the qualitative data that were gathered in the present study. Audio recordings of the interviews were transcribed verbatim. Transcripts were analyzed using the Weft QDA program version 1.0.1., which is a software tool used for analysis of textual data, such as interview transcripts and field notes.

Quantitative data was analyzed using statistical methods. Descriptive statistics were applied to the socio-demographic information gathered about the nurse

participants, patients, and family members. Meanwhile, paired t-tests were used to test differences in the degree of family and nurse satisfaction, nurses' caring behaviors, nurses' knowledge of critical stroke care, lengths of stay, infection rates, and decubitus rates, both before and after the tentative PCM was implemented.

Trustworthiness of the Data

The trustworthiness of the data in this study was maintained by focusing on four key areas: credibility, dependability, confirmability, and transferability. The researcher attempted to improve the credibility of the data by conducting prolonged engagement, multiple interviews with the same informants, and triangulation of data collection methods. Regarding the prolonged engagement method, the researcher communicated with the participants for about four months. In addition, the researcher had previously known the head nurse and a few of the participating nurses for quite a long time before the project began. Some regular nurses in the unit, as well as some working at managerial levels, also knew the researcher professionally as a previous lecturer in the nursing faculty and for having conducted a nursing seminar. Prolonged engagement allowed the researcher to collect more accurate data and develop a clearer picture of the results of the study.

Multiple interviews increased the completeness and accuracy of the findings because they enhanced the level of trust between the researcher and participants. Follow-up questions were developed in order to clarify ambiguities and fill in gaps from previous interviews. Furthermore, triangulation of data collection methods, such as in-depth interviews, focus group discussions, field notes, and observations, was also used to confirm the information from the participants. A procedure known as

member checking, which involves soliciting feedback from participants about the emerging themes and interpretations of data, was also used in the present study.

Confirmability was maintained through the execution of a transparent research process. The researcher kept detailed records of the data gathered with the Weft QDA program, which would allow for independent review of the data collection, coding, and analysis procedures. This made it possible for others to review the methods and procedures of the study, which would allow for future replication.

To achieve dependability, the researcher compared, refined, and revised codes and codebooks several times. During data analysis, the researcher consulted with advisors to verify data interpretation and acquire feedback.

Finally, transferability was achieved because the researcher gained a thorough understanding of the context of the unit under investigation. This allowed the researcher to provide a rich and contextualized description of the phenomena of interest. This makes it possible for readers to make clear inferences about the transferability of the findings.

Ethical Considerations

Before the study began, the researcher gained approval from the Institutional Review Board of the Faculty of Nursing at Prince of Songkla University. Permission was also granted from the director of Pirngadi General Hospital to conduct the study at that facility.

The nature and process of the study was explained to the participants, and a full explanation was given of the purposes and voluntary nature of their participation

and the benefits of the findings for the nursing profession. The participants were asked if they would like to volunteer in the study. Audio-recorded tapes and transcripts from interviews were kept confidential, and recordings were erased after the data was no longer needed. All information gathered was treated in a confidential manner and no names appeared on the transcribed interviews. Some extracts from the interviews were used in the final research report, but the participants were not identified in any way. Furthermore, the participants were informed that no risks were associated with their participation.

CHAPTER 4

FINDINGS AND DISCUSSION

Findings

This study on the development of a professional caring model for enhancing the quality of nursing care for critically ill patients was conducted by the researcher using an action research. The study made use of nurses working in an intensive stroke care unit (ISCU) at Pirngadi General Hospital in Indonesia. The results of this study, based on analyses of qualitative and quantitative data, are organized as follows.

1. Socio-Demographic Characteristics of the Participants
2. The Development Process of the “Professional Caring Model for Enhancing the Quality of Nursing Care for Critically Ill Patients in Indonesia”

2.1. Reconnaissance phase

2.1.1. The study context

2.1.2. The nurses’ perspectives on caring for critical stroke patients

2.1.3. The family members’ perspectives on caring received by patients in the ISCU

2.1.4. Assessment of nursing care quality in the ISCU

2.2. The spiral action research process, including the stages of planning, acting

and observing, and reflecting, to develop a professional caring model for

enhancing the quality of nursing care for critically ill patients in Indonesia

Cycle 1: Creating a Caring Atmosphere and Introducing a Tentative

Professional Caring Model into an ISCU

Cycle 2: Nurse-Client Interaction in the Implementation of the

Tentative Professional Caring Model in the ISCU

Cycle 3: Maintaining Sustainability for the Tentative Professional Caring
Model's Implementation in the ISCU

3. Overall Impact of the Professional Caring Model's Implementation on the Quality of Nursing Care in the ISCU
4. The Professional Caring Model for Enhancing the Quality of Nursing Care for Critically Ill Patients in Indonesia
5. Discussion

Socio-Demographic Characteristics of the Participants

Seventeen nurse participants were involved in this study. Fourteen of these participants were female and three were male. Their ages ranged from 24 to 50 years old and about half of them (13 cases) were between 40 to 50 years old. Nine participants were Muslim and eight were Christian. Fourteen participants were married. The majority of the participants (11 cases) held a nursing diploma, while three held a bachelor's degree. The other three held an SPK degree, which is a high school equivalent. The nurses had various levels of professional experience. Five of them had less than five years of nursing experience, three had six to ten years experience, one had worked for 11 to 15 years, and the rest possessed more than 15 years of experience. Half of the participants had worked at the intensive stroke care unit for less than five years. Most of the nurses had incomes greater than two million rupiah per month (equivalent to US\$ 200). Only one nurse had been specifically trained in stroke care after graduating from nursing school. A summary of the nurse participants' characteristics is given in Table 4.1.

Besides the nurse participants, there were thirty patients and thirty family members who involved in this study. The patients' age ranged from 33 to 90 years old and majority of them were more than 60 years old. Sixteen of these patients were female and fourteen

were male. Seventeen patients were Muslim and thirteen were Christian. Majority of the patients held a high school level of education. Majority of them was diagnosed with hemorrhagic stroke. Half of the patients got financial support from Askes (government employee insurance) and the rest was self-financed and Medan Sehat (MS) or Jamkesmas (both MS and Jamkesmas are insurance for the poor). Most of the patients was discharged to other general ward and three of them were death. A summary of patient's characteristic is given in Table 4.2. Meanwhile, twenty family members involved in this study were female and ten were male. Their age ranged from 22 to 78 years old. Eighteen of them were Muslim and twelve were Christian. Majority of these family members held a high school level of education. Twenty five of them were married. Thirteen of these family members were the patients' children, nine were the patients' wife, five were husband, and three were sibling of the patients. A summary of family members' characteristic is given in Table 4.3.

Other participants who were involved in this study included three nurse supervisors, four nurse managers, a neurologist, a physiotherapist, and a pharmacist.

Table 4.1

Distribution of nurse participants by socio-demographic characteristics (n=17)

Characteristic	Frequency (n)	Percentage (%)
Age (years)		
20-30	6	35.3
31-40	3	17.6
41-50	8	47.1
Sex		
Female	14	82.4
Male	3	17.6
Religion		
Muslim	9	52.9
Christian	8	47.1
Marital Status		
Single	1	5.9
Married	14	82.4
Widow	2	11.7
Education		
SPK	3	17.6
Diploma	11	64.8
Bachelor	3	17.6
Years as nurse		
<6	5	29.4
6-10	3	17.6
11-15	1	5.9
>15	8	47.1
Years in ISCU		
<2	5	29.4
2-5	4	23.5
>5	8	47.1
Income (per month in Indonesian Rupiah)		
<1 million	6	35.3
1-2 million	3	17.6
>2 million	8	47.1
Training on Stroke/Critical Care		
Yes	1	5.9
No	16	94.1

Table 4.2

Distribution of patients by socio-demographic characteristics (n=30)

Characteristic	Frequency (n)	Percentage (%)
Age (years)		
30-40	2	6.7
41-50	6	20
51-60	8	26.6
>60	14	46.7
Sex		
Female	16	53.3
Male	14	46.7
Religion		
Muslim	17	56.7
Christian	13	43.3
Marital Status		
Married	24	80
Widow	6	20
Education		
Primary school	4	13.3
Secondary school	11	36.7
High school	15	50
Medical Diagnosis		
Hemorrhagic stroke	26	86.7
Non-hemorrhagic stroke	4	13.3
Occupation		
Household	9	30
Government employee	6	20
Private sectors	9	30
Retirements	6	20
Income (per month in Indonesian Rupiah)		
<1 million	14	46.7
1-2 million	15	50
>2 million	1	3.3
Discharge status		
Refer to general wards	27	90
Death	3	10
Financial support		
Askes	15	50
MS+Jamkesmas	12	40
Self-financed	3	10

Table 4.3

Distribution of family members by socio-demographic characteristics (n=30)

Characteristic	Frequency (n)	Percentage (%)
Age (years)		
20-30	4	13.3
31-40	6	20
41-50	12	40
51-60	4	13.3
>60	4	13.3
Sex		
Male	10	33.3
Female	20	66.7
Religion		
Muslim	18	60
Christian	12	40
Marital Status		
Single	1	3.3
Married	25	83.4
Widow	4	13.3
Education		
Primary school	4	13.3
Secondary school	5	16.7
High school	16	53.3
Higher education	5	16.7
Occupation		
Household	11	36.7
Government employee	12	40
Private sectors	5	16.7
Retirements	2	6.6
Income (per month in Indonesian Rupiah)		
<1 million	8	26.6
1-2 million	11	36.7
>2 million	11	36.7
Relation to the patient		
Wife	9	30
Husband	5	16.7
Children	13	43.3
Sibling	3	10

The Development Process of the Professional Caring Model for Enhancing the Quality of Nursing Care for Critically Ill Patients in Indonesia

Concerning the process of action research, four fundamental phases were spirally used to develop the model. The first phase was reconnaissance, and the spiral action

research process phases of planning, acting and observing, and reflecting were the second, third, and fourth phases, respectively.

Reconnaissance phase. Nurses who work at intensive stroke care units have unique roles. In order to discover the nature of how nurses worked in the ISCU in this study, reconnaissance was conducted in order to decide on thematic concerns as a basis for planning and action, and to provide a better understanding of the initial setting and activities. This reconnaissance was also conducted in order to establish strong relationships and trust between the researcher and the participants. The findings in this phase regarded the nurses' experiences in working in the ISCU, as well as family members' experiences in receiving care. Specifically, the two categories were: (1) the nurses' perspectives on caring for critical stroke patients and (2) family members' perspectives on caring received by patients and family members in the ISCU.

The study context. This study took place at the intensive stroke care unit of Pirngadi General Hospital in Medan, Indonesia. The ISCU is located on the fourth level of the new hospital building, on the same level as other intensive care wards. This unit only received stroke patients who were in comatose or critical condition. At the beginning of the study, there were only 13 nurses working in this unit. These nurses had different level of education with the lower educational level was SPK nursing (nursing education program which is equivalent to senior high school), diploma nursing, and bachelor nursing. As staff nurse, all level of nursing has the same job and responsibility in taking care of the critical stroke patient regardless their education level.

Eleven of them worked three shifts while two others, the head nurse and vice head nurse, only worked on the morning shift. Most of them had diplomas rather than degrees.

The nurse/patient ratio was 1:2. This unit also had an administrative staff and a clerk. One physiotherapist was assigned on a daily basis to assist unit patients who needed early rehabilitation. In addition, one general physician-in-charge was also available every shift.

In general, the work flow in the unit proceeded as follows. A critical stroke patient from an emergency unit or other general medical unit, who was admitted to the unit during the morning shift, would be handled by the head nurse (or vice head nurse). The head nurse then conducted an assessment and devised a care plan. However, it was noted that the head nurse only conducted assessments for some patients rather than all patients, due to time limitations. Also, the assessments and care plans were not performed completely. The head nurse then assigned the staff nurses to certain nursing interventions. The staff nurses implemented medication regimens from physicians and nursing care plans from the head nurse. The head nurse was also responsible for teaching patients or family members of patients about health-related issues. Besides teaching and performing administrative tasks for the unit, the head nurse also frequently carried out clinical tasks involving the provision of direct care to patients.

From observation, it was noted that the nurses' work was based on routines that had long been established. Certain nurses were assigned to always perform the same procedures, such as giving oral care to each patient every morning. Staff nurses administered medications to patients, gave infusions, monitored vital signs, and more. Some protocols were available, such as a protocol for using some electronic devices.

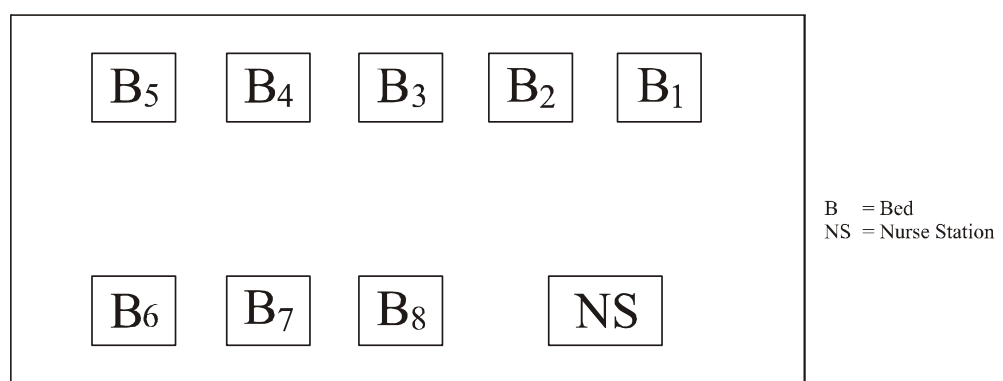


Fig. 3.1. Diagram of the intensive stroke care unit

Figure 4.1 Diagram of the intensive stroke care unit

The work system observed was quite different from that outlined in of the plan for the organization of the unit, which clearly stated that the model of nursing care delivery to be used in the unit was to be the team method. In the plan, there were two teams: Team A and Team B. Each team leader and her or his members had their own responsibilities, as stated in the job description manual.

It was also found that when delivering nursing care to patients, the nurses did not have any theory to guide their practice. There was no policy on ICU training requirements for new nurses. They simply followed the procedure manual and performed procedural tasks as requested by the physician. In doing their work, the nurses followed the routines in the ISCU and learnt from their seniors. In addition, a ward philosophy that could be used to guide practice was also notably lacking in this unit.

The head nurse believed that the number of nurses, especially registered nurses, working in this unit was not sufficient, due to the high workload handled by the unit. The head nurse was the only registered nurse in that unit. There were only five nurses on duty during the morning shift, including the head nurse and vice head nurse. Only two nurses were on duty for the evening and night shifts. However, despite this lack of personnel, the nurses felt that they had to do their jobs as best they could, based on their job descriptions. The job titles themselves were “team head” and “team member.”

The quality of nursing care in this unit was monitored mainly by the head nurse, but there was no formal system in place to assure quality. Likewise, there were no assessment forms to measure nursing care quality. The nurses recorded incidences of

infection and decubitus on the nursing notes. Then, the head nurse transcribed those entries into a log book. There was no evidence showing that quality indicators of nursing care were measured on a regular basis as a means to improve the nursing services provided to the patients. The nurses expected that there would be training sessions to help them improve their skills in caring for stroke patients. Some nurses wished to practice the new theories and techniques that they had learnt. They expressed the desire to change their current practices to become more professional, independent, and autonomous in their profession.

The nurses' perspectives on caring for critical stroke patients. The nurses expressed their opinions regarding nursing care for critical stroke patients and their families on following issues: the nature of a nurse's work in the ISCU, the quality of nursing care in the ISCU, ways to improve the quality of nursing care, barriers to promoting better quality nursing care, and their expectations for improving the quality of nursing care.

The nature of a nurse's work in the ISCU. Nurses in this study felt that working in the intensive stroke care unit meant performing the following duties: providing direct care, providing indirect care, providing support for family members, and collaborating with other health team members.

(1) Providing direct care

In caring for patients in the ISCU, the nurses perceived that their role was to serve the patients by providing direct care, which included both physical and spiritual care. Physical care activities that the nurses performed daily included assessing patients, observing patients, performing technical care, and making the patients comfortable.

Nurses also assessed patients, both when a patient was newly admitted to the unit and also throughout a patient's stay. The following quote gives an example of the assessment performed by the nurses:

“The patient has experienced symptoms for six months already. To be clear, we directly asked family and relatives about the patient's medical history.” (Nurse Participant 6)

Observing and monitoring patients was another form of physical care. Nurses observed patients daily and monitored conditions, vital signs, and symptoms, as stated by two participants in the following quotes:

“We monitored patients' blood pressure levels, checked whether patients were restless, and scanned for bleeding from hemorrhagic stroke.” (Nurse Participant 4)

“I observed patients to detect hemiparesis and to determine if any parts of the body were weak.” (Nurse Participant 6)

Carrying out daily activities was the type of care most frequently mentioned by the participants. Since almost all patients were admitted in a comatose state, the nurses had to provide total care for the patients. Daily patient care was seen as a routine task by the nurses. They perceived that serving stroke patients meant performing certain procedures, as stated in these quotes:

“Sometimes we arrange the position of head of bed to be 30 degrees. We apply oxygen and then we examine the patient's heart.” (Nurse Participant 3)

“We perform many procedures for the patients. We turn their bodies to the right and left every three hours or arrange their bodies into the semi-fowler position. We also give oral care. If there are wounds, we clean them. If a patient has a fever, we apply a compress and also administer drugs such as Paracetamol.” (Nurse Participant 4)

Providing comfort was another physical care task mentioned by the participants. The nurses usually performed massages to make their patients feel comfortable, as mentioned by a nurse in the following quote:

“I always massage the patients after giving them a bath. Every time, I do chest therapy in order to make the patients feel comfortable. After the massages, they feel comfortable, calm, and less worried, and they sleep well. That’s what I do.” (Nurse Participant 8)

Besides performing physical care for their patients, the nurses in this unit also performed spiritual care. The nurses usually asked family members to pray when they visited patients during visiting hours. They also advised family members to pray, both for patients who had stable conditions and for those who were dying. The following quotes illustrate:

“We told the patient’s family that the patient was not conscious. We said to a family member, ‘Yes ma’am, please pray a lot ma’am, we’ll do our best, and may God help your loved one recover.’ That’s what we said to the patient’s family.” (Nurse Participant 8)

“We called the family. We explained that the patient was dying. She was in the terminal stage. We asked the family members to help us by praying for her according to their beliefs and religion. I asked them to accompany the patient during her last moments.” (Nurse Participant 6)

In performing spiritual care, the nurses were not solely in a passive role. Indeed, they prayed for patients while conducting procedures and even when they performed *sholat* (Muslim prayer) outside the ISCU. This kind of spiritual care is reflected in the following quotes:

“When I injected the patient I prayed also, saying, ‘Ya Allah, please give recovery to this patient, ya Allah.’ (p8-77) In my heart, I said, ‘Ya Allah, give him recovery, ya Allah, from the medicine, ya Allah.’ It was impossible that the medicine alone could cause recovery.” (Nurse Participant 8)

“When I prayed in the mosque, I wished, ‘Ya Allah, please give recovery to the patients I care for, ya Allah, whether they are at home or in the hospital, ya Allah.’” (Nurse Participant 10)

(2) Providing indirect care

Besides providing direct care, the nurses in the intensive stroke care unit also needed to handle other jobs that did not directly involve patient care, such as writing prescriptions. Even the head nurse had to assign a nurse to be responsible for patient

medications, specifically, the delivery from the pharmacy department. This nurse usually worked an entire day just to handle this task. As one participant stated:

“I was assigned to write the prescriptions ordered by the physicians. I had to do it all day. I could understand why my colleagues sometimes made comments such as, ‘Why do you just write prescriptions and do not want to help us in taking care of the patients?’” (Nurse Participant 7)

(3) Providing support to family members

Providing support to family members was also one of the main tasks for the nurses working in the intensive stroke care unit. Support for family involved giving explanations and teaching family members, as well as giving encouragement to family members while they were visiting critical stroke patients. Due to limitations on spending time with patients, family members did not receive much information about the patients, aside from the explanations given by the nurses. Support was usually given by nurses during visiting hours, or when it was necessary for family members to have information about a patient’s progression. Some quotes illustrate:

“Normally, we gave explanations to the family. We explained the condition of a patient and his or her drugs. We explained to the patient’s family the disease process and the patient’s condition.” (Nurse Participant 3)

“Well, I would explain a patient’s condition to the family at the time of admittance, during early care, and when the worst possibility was likely to happen.” (Nurse Participant 6)

(4) Collaborating with other health team members

Collaborating with other health team members, such as physicians, nutritionists, and pharmacists, was one of the important tasks of the ISCU nurses. The following statements give examples of the collaboration between the nurses and other health care team members:

“When I had a comatose patient, I called a neurologist and informed him of the patient’s conditions: his blood pressure was at 200/100, he had a fever, he had stress ulcers, and he was also vomiting. Then the doctor prescribed therapies such as ditranex, ranitidine, and RL infusion. He also asked for a urine examination for creatinine, LFT, and RFT.” (Nurse Participant 4)

“It was very nice that we could cooperate and understand each other. At this moment, we work with others on the medical staff and with a nutritionist.” (Nurse Participant 5)

The quality of nursing care in the ISCU. Nurses in this study defined the quality of nursing care in the intensive stroke care unit as dependent on the improved health status of patients, patient and family satisfaction, and nurse satisfaction.

(1) Improved health status of the patients

The improved health status of the patients was considered a prime measure of the quality of nursing care by the nurses in this study. Improved patient health could be seen in the form of increased responsiveness of patients, increased levels of consciousness,

shortened lengths of stay in the unit, and better patient conditions, as the following quotes indicate:

“A patient was admitted with hemorrhagic stroke. He was in a coma. We took care of him and after three months there were some improvements, such as a return to consciousness and responsiveness to the nurses. After his condition improved, he was moved to the general ward.” (Nurse Participant 1)

(2) Patient and family satisfaction

The nurses stated that quality nursing care could also be evaluated by the satisfaction levels of patients and family members regarding the care that was provided. Usually patients or families directly conveyed their feelings of satisfaction by mentioning that they were satisfied, although indirect expressions, such as compliments for nurses, also occurred. A quote on this follows:

“They seemed satisfied with the nursing care I delivered to them. Even though they did not mention it directly to me, they said ‘thanks for the nursing care.’ They did not give compliments directly, however. They just mentioned satisfaction with the nursing care in this unit.” (Nurse Participant 2)

(3) Nurse satisfaction

The participants in this study also stated that nurse satisfaction was one of the indicators of the unit’s quality. Nurse satisfaction was described as happiness regarding work and feelings of satisfaction. This topic was reported on by the following participants:

“I was happy because there was no more bleeding, so the patient could recover.” (Nurse Participant 7)

“Then the patient was conscious and was moved to another ward. It meant that we were successful, so we felt satisfied with our work.” (Nurse Participant 3)

Ways to improve the quality of nursing care. Nurses in this study stated that they had used various strategies to improve the quality of nursing care that they delivered to the patients. Their efforts included using strong communication techniques, working with their best effort, learning from others, employing good caring behaviors, working as a team, and considering patients as family.

(1) Using strong communication techniques

One of the techniques to improve the quality of nursing care employed by nurses in this study was to maintain continual, strong communication with patients and their families. One participant stated:

“When I was going to perform a procedure, I first communicated with the patient. We always talked and kept the patients and their families informed about nursing care efforts and the procedures we were following.” (Nurse Participant 2)

(2) Working with their best effort

Giving their best effort was one of the ways nurses sought to improve the quality of nursing care. This was done by completely fulfilling the patients' needs, performing

procedures correctly, and conducting all actions with deliberation. Some quotes on this follow:

“Working with my best effort means that I need to know what I should do to fulfill the needs of my patients.” (Nurse Participant 1)

“In order to improve the quality of nursing care, we need to keep performing procedures correctly, and provide better care to the patients and their family members.” (Nurse Participant 2)

(3) Learning from others

Another way for nurses in this study to improve the quality of nursing care was to learn from other nurses. One participant reported the following:

“We observe the experiences of others. If another nurse works better than us, we try to imitate the way she works. Hopefully, her experience can help us to work better also.” (Nurse Participant 3)

(4) Employing good caring behaviors

Good caring behaviors were perceived by the participants as vital to improving the quality of nursing care in the unit. Such behaviors included showing good manners to patients and family members, working with the heart, and being friendly to family members, as reported in the following quotes:

“Firstly, our communication with the patients and the families must be positive and friendly. We don’t want to be rude. Secondly, what we do must really come from our hearts.” (Nurse Participant 3)

“If we work without heart, then we would not take our work seriously. We would work sloppily if we worked without heart. We would become tired and lose energy and enthusiasm. We would become sinners. If work with heart, we may have nothing in the world but we will have something in heaven.”

(Nurse Participant 8)

(5) Working as a team

Working as a team was perceived by the participants as a good way to improve the quality of nursing care. It meant that they expected all nurses to get involved and work together as assigned. One participant reported on this:

“I hope that we can work more efficiently as a team. We must work as a team and work together with our friends. If we do so, the outcomes will be better.” *(Nurse Participant 6)*

(6) Considering patients as family

Another way to improve the quality of nursing care was for nurses to consider patients as their own family members. This meant that the nurses should apply the same approaches to the patients as they would to their own family members. One participant reported on this, as follows:

“I take care of patients seriously without expecting to get praise from others. Basically, I provide care to the patients as if they were my family members.”
(Nurse Participant 3)

Barriers to promoting better quality nursing care. The nurses in this study perceived some barriers to improving the quality of nursing care in the unit, namely lack

of resources, an inconducive working environment, uncaring behavior, and a lack of knowledge of critical stroke nursing care.

(1) Lack of resources

Lack of resources was felt to be a barrier due to the lack of equipment and a shortage of nurses. One nurse stated that a lack of equipment for cardiac monitoring made it difficult for them to deliver quality nursing care. One participant reported the following:

“In this stroke unit there are six cardiac monitors but eight beds. Hence, there are two patients who do not have monitors. This impacts our work. Since we have to measure vital signs every hour, this presents difficulties.”

(Nurse Participant 1)

(2) Inconducive working environment

Some participants felt that an inconducive working environment existed due to a lack of team spirit among the nurses and a generally inharmonious working atmosphere. Hence, the environment was seen as another barrier to improving the quality of care, as the following quotes indicate:

“A team consists of more than one nurse, but on our teams, not all nurses work; only two or three of them work properly. The other nurses work only if the chief nurse works.” (Nurse Participant 6)

“Frankly speaking, in the past I felt harmony in the workplace, but now there is a lack of harmony. This is because some nurses try to get in close with the chief nurse in order to get more power. Also, there isn’t harmony between the junior and senior nurses. I feel that there is no unity.” (Nurse Participant 3)

(3) Uncaring behavior

The participants in this study felt that some nurses exhibited uncaring behaviors, which they considered a barrier to improving work quality. Uncaring behaviors included having negative attitudes, talking rudely, *ngomel* (talking excessively and angrily), ignoring patients, giving less attention to patients, and not smiling at patients or their family members. These uncaring behaviors were reported by participants, as follows:

“Usually we had good relationships with the patients, but sometimes a patient would become aggressive and restless, for instance, when he would try to unplug his infusion tube. Sometimes we would become annoyed about that, and that made us bad tempered. Hence, we would speak with an overly loud voice.” (Nurse Participant 3)

“Sometimes some nurses were ‘ngomel’ because patient’s families came after visiting hours, while we were working, and kept asking us to do something.” (Nurse Participant 4)

(4) Lack of knowledge of critical stroke nursing care

The majority of the participants also mentioned that a lack of knowledge of critical stroke nursing care was a barrier to improving the quality of work in their unit. Some participants said this might be due to the different educational backgrounds of the nurses. This feeling of a lack of knowledge is illustrated in the following quotes:

“The nursing process was reviewed recently. There were still midwives and colleagues who held bachelor’s certificates in our unit.” (Nurse Participant 4)

“One obstacle was that the educational level among the nurses was not similar. There were nurses who had graduated from either SPK, D-III, or S-1. The nurses who graduated from SPK are the seniors. Obstacles appeared, for example, when I asked one to perform a duty. That nurse would tell me that I had only graduated from S1, so I should do that work. This frequently occurred.” (Nurse Participant 3)

Nurses’ expectations for improving the quality of nursing care. Professional training, sufficient equipment, a caring work environment, and the availability of reading materials were the expectations of the nurses, in regards to improving the quality of nursing care in the stroke unit.

(1) Professional training

The nurses stated that during their time in this unit, they had never participated in training, even training on critical stroke care. They really desired to receive professional training, at least on critical stroke care. One participant stated:

“I wanted to have special training on duties that nurses must perform in this stroke unit.” (Nurse Participant 2)

(2) Sufficient equipment

When caring for patients in this unit, the nurses expected sufficient equipment, such as cardiac monitors and small trolleys, to be allocated to the unit, as was explained by one participant:

“I hope that there will be an effort to address the lack of equipment in our unit, like cardiac monitors. This will make our work better, as I said before.”

(Nurse Participant 1)

(3) A caring working environment

A caring working environment was considered important for improving the unit's quality, although this had always been an expectation in the intensive stroke care unit. Participants wanted the nurses in the unit to respect and care for each other. Two participants' quotes follow:

“I wanted the senior nurses to share information with the junior nurses and teach them how to speak with others, as the seniors had more experience in communicating with others.” (p5-180)

“I hope we can understand each other and that there will be harmony among the nurses.” (Nurse Participant 3)

(4) The availability of reading materials

One participant perceived that nurses needed reading materials, like books, in order to enhance their knowledge on critical stroke care. This participant's quote follows:

“If there were books about critical stroke care available in the ward, the nurses could increase their knowledge on the subject. Moreover, if it is possible, it would be nice if there were a small library in this ward.” (Nurse Participant 2)

The family members' perspectives on caring received by patients and family in the ISCU. Family members expressed their opinions on caring received by patients, and

by themselves, from nurses in the unit. Their statements involved their opinions on the nursing care received by patients, their perceptions of the nurses' caring behaviors, and their thoughts on ways to improve care in the unit.

Nursing care received by the patients. Family members in this study felt that, when admitted to the ISCU, patients received the following kinds of care: physical care, emotional care, social care, spiritual care, and teaching and education.

(1) Physical care

Physical care was the dominant type of patient care mentioned by family members. The physical care that was provided by the nurses included the activities of cleaning the patients, giving them oral hygiene, feeding them, changing their positions, administering their medicines, suctioning their sputum, giving them massages, assessing their statuses, and more. Two quotes by family members follow:

“The nurses provided good care to the patients. They fed the patients, administered their drugs, cleaned their bodies, and administered their medicines in time.”(Family Member 2)

“During the early morning, I noticed that the nurses cleaned the patients, including my husband. They also gave them oral hygiene every morning. Then, when my husband had a lot of sputum, the nurses performed suctioning to remove it from my husband's respiratory track.”(Family Member 1)

(2) Psychosocial care

Psychosocial care was another type of patient care mentioned by family members. The psychosocial care that was provided by the nurses to the patients primarily involved the nurses' understandings of patient and family member issues. One participant stated the following:

“When I entered the room, the nurses realized that I was the wife of the patient and that I wanted to accompany my husband. They understood that I needed to stay close to my husband. Sometimes, I was allowed to stay awhile with my husband outside of visiting time. The nurses were responsive to my needs.” (Family Member 1).

(3) Spiritual care

Spiritual care was also mentioned by family members as a type of nursing care received by patients in this stroke unit. Nurses usually suggested that family members pray for the recovery of their loved ones. One family member stated the following:

“I was really happy when the nurses suggested that I pray more for my husband.” (Family Member 1)

(4) Teaching and education

Family members mentioned that teaching given to the patients and family members was an important type of care provided by the nurses. One participant mentioned patient disease education as the primary teaching topic given to family members. She stated:

“I’ve got to explain general care for the patients to their family members. For example, I explain that if stroke patients have another attack, then it could be fatal.” (Family Member 2)

Family members' perceptions of the nurses' caring behaviors. During their interaction with the nurses, family members experienced various types of caring behaviors from the nurses, or noticed caring behaviors used on other patients or their family members. Based on the perceptions of the family members, the nurses' caring behaviors can be grouped into two categories: caring behaviors and non-caring behaviors.

(1) Caring behaviors

Family members both noticed and directly experienced caring behaviors from the nurses. These behaviors included nurses being responsive and kind, giving love and attention to the patients, being friendly, speaking softly, and not discriminating in their treatment of different parties. These caring behaviors were described by family members in the following quotes:

"They did not wait for a long time to start helping the patients. They did not delay care for poor patients or for those who they didn't know. In short, they didn't discriminate in their care for the patients. In addition, during visiting hours, more than one visitor was allowed to visit the patients. This was not allowed in other hospitals." (Family Member 1)

"The nurses here were good people. Their nursing work was also professional. They spoke softly, not rudely." (Family Member 3)

(2) Non-caring behaviors

Besides observing caring behaviors from the nurses, the family members nevertheless noticed and experienced non-caring behaviors as well. For example, family members mentioned that some nurses paid less attention to patients and did not

communicate much with either patients or family members. Some nurses also ignored requests or warnings from family members. Some nurses even became angry when a patient was very restless and pulled out the oxygen tube from his or her nose, as one family member recounted:

“My mother often pulled her oxygen tube out. The nurses became angry, so they tied my mother’s hands. I just saw it now. I was a little bit angry, too.”

(Family Member 3)

Family members’ expectation for improving care in ISCU. Even though some family members stated that they were satisfied enough with the nursing services at the intensive stroke care unit, family members still expected that, in the future, nurses in this unit kept improving their care for both the patients and family members. Their expectations includes better care for the patient, promoting involvement of family members in take care of patient, showing caring behaviors, considering a patient as their own parents when taking care of the patients, and providing continuous information for family members.

(1) Better patient care

Family members expected that nurses could improve their work on patients in term of doing close and prompt observation, giving full attention, quick response, and provide good care to the patients. Better patient care was stated by the following family members:

“I expected that the nurses would pay full attention to the patients and provided good care to the patients such as don’t make mistake in drug

administration. We would try to provide any drugs to the patient requested by the nurses but don't make a mistake.” (Family Member 1)

(2) Promoting involvement of family members in taking care of the patient

Family members did expect that they could give more chance to take care of the patients. They wanted spending more time with the patients. As intensive stroke care unit is intensive in nature, there was a policy of prohibition for family members accompanying the patients inside the room. Due to this limitation, a lot of family members felt that they could not provide care to the patients. They really expected that nurses could provide them more visiting. One family member reported:

“I thought that the visiting time was still not enough. If possible we would like to get extension of visiting time from 2 hours per day to 3 hour per day, one hour in mid day and two hours in evening time.”(Family Member 2)

(3) Showing caring behaviors

Family members acknowledged that nurses performed well in form of their caring behaviors, but they still expected that nurses showed their improved caring behaviors. They expected that nurses could have sustaining well manner, empathy behaviors, pleasant speaking, polite answering, understanding family members, and being patient. One family member reported:

“The nurses needed to be consistent. If possible please keep on the good attitude don't be like a wind, sometimes come sometimes not. They should be consistent with their work.”(Family Member 8)

(4) Considering a patient as own parent when taking care of the patient

Some family members expected that nurses could approach their patients as if they were family members. They hoped that how nurses treated their parents was how to treat the patient, as one family member stated:

“I really hope that the nurses assume the patients as their mother when she is sick. It is important to consider the patients here as their own parent.”

(Family Member 3)

(5) Providing continuous information for family members

Family members really expected nurses passed daily information regarding patient's condition and progression. They also needed to have health education on stroke care both care in hospital and at home. These expectations were stated by a following family member:

“The nurses should explain directly about the patient's condition to the family members. It is no need to wait until the family members asking first.”(Family Member 2)

Assessment of nursing care quality in the ISCU. During the reconnaissance phase, several indicators of nursing care quality were measured including family satisfaction, nurse satisfaction, nurses' caring behaviors, nurse's knowledge of critical stroke care, decubitus rate, infection rate, and length of stay.

Family satisfaction toward nursing care at intensive stroke care unit was at low level (score 61 of 100). Nurses had moderate level of satisfaction toward their work (77.6 of 100). Nurses caring behavior was at very low level (40 of 100). Nurse knowledge of critical stroke care was at moderate level (74.5 of 100).

Meanwhile, decubitus rate was 3.7 (in 100 cases); infection rate was 20.7 (in 100 cases); and length of stay was 5.14 days.

The spiral action research process including planning, acting and observing, and reflection to develop a professional caring model for enhancing quality of nursing care for critically ill patients in Indonesia. The knowledge and information gathered from the current situation of intensive stroke care unit, the nurse's and family's perspectives on caring at intensive stroke care unit in the reconnaissance phase were used to develop a professional caring model to enhance quality of nursing care for critically ill patients in Indonesia. The quality of nursing care indicators including family satisfaction, nurse satisfaction, nurse's knowledge of critical stroke care, nurse caring behavior, decubitus rate, infection, and length of stay were used as criteria for assessing the development of the professional caring model.

The process of developing the model utilized the collaboration among the researcher, the nurses in intensive stroke care unit, patient's family member, nurses' supervisor, nurse managers, a neurologist, a physiotherapist, a pharmacist, and family members. This collaborative effort focused on sharing information and knowledge on the caring being studied and developed, improving management of care in the unit, determining caring behaviors to be embedded in every nurse, identifying problems relating to caring behavior of nurses and quality of nursing care, identifying inhibiting and facilitating factors, determining methods to change task-oriented mode into more caring mode, and developing the professional caring model for critical care settings.

The professional caring model to enhance quality of nursing care for critically ill patient in Indonesia was developed through three cycles:

Cycle 1: Creating Caring Atmosphere and Introducing the Tentative

Professional Caring Model in ISCU

Cycle 2: Nurses-Client Interaction in Implementing the Tentative

Professional Caring Model in ISCU

Cycle 3: Maintaining Sustainability of the Tentative Professional Caring

Model's Implementation in ISCU

Cycle 1: Creating caring atmosphere and introducing tentative professional caring model in ISCU. The intensive stroke care unit where this study conducted was a small unit with 8 beds, 13 nursing staff. Most of nursing staff held diploma degree. The head nurse was the only nurse who had been trained in critical stroke care. Besides performing administrative tasks as main roles, he was directly involved in taking direct care of the patients.

Instead of demonstrating caring behaviors to the patients, the nurses usually spent their time completing routine tasks. Nursing care was done by following set procedures because of the high workload of nurses. Therefore, interaction between nurses and clients were infrequent and the care lacked humanistic approach. Also it was observed that some nurses talked to clients with loud and impolite manner. In addition, there were no specific guidelines for caring for critical stroke patients which could help the nurses to practice professionally, so the quality of nursing care was found to be in need of improvement.

Planning. Planning for better practice of nurses in the intensive stroke care unit was carried out together among the nurse' participants including staff nurses, head nurses, supervisors, and nurse manager, a neurologist, a pharmacist, and a physiotherapist. The goals of this planning were to create caring atmosphere in the intensive stroke care unit and to introduce tentative professional caring model with the clinical practice guideline as

daily guidelines in order to enhance quality of nursing care for critical stroke patients. In this phase, three plans had been developed to direct the nursing practice: (1) vision and mission of the unit directed toward the development of the professional caring model, (2) promotion of participants' awareness of caring atmosphere in the unit, (3) introduction of the tentative professional caring model with the clinical practice guideline for critical stroke patients.

Some strategies were set up to ensure that the plan would be feasible and applicable. These strategies comprised the researcher partially took part in providing care to the patients, learned together in caring for the critical stroke patients, shared knowledge and experience among the researcher and the participants, posted pictures of a caring nurse on the unit wall to motivate caring mind, conducted a workshop on caring, and had a regular meeting fortnightly.

Action and observation. Based on the definitive plan, the researcher, the head nurse as a role model of a caring nurse, and the nurse participants carried out the predetermined actions. These actions were conducted for purpose of creating caring atmosphere in the unit and introducing the tentative PCM in the unit. In addition, two bachelor-prepared nurses were assigned to the ISCU.

(1) Initial meeting with director of nursing service

An initial meeting among the researcher, three nurse participants, a supervisor, and a director of nursing service was organized to establish the common understanding about the project being implemented. This meeting was important because all parties who needed to be involved in the project were gathered together. The director of nursing service conveyed her agreement upon the project and gave her support for the

implementation of the project. She also wished that the project would change the situation in the intensive setting and had an intention to make the unit as a model unit for development of caring for patients. The unit was expected to be a pilot unit in developing a caring. The fruitful outcomes of this meeting were also the commitment among the parties involved to give their best effort during the implementation of the project and also the caring commitment among the meeting participants. In addition, the director of nursing service also gave suggestion for the researcher not only implement the project per se, but if it was possible, also made any improvement for those aspect of management in the unit so at the end of the project, there would be a ideal intensive stroke care unit.

(2) Developing vision and mission of the unit

At this time, the unit did not have vision and mission for a direction for nurses to achieve. Therefore, the researcher, nurse' participants, and supervisors agreed to develop vision and mission of the unit. The vision and mission were developed based on caring philosophy. It was believed that the established vision would encourage nurse participants to demonstrate their caring behaviors toward the patients and families and other parties that involved in the patients' care. The vision of the unit was "providing a high quality care and to be national center for critical stroke patients with humanistic approach". While the mission of the unit were (1) to deliver quality nursing care of critical stroke patients with strong commitment to the vision, (2) to provide nursing practice based on the education, research, and innovation and collaboration; (3) to develop humanistic partnership among health care team, patient, and family member; and (4) to respect any contribution of health care personnel and (5) to develop culture of innovation and long-life study.

- (3) Providing knowledge on caring, quality of nursing care, and action research through a workshop and individual discussion

To provide and refresh knowledge on caring and quality of nursing care for the nurse participants, a workshop was conducted on March 28, 2008. The theme of workshop was “improving quality of nursing care through participatory action research.” As a keynote speaker, Assoc. Prof. Dr. Arphorn Chuaprapaisilp, RN was especially invited to address topics “improving quality of care through participatory action research and caring in eastern context. Meanwhile, the researcher discussed the topic of caring in nursing. This workshop has been attended by 67 nurses which consisted of participants of the project, the nurses from other wards that selectively invited by the director of nursing service, and nurse educators from School of Nursing University of Sumatera Utara who were interested in caring, quality of care, or action research.

After the morning presentation, Assoc. Prof. Dr. Arphorn Chuaprapaisilp, RN was also invited to visit intensive stroke care unit. During her visit, she taught the group of nurses which comprised of all nurse participants and some nurses from other wards made some discussions about the caring for critical stroke patients. Besides giving explanation of caring, she also demonstrated directly how to be a caring nurse. She performed massage, talked to a comatose patient (proved that the patient moved her head and produced tears), demonstrated energy therapy, and so on. This visit promoted the awareness of the nurse participants on the significance of nursing caring practice for patients and encouraged them to practice better for their patients.

- (4) Improving interpersonal interaction

Interpersonal interaction was the key for promoting caring atmosphere in the intensive stroke care unit. The nurse participants were asked to improve their interpersonal

interaction with others especially with the patients and families. One method of improving interpersonal interaction was to accompany the families when they visited the patients at the visiting hours at least for fifteen minutes. This approach was to enable the nurse participants to spend more time with the patients and families and also to know them. This also provided the best way to express their caring to the patients and families.

(5) Performing activities to promote caring

Creating caring atmosphere in the intensive stroke care unit was also done by performing some activities which promoting caring. These activities brought the core values of the tentative professional caring model. One of these activities was to greet every person who was in the unit, such as nurses, other health team members, administrative staff, the patients, and families. Every nurse participant was encouraged to get used to do greeting every time she or he meet others in the unit. Another activity was to inform the patient what nurses would be done to the patients, including comatose patients. Besides showing caring to the patients or families, the nurse participants also developed ways to express their caring to other nurses.

(6) Structural change to promote caring activities

Various approaches were done to create a caring atmosphere in the intensive stroke care unit, including some minor structural changes. An example of these minor changes was an effort of posting pictures of a caring nurse on the unit wall. The main goal of this effort was to encourage the caring mind of nurse participants when they were in the unit. In addition, the head nurse also emphasized the importance of flexibility for the families to

visit the patients outside the visiting hours. The nurses needed to consider the reason of additional need for visiting the patient outside the visiting hours.

(7) Policy change to promote caring

Simple policy change has been done to promote the caring atmosphere in the intensive stroke care unit. Based on the approval of the supervisor and head nurses and new admission of two bachelor nurses, a significant new policy was defined. This new policy was to create a vice head team for the 2 teams which already existed. With this new policy, the head and vice head teams were responsible in caring for their patients and also became role model for the team members. They had to arrange the activities within the team so the team members could spend less time on wasted activities and more time on caring activities to the patients and families, expressing their caring.

(8) Applying the tentative PCM with clinical practice guideline

As an operational form the tentative professional caring model, the clinical practice guideline (CPG) was more applicable into daily nursing practice. The CPG was developed together between the researcher and nurse participants in the reconnaissance phase. The nurse participants were asked to carry out the CPG in their daily practice. The researcher and the head nurse were always available as resource for the nurse participants if they had any difficulties in implementing the CPG.

During this first cycle, observations were made in term of the implementation of the tentative PCM with clinical practice guidelines by nurse participants and its impacts on caring atmosphere in the unit, caring behavior of the participants, and also quality of nursing care indicators.

Reflection. The nurse participants as caring providers and the patients or families as caring receiver were asked to reflect their experiences on caring in the unit. In addition, indicators of nursing care qualities were also measured to find out the temporary impacts of the model implementation.

(1) Participants' experiences in implementing the tentative PCM

The participants reflected their experiences in applying the tentative professional caring model with the clinical practice guideline in term of changes during the implementation, benefits gained, their feelings, facilitating factors, inhibiting factors, and participants' suggestions.

(1.1) Changes during the implementation of the model

According to the participants, during the implementation of the model there were some changes in their daily practice and they demonstrated more caring behaviors both to the patients and family members. The changes in practice perceived by participants included they informed patients before doing a procedure, they were more active in working, they started to give health education both to the patients and family members, they provided better practice, and they created caring environment. The participants stated:

“There were a lot of changes in practice after I used the model in taking care of the patients. Previously, I often performed any procedures without communicating with the patients. I just did it. Sometimes I forgot to notify the patient what I was going to do to her/him.” (Nurse Participant 1)

“The environment was quite good now. I was as a nurse with the patients there have been good relationship, for an example we greeted the patients

in the morning, morning Mrs. F? If the patient could not talk she just opened and closed her eyes with a smile.” (Nurse Participant 5)

The participants also perceived that their caring behaviors were better than before. They demonstrated more caring behaviors to the patients or family members including they paid more attention on the patients, greeted the patients or family members, were more responsive, used touching, showed good manners, and called the clients by his or her name. One participant who felt increased caring behaviors stated:

“The difference was that it was better when there was a model. It was because we were nurses having a motto 3 S: “senyum”, “sapa”, “sentuh” (smiling, greeting, touching). If I saw back to the past the nurse was lack of smile, no greeting, no touching, but now after we had the model, almost 80% of nurses has applied the model in taking care of the patients and families.” (Nurse Participant 5)

Meanwhile, another participant commented on her increased caring behavior after using the model:

“I also felt that I paid more attention to the patients and family members. I also talked to them before initiating a procedure. I even tried to talk with Batak language (local language of a patient) when giving explanation in order to promote closer relationship and enhance the understanding of what have been said.” (Nurse Participant 1)

(1.2) Benefits gained

During the implementation of the tentative PCM, nurse participants gained many benefits which included increased knowledge, getting more experience, getting closer to the patients, increased family satisfaction, gaining trust from family members, increased quality of nursing care, and growth of feeling of love to the patients. These benefits were experienced by the nurse participants as they expressed:

“They felt satisfied; because when they complained we accepted it, whatever he is we can see it. The family also can know and communicate closely. Yes may be satisfied, for instance the patient have said that he moved from Elizabeth hospital, it is better here than in Elizabeth hospital.”
(Nurse Participant 4)

“Of course if we loved someone we surely gave more attention to him or best care for him. It was a need to create feeling of love first. It was not because the patient was the same ethnicity with us. The important things we loved the patient.” (Nurse Participant 5)

(1.3) Participants’ feelings

The tentative professional caring model was the new things for the participants. To apply something new can create both pleasant and unpleasant feelings. Pleasant feelings experienced by the participants were feeling of happy, being challenged, feeling of satisfied, and being proud. One participant commented:

“I was satisfied sir, happy sir because from she was nothing, from she was unconscious, then she opened her eyes, listened, moved her body,

moved her hands, and legs. There was satisfaction on us. Because we greeted every morning: Good morning Mr. C, Good morning Mrs. M please let us brush your teeth first or gave a wash.” (Nurse Participant 5)

Meanwhile some participants had unpleasant feelings such as feeling of weird and upset.

One participant expressed her unpleasant feeling:

“My feeling when the first time I said good morning to patient was very weird, especially if the patient was coma. When I talked to him, it was weird because other friends did not do the same things. The next tomorrow I tried to greet all patients. Good morning Mrs. O.” (Nurse Participant 5)

(1.4) Facilitating factors

Facilitating factors perceived by participants in this cycle were a support from the head nurse and nurses' good intention in heart to improve their caring practice. The support was not only in term of giving direction to the participants, but the head nurse also became an ideal role model in caring for patients. He directly took care of the patients by delivering direct care and also provided teaching to the patients and family members. Besides supporting head nurse, participants felt that good intention in heart was very important aspect to encourage them to improve their caring practice. This intention could motivate them to change their caring habits.

(1.5) Inhibiting factors

The inhibiting factors in the first cycle included the comatose patients' condition, time constraint, and negative response from other colleagues. Most of the patients admitted to the intensive stroke care unit were in comatose state. The participants felt some difficulties in implementing the caring model especially in establishing two ways communication between them and the patients. Without direct verbal or non verbal response was felt by the participants as an important obstacle to improve the participants' caring behavior. Meanwhile, because the nature of intensive stroke care unit was an intensive care unit, the nurse participants needed to spend much time on performing tasks. As consequences, they had limitation of time to perform their caring behavior to the patients and family members. In addition, doing the good things would not always come with positive results. In this cycle, the participants sometimes got negatives feedback from other colleagues for their effort to implement the tentative professional caring model. The negative feedback varied in forms such as unpleasant/irritating comments or suspicious presumes or negative thinking for caring actions which were different from other actions. The participant felt this negative feedback from colleagues as mentally disturbing as one participant stated:

“Some nurses felt unhappy, especially their comments on my performance: You don't need to perform like that. Their comments were really mentally disturbing me. I felt how come there was no good response for what I have done.” (Nurse Participant 5)

(1.6) Participants' suggestions

Before continuing to the next cycle, the participants had some suggestions to make the project more acceptable and applicable for all participants. Their suggestions included to have a regular meeting to discuss the model, to have training on critical stroke care, to

have a good teamwork, and to have support from nursing management of the hospital. They also wanted that the model should be continued using in the unit and all nurses should be actively involved in applying the model.

(2) Family members' experience in receiving caring

The family members reflected their experience and observation on caring provided by the participants during the implementation of the tentative professional caring model that included: their feeling when receiving caring from the participants, impact of the model implementation, their perceptions of nurses' caring behaviors, and their expectation.

When they were asked about their feeling, family members mentioned that they were satisfied, being respected, happy, and felt salute for the caring given by the participants. One of the family members expressed:

"I was very happy. It meant there was an improvement. The caring had to be better. It meant within not too long my mother would go home. Just now we talked. My mother had a brave to talk." (Family Member 14)

In addition, family members perceived the impact of the implementation of the model which included patient's progression and positive family behaviors. In term of patient's progression, family members mentioned that the patient's consciousness came back, the patients could speak and moved their hands, and they could recognize others. Caring given by the participants also created positive family behaviors against the participants such as they built trust to the participants and also established respect to the participants.

At the end of this cycle, family members perceived increased nurses' caring behaviors. The participants' caring behavior seemed to be better than previous one. The family members felt that nurses were friendly, gave prompt response upon their request or when they asked questions and showed respect for patients. They also mentioned that nurses were patient, polite in speaking, unrudd, diligent, and sincere in caring for patients. They also felt that nurse often greeted the patients and family members and informed the patients before performing a procedure. In addition, nurses were considered to have a good relationship with the patients. Two family members commented:

“The nurses were more sincere, actually they felt that it was their job so they worked without any reluctant, they felt no force to do it. There is also a nurse who works perfectly. The most important is that it has been done.” (Family Member 13)

“In this case the patient is respected although she got convulsion. They sometimes were kicked by the patient who was restless, they were not angry... not emotion. They kept serving well.” (Family Member 12)

Although family members had positive impression on caring given by the participants, they still had some suggestions for improvement. They suggested that they should keep informed regarding patients' condition and progression on daily basis. Due to limited time to stay with the patients, they also expected that family members would be given opportunity to accompany the patients even for only one person. Finally they did expect that nurses could pray for the patients at night before the patients go to sleep.

(3) Quality of nursing care

Measurement of indicators of nursing care quality found that family satisfaction toward nursing care at intensive stroke care unit was on a low level (score 67.6 of 100). Nurses had moderate level of satisfaction toward their work (score 79.2 of 100). Nurses caring behavior was on very low level (56.7 of 100). Nurses' knowledge of critical stroke care was on a high level (80 of 100). Meanwhile, four patients had decubitus ulcer; 9 patients had infection, and length of stay was 6.2 days.

Revised plan. Based on the reflection, it was found that caring atmosphere in intensive stroke care unit had an improvement in some degree such as the nurses get used to establish caring relationship with the patient and family members by greeting the patients and often communicate to them as an example. They also started change their behaviors to be more caring mode such as paid more attention to their patient's needs. In addition, the tentative professional caring model was partially implemented by the participants. For the next cycle, two plans were set up: conduct a workshop on care of critical stroke patient and to apply the tentative professional caring model in one nurse one patient basis and evaluate the evaluation.

CYCLE 1
Creating Caring Atmosphere and Introducing Tentative Professional Caring Model
Time Duration: 4 months

REFLECTION

1. Impacts on nurses
 - Increased knowledge and understanding on caring for critical ill patients
 - Change of nurses' attitude and behavior to patients & family members: more caring
2. Impacts on patient/family
 - Patient's progression
 - Family more trusted and respected to the nurses
 - Improved patient/family satisfaction
2. Lessons learned from 1st cycle
 - Lesson from patients & family members
 - Caring for critical stroke patients was very complex
 - Lesson learned from nurses
 - Lack of time for holistic bedside care
 - Difficulties in changing old habits of task oriented to more caring mode of actions
3. Suggestions from nurses:
 - Having regular meeting, training on critical stroke care, a good teamwork, support from management and all nurses must involve

PROBLEM/SITUATION:

1. Inadequate caring environment
2. There were not specific guidelines for caring for critical stroke patients which lead nurse to practice professionally & quality of nursing care still needed to be improved.

PLANNING**Goal**

- Creating caring atmosphere in ISCU
- Introducing tentative PCM and CPG in order to improve quality of nursing care for critical stroke patients

Plan to act

1. Developing vision and mission of the unit
2. Promoting participants' awareness of caring atmosphere in ISCU
3. introducing the tentative PCM to participants and apply principles of CPG

Strategies

1. taking part in providing care to patient
2. learning together in caring for the patient
3. sharing knowledge & experience
4. posting pictures of a caring nurse on the unit wall
5. conducting a workshop on caring
6. having a regular meeting every two weeks

ACTION

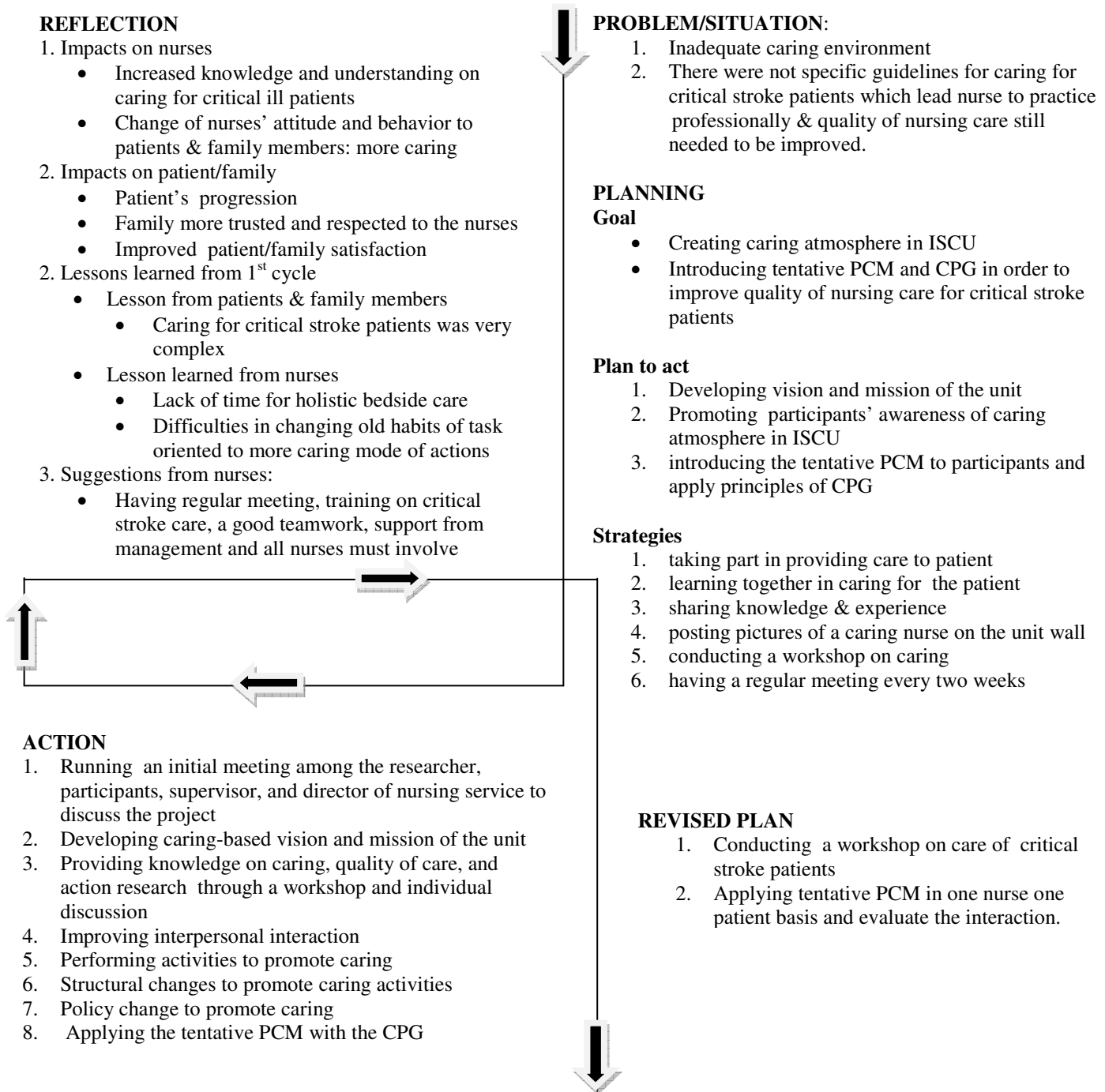
1. Running an initial meeting among the researcher, participants, supervisor, and director of nursing service to discuss the project
2. Developing caring-based vision and mission of the unit
3. Providing knowledge on caring, quality of care, and action research through a workshop and individual discussion
4. Improving interpersonal interaction
5. Performing activities to promote caring
6. Structural changes to promote caring activities
7. Policy change to promote caring
8. Applying the tentative PCM with the CPG

OBSERVATION

Made observation on

1. changing on caring atmosphere in ISCU
2. caring behaviors of participants
3. quality indicators

Cycle 2



Cycle 2: Nurses-client interaction in implementing tentative professional caring model in the ISCU. Even though there was a slight change on the environment to be more caring and nurses had an intention to practice better, nurses have still worked based on task-oriented nursing action. They had difficulties in changing old habits of task oriented to more caring mode of actions. During this cycle, the participants were encouraged to implement the tentative PCM and CPG based on one patient to one nurse. A participant was responsible to take care of one patient since he/she was admitted to the unit until discharged. This allowed the participants to follow the tentative professional caring model. The aim of this cycle was to facilitate caring interactions between nurse participants and patients and families. It also aimed to facilitate the participants' abilities in implementing the tentative professional caring model in the intensive stroke care unit.

Planning. The main goal of this planning was to encourage every participant to practice the tentative professional caring model which included the clinical practice guideline. Several plans to act included applying the tentative professional caring model for one patient with one nurse, conducting education session for families every week, developing nursing forms, and promoting regular practice of tentative professional caring model at individual level. In addition, there were some strategies have been defined comprised of conducting a workshop on caring for critical stroke patient, assigning one participant to take care of one patient by following the tentative PCM and CPG, and sharing knowledge and experiences of applying the tentative PCM and CPG through discussion of case study.

Action and observation. In order to improve the knowledge and skills of the participants in caring critical stroke patients, mutual interventions were carried out with participants, researcher, head nurse, and nurse supervisors. These interventions are described as follows. In addition, one diploma nurse was assigned to the ISCU.

(1) Applying the model with one participant to one patient approach

This approach was designed to make the participants focus their work on one patient and master the tentative PCM and CPG. Even though their focus was on a patient, the participants also had responsibility to assist other nurses. Besides establishing a good relationship with the patient, the participants also needed to develop relationship with their family members and also other health team involved in the care of patients. The participants were emphasized to run their work based on the CPG in order to capture holistic care of a patient. They were encouraged to perform basic procedures as daily routines and also provide other interventions such as massage to the patient. In addition, they also tried to get used to apply principles of CPG which encourage caring behaviors such as calling patient by name, keep communicate before starting a procedure to patient including comatose patients and so on (see Principles of CPG in appendix I). They also needed to accompany patient's family when visiting the patients and provided information on patient's condition and progression on that day. In general, this approach assisted the participants to master the tentative PCM which covered the CPG, describing caring for critical stroke patients.

(2) Conducting education session for family members

Education session for family members was carried out every Thursday after visiting hours. This education session was set up in order to achieve two purposes. First

purpose was to provide information on stroke and stroke care for family members and provide opportunity for them to raise any questions related to the care of the patient. It was the regulation of the hospital that not to allow family members in accompanying the patients inside the intensive care unit and only provided visiting hours at noon and evening time. The consequence was the limited time for family members to stay near the patient to take care for the patients and also to interact with the nurses. Second purpose was to provide an opportunity to the participants to share their knowledge and experiences in caring for the critical stroke patient to family members. Besides performing teaching as a main nurses' role, it was also a good opportunity for the participants to establish close relationship with family members. This education session took place for around 30 minutes. The participants first presented one topic for 15 minutes by using power point and then continued by questions session. Participants also provided brochures for family members.

(3) Assigning participants to accompany family during visiting hours

Visiting hour was the only opportunity for family members to meet the patient. Due to the limited time for visiting hours, family members usually had a little interaction with the nurses and therefore they had a little knowledge on the patient's condition especially for comatose patients. By accompanying family members during visiting hours, the participants could provide information on the patient's condition on that day. They also could inform the family members on what the procedures had been done, the results of diagnostic tests, and anticipated procedures that planned by health team. They also gave reassurance and suggestions for the care of the patient.

(4) Developing nursing forms/documents

Documentation of nursing care was important aspect. The participants felt that they did need nursing forms that were easily used. The researcher and the participants then developed few forms such as nursing care plans for critical stroke patient (Appendix J) and neurological checks (Appendix K).

(5) Conducting a workshop on caring for critical stroke patient

Considering that there was still lot of nurses did not have training on critical stroke care, a workshop on critical stroke care was conducted on 3 to 5 November 2008. Based on input from head of nursing department, attendants of this workshop were not only nurses from intensive stroke care unit but also nurses from other units which usually receive stroke patients from intensive stroke care unit for the follow-up care. This three day workshop was attended by 35 nurses. The speakers comprised of a neurologist who addressed aspect of anatomy of the brain and current medical care of critical stroke patient; the researcher and the head nurse who presented assessment of critical stroke patient and caring for critical stroke patient; and also a physician from rehabilitation center who addressed issues on physiotherapy for critical stroke patients.

During this cycle, observations were conducted in term of the implementation of the tentative PCM and CPG on one participant to one patient basis. Impacts of implementation of the tentative PCM in the unit, caring behavior of the participants, and also quality of nursing care indicators were observed.

Reflection. The nurses' participants and families were interviewed to reflect their experiences on implementation of the tentative PCM in the unit. The indicators of nursing care qualities were also measured to evaluate the impact of the model implementation.

(1) The participants' experiences in implementing the tentative PCM

The participants reflected their experiences in implementing the tentative PCM.

Their experiences are described as follows.

(1.1) Changes during cycles two

During the application of the tentative PCM which more focused on closed interaction with patients and families, the participants felt that there were some improvements in their daily practice in term of changes in practice and improved caring behaviors. Besides providing better care for patients, the participants felt that they knew the patients better than previously. It helped them to keep focus on patient care. It also equipped them with current information on patient's condition which helpful when they interacted with physicians and families. One participant stated:

“We more understood about the patient. We had to know all about the patient and we easily answered the doctor's questions when he made a visit. We did the CPG long time ago but we didn't know much about the patient. We just applied the infusion then finished.” (Nurse Participant 6)

By knowing the patients and families, the participants were facilitated to practice interpersonal caring in daily practice. One participant commented:

“By knowing the patient means that I showed my caring to my patient. If I don't know the patient's name, for instance, it means the

caring model doesn't work here. The essence of being a caring nurse is to know the patient.” (Nurse Participant 5)

Another change perceived by the participants was close relationship with family members, more sensitive of patients' and families' needs, and more focus on their work. When applying the tentative PCM, the participants grew their sensitivity of patients' and families' needs, as one said:

“I think it makes me more sensitive against the patients' needs, the families' needs. for instance at night shift I had to call the families to come in and seated beside the patient's bed and asked them to pray when a patient was dying.” (Nurse Participant 1)

In addition to the changes mentioned above, the participants also experienced other changes such as change on the way they communicated to the patients and families, change on the way they performed morning shift, they started to provide health education session, providing holistic care, and they gave support to the families.

During this cycle, the participants also perceived some improvement on their caring behaviors. They had improvement on their communication skills. For instances, they spoke politely, they called patients and families by name, and they also greeted the patients and families. The participants expressed their improved communication skills:

“In the past when we gave diet to an unconscious patient through feeding tube we only just gave it. But now, we are taught to communicate to the patient although the patient is unconscious. So when we applied a procedure although the patient is unconscious we kept calling the name of the patient.” (Nurse Participant 4)

Besides improved communication, the participants also mentioned other improved caring behaviors, such as listening more to the patients and family members, paying more attention to them, creating a sense of love for the patients, and showing caring through touch. One participant stated the following about touching:

“Although the patient could not speak, I touched her hand and held it. After that, there was a response from her. She gripped my hand too, though no words came from her mouth.” (Nurse Participant 7)

(1.2) Benefits gained by the participants

Many benefits were gained by the participants during the tentative PCM’s implementation. They stated that they gained in terms of personal self-improvement, better relationships with others, more appreciation from others, improved caring behaviors, a more professional way of working, and improved quality of work.

The participants felt that they had achieved much self-improvement by the end of this cycle. This included enhanced responsibilities in patient care, increased knowledge of caring for critical stroke patients, improved communication skills, and greater self-confidence. Two participants expressed their perceptions of self-improvement as follows:

“After I applied the principles of this model, I created good intentions for caring for patients and took on greater responsibility for the patients. So now, we nurses are more responsible for our work.” (Nurse Participant 6)

“The model helped very much in caring for the patients. It made clear what should be done. It was helpful because something that we did

not know in the past became known and understood, such as how to deliver nursing care to the families of patients.” (Nurse Participant 8)

The participants also mentioned that they established better relationships with other parties, such as family members and other health care team members. One participant commented on her relationship with the other health care team members in the following quote:

“Our relationship with the physician is closer than before, so that is a positive impact of the implementation of the model. As a nurse, I can provide information about patients to the physician. When the physician makes a visit, he usually asks about each patient’s condition and history. Because I have good communication with the patients and their families, I can provide a lot of information about the patients to the physician.” (Nurse Participant 3)

Gaining appreciation from others was also a benefit experienced by the participants. Such appreciation included a good image in the eyes of physicians and family members, more empathy from families, and a better overall image for the nursing profession. The participants expressed the benefits from the implementation of the tentative model in the following quotes:

“When we implemented the model, it had a good impact on the nursing profession. Usually, many nurses did not show empathy to the patients, even though these nurses had good skills. Under this model, I found that I was more empathetic with the patients. I could feel what the patients felt. So I think the use of the model can enhance the image of the nursing profession.” (Nurse Participant 3)

“The physicians had a good impression of the nurses’ performance. Because the nurses knew the patients very well, the nurses could answer all of the physicians’ questions about the patients, including their conditions and complaints. Nurses now cooperate with the physicians, who now have a more positive image of the nurses.”

(Nurse Participant 6)

(1.3) Participant feelings during implementation of the tentative PCM

During the implementation of the tentative PCM in cycle 2, the participants expressed their feelings. These included feelings of satisfaction and happiness, and the participants also felt impressed, challenged, and more motivated to work. These pleasant feelings appeared especially when the nurses observed signs of progression in their patients’ conditions. One participant stated:

“I was happy when a patient showed progression and gave a response when I greeted him or her. For example, when I said, “Good morning, Mr. O!,” the patient replied, “Morning.” Sometimes a patient responded by simply moving his or her hand. It made me feel happy.” (Nurse Participant 5)

The feeling of being challenged appeared when the participants implemented the tentative PCM. It created the challenge for them to provide better care for the patients. This feeling might have led to the development of more energy for working. These feelings were mentioned by the following participants:

“When implementing the model, I felt I was being challenged to apply the model and the clinical practice guideline, and to prove that I could provide good care to the patients.” (Nurse Participant 5)

“I felt that I had more energy when working with the patients, that I was driven to work better and better. This was especially true when a newly admitted patient was assigned to me.” (Nurse Participant 4)

(1.4) Facilitating factors

There were some facilitating factors identified by the participants during this second cycle. These included the inner drive of the participants, support from the head nurse, good teamwork, and an established sense of responsibility. Inner drive was an important factor that facilitated the participants in implementing the tentative PCM. This factor generated motivation in the nurses to carry out the tentative PCM at the highest level of ability they could. One participant commented:

“The facilitating factors actually arose from within myself, as I felt that it was my duty as a nurse to improve. It was my own determination to be more empathetic with the patients that continued to motivate me. For example, decubitus usually occurred in patients due to the fault of nurses, so I tried to decrease the decubitus rate in the stroke unit. Indeed, decubitus soon became rare in the unit. Usually, patients with decubitus got it from outside our unit. We, the nurses here, carried out the clinical practice guideline that we established together.” (Nurse Participant 3)

Consistent support from the head nurse was also perceived to be one of the facilitating factors. The head nurse always motivated the participants to continuously implement the tentative model. He also served as an example of a good, caring nurse for the participants.

(1.5) Inhibiting factors

In the second cycle, the participants faced several factors which inhibited them in applying the tentative PCM. These inhibiting factors included detailed clinical practice guideline, difficulties in changing behaviors, the negative attitudes of some nurses toward the tentative PCM's implementation, the rejection of the model by some nurses, and a lack of nurses. The participants felt that the clinical practice guideline which was developed to bring the tentative PCM to a practical level was too detailed. This might concern the content of the guideline, which covered all aspects of critical stroke care. One participant commented:

“I think that the clinical practice guideline was quite complicated and too detailed. It created confusion. However, the guideline was helpful for us when performing day-to-day activities. It would be easier for us if the guideline were simplified.” (Nurse Participant 5)

Another inhibiting factor was the negative attitudes of some nurses towards the application of the tentative PCM. These participants stated that they actually knew and understood the benefits of the tentative PCM's application, but they nevertheless did not value the model. This may be due to the emphasis that the model places on changing current behaviors to become more caring. They felt that such changes in behavior would be very difficult to make.

(1.6) Participants' suggestions

The participants gave several suggestions on how to better implement the tentative PCM in the next cycle. The suggestions included designing a better approach to interacting with patients and families, working together more effectively, simplifying the clinical practice guideline, and obtaining the full involvement of every nurse in the unit. The participants were most concerned about the clinical practice guideline, with which they had experienced a lot of difficulty during implementation. Because the clinical practice guideline serves as the practical foundation of the tentative PCM, they expected that it would be revised and simplified while preserving its essence of caring.

(2) The family members' experiences in receiving caring

The family members reflected on their experiences in receiving caring and their observations on the caring received by patients. Their experiences are described as follows.

(2.1) Care received by patients and families

The family members observed the care provided by the nurses to the patients. They stated that the nurses delivered high quality nursing care to the patients, which included physical care, psychological care, and explanations of procedures. Physical care included making observations, providing hygienic services, performing procedures, administering drugs, giving massages, and helping patients exercise. These are reflected in this quote from a family member:

“The nurses continuously observed the patients. They observed their blood pressure levels, heart rates, and other indicators. They observed all patients.” (Family Member 20)

Besides providing physical care, the family members also observed, and experienced, the psychological care which was provided by the nurses. These caring efforts included calming the patients and giving support to them. One of the family members stated:

“I myself saw a nurse giving support to my husband. When she asked my husband to get up, she said, “Mr. Rd, please get up. Get up, sir. Don’t sleep anymore. Look, your son is coming!” She gave him spirit. She motivated her patients.” (Family Member 18)

(2.2) Families’ feeling

When asked about their feelings after receiving care from the nurses, the family members stated that they were satisfied, happy, and appreciative of the care provided by the nurses. They were satisfied because the care was much better compared to the care they had received in the past. They were also appreciative of the full attention given to them and the patients by the nurses in the unit. One of the family members commented:

“The nurses gave their full attention to their patients. I salute them. I have observed this stroke unit for a long time, and have seen a lot of patients die. But after my brother was admitted here and later referred to the general ward, I found that the caring was actually good. I was not disappointed.” (Family Member 20)

Besides being happy due to the good nursing care, the family members were also glad to gain knowledge on stroke care from the nurses. They were invited to attend health education sessions which provided teaching for the family members. One of the family members expressed his feelings on this as follows:

“I was happy because I learned about stroke care from the nurses. At first, I didn’t know about it, but after I attended the health education sessions on Thursdays, I gained knowledge on stroke care. I learned what a feeding tube is, how to apply it, and what its purpose was. The explanations were clear and easy to understand.” (Family Member 19)

(2.3) Perceived impacts from the implementation of the tentative PCM

The family members mentioned several impacts from the implementation of the tentative PCM. These included gaining knowledge of stroke care, receiving better care, developing closer relationships with nurses, and having more spirit. Improved health status was also an impact, and included increased levels of consciousness in the patients, greater patient ability to talk to family members, and greater patient ability to move their extremities and open their eyes. The family members also felt that their relationships with the nurses became closer due to several joint activities, such as the health education sessions and the situations when the nurses would accompany them during visiting hours. Having more spirit meant that the family members were encouraged by the nurses to keep their spirits stronger and their hopes up when taking care of their loved ones.

(2.4) Families’ perceptions on the caring behaviors of the nurses

In this cycle, the family members did experience more caring from the nurses than previously. They observed that the nurses demonstrated more caring in their relations with patients and families. These behaviors included being friendly, patient, and sincere, as well as paying close attention to patients, greeting patients and families, and calling patients by their names.

The family members noticed that the nurses paid close attention to their patients. They saw how the nurses approached the patients and monitored them on a regular basis. They also saw that the nurses worked seriously and spent as much time as was necessary to care for the patients. One of the family members commented:

“It was interesting to find that though I had previously thought that the nurses talked too much, I actually found that they worked seriously. They really gave their full attention to the patients. They cared for the patients by administering medicine, monitoring blood pressure levels, and talking with them.” (Family Member 20)

Friendliness was another caring behavior observed by the family members. The nurses were considered friendly because the family members perceived them as willing to communicate with the patients and families. Also, the nurses approached families during the visiting times and were kind to them. One participant stated:

“I have noticed that here the nurses were kind and friendly. They often communicated with patients and family members.” (Family Member 19)

(2.5) Families’ perceptions of nurses’ uncaring behaviors

Even though the nurses tried to demonstrate their caring behaviors through implementation of the tentative PCM, the family members still noticed some uncaring behaviors exhibited by the nurses. They perceived that some nurses still had bad tempers, ignored the patients, were too talkative, spoke with a harsh voice, or were rude in their communications. This might be related to the culture of nursing, where nurses tend to speak sternly. One participant commented:

“I think the way she explained my mother’s disease should have been done calmly. Her voice was hard. I didn’t know the customs here, though, because this was my first time in Medan.” (Family Member 19)

(2.6) Families’ expectations

The family members experienced and observed the good care given by the nurses in this unit during this cycle. However, they still had some expectations which needed attention from the nurses. Their expectations included an extension of visiting hours, better care for the patients and families, and a ratio of one nurse to one patient.

The family members consistently felt that visiting hours were very short. They really wanted to spend more time with the critical stroke patients. They also wanted the nurses to be flexible in allowing guests to visit the patients, especially the patients who were in unstable conditions.

Even though the nurses delivered quality caring to the patients and families, family members still expected the nurses to improve in terms of better understanding families, avoiding discrimination, and considering the patients as their own family members. The families wanted to see discrimination reduced in the unit because many patients admitted to this unit used Jamkesmas and Medan Sehat (insurance for poor people). They wanted patients with these kinds of insurance to be treated the same as other patients. One participant suggested:

“Please don’t differentiate between patients because of their ethnicity or anything else. Although some patients use Jamkesmas and Medan Sehat, please don’t treat them differently. If it is possible, I’d like the

nurses to treat the patients equally. That's what I hope.” (Family Member 17)

(3) Quality of nursing care

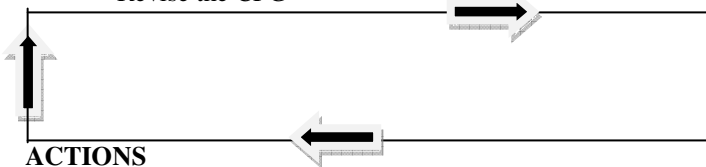
Measurement of the indicators of nursing care quality found that family satisfaction with the nursing care at the intensive stroke care unit was at a moderate level (a score of 78.3 out of 100). The nurses had high levels of satisfaction with their work (80.4 out of 100). The caring behavior of nurses was at a low level (65.3 out of 100). However, nurses' knowledge of critical stroke care was at a high level (86.5 out of 100). Meanwhile, during this cycle, one patient developed decubitus ulcers, and 16 developed infections. The average length of stay was 7.1 days.

Revised plan. From reflection, it was found that the tentative professional caring model had been applied fairly well by the participants. Although the participants were satisfied with applying the model, they nevertheless raised some suggestions for its improvement. For the next cycle, there were three plans that needed to be done: 1) reorganize the method of work by classifying nurses into RN and PN categories, 2) conduct “an in-house training program” on how to embed caring behaviors into daily nursing work, and 3) revise the clinical practice guideline to be more simple and understandable.

CYCLE 2
Nurse-Client Interaction in Implementing the Tentative PCM in ICU
Time Duration: 4 months

REFLECTION

1. Impacts on the nurses
 - Improved caring behaviors
 - Good relationships with other health care team members & families
 - Appreciation from others, including patients, families, and physicians
2. Impacts on the patients/families
 - Improved health status
 - Improved patient/family satisfaction
 - Increased knowledge of stroke care
3. Lessons learned
 - From the nurses
 - Commitment and consistency were needed to implement the tentative PCM
 - Change of behaviors towards caring occurred slowly
 - From the patients/families
 - Families needed daily information on patient progression during visiting hours
 - Limited time for families to get involved in patient care
4. Suggestions from the nurses:
 - Keep continuing the model's implementation
 - Revise the CPG



1. Conducted a workshop on caring for critical stroke patients
2. Participants tried to apply the tentative PCM on a one participant to one patient basis:
 - Providing direct care to a patient, as defined in the clinical practice guideline
 - Recording data from a case study
 - Nurses' reflecting on their practice
3. Conducted education sessions for family members every Thursday
4. Assigned participants to accompany family members during noon visiting hour
5. Developed nursing forms: nursing care plan for intensive stroke care unit and outcome assessment

OBSERVATION

1. Caring behaviors of participants in taking care of patients and family members
2. Nursing documentation
3. Quality indicators

PROBLEM/SITUATION:

1. Task-oriented nursing actions
2. Nurses had intention to practice better

PLANNING:**Goal**

1. To encourage participants to practice the tentative PCM

Plan to act

1. Applying the tentative PCM on a one patient to one nurse basis
2. Conducting education sessions for families every week
3. Developing nursing forms
4. Promoting regular practice of the tentative PCM at an individual level

Strategies:

1. Conducting a workshop on caring for critical stroke patients
2. Assigning one participant to take care of one patient using the CPG
3. Sharing knowledge and experience through discussion of the case study

REVISED PLAN

1. Reorganize the working method
2. Conduct "an in-house training program" on how to embed caring behaviors into daily nursing jobs
3. Revise the clinical practice guideline to be more simple and understandable

Cycle 3

Cycle 3: Maintaining sustainability for the tentative professional caring model's implementation in the ISCU. In the previous cycle, the tentative professional caring model was implemented by the nurse participants using a one patient to one participant approach. There were some improvements observed in terms of the caring behaviors of the participants. The nurse participants were satisfied with the implementation, but they still had suggestions for improvement. They also perceived that the tentative professional caring model was not practiced by all staff members in the unit. Furthermore, the uncertain nursing staffing made the implementation quite difficult.

Planning. The planning process for maintaining the sustainability of the tentative caring model's implementation in the ISCU was carried out by the nurse participants, the nurse supervisors, and the director of the nursing department. The main goal in the planning was to maintain the sustainability of the tentative professional caring model's implementation into the unit by encouraging all participants to practice the model. To achieve the main goal, three plans were set up. These were 1) building understanding among the members of each team on how to best practice the tentative professional caring model, (2) promoting the use of the tentative professional caring model at every nursing level (RN, PN, and NA), and (3) applying a simple, modified clinical practice guideline.

Some strategies were also aimed at ensuring that the tentative model was implemented throughout the whole unit. These strategies included gaining commitment from all participants to continuously apply the caring model; conducting an in-house training program on how to embed the caring behaviors into daily nursing work; changing nursing staffing policy regarding the RN, PN, and NA classifications; and using the caring protocol (short form of clinical practice guideline).

Action and observation. Actions taken in this cycle included actions which were part of the definitive plans and actions which had been applied in the previous cycles. All these actions were expected to help the participants to use their knowledge and skills in daily practice in a more caring manner. In addition, one diploma nurse was also assigned into this unit and, on overall, the number of nurses in this unit was seventeen.

(1) Having a management meeting for changing the policy on nursing staffing

A meeting among nurse managers at the middle and upper levels, which included the director of the nursing department, the head nurses, and other key participants, was conducted. In this meeting, a firm decision was made to change the policy on nursing staffing in the intensive stroke care unit. Under this new policy, nurses in the unit were classified into three groups: registered nurses (RN), practical nurses (PN), and nurse assistants (NA). The director agreed on the policy change because it was in line with the remuneration system that would be used in the hospital. She also expected that, if the change were successful, it would be applied for all wards in the hospital. By using this new staffing method, it was expected that the implementation of the tentative professional caring model would be greatly facilitated, since nurses at each level have specific responsibilities and could thus demonstrate their caring behaviors in line with their job descriptions.

(2) Having a ward meeting to increase understanding of the new policy and its relation to the tentative professional caring model

A ward meeting was arranged for the nurses in the intensive stroke care unit. In this meeting, the nursing director was invited to convey her policy on nursing staffing and also her expectations on developing caring nurses and improving the quality of nursing

care in the hospital. During the meeting, other issues were also discussed, such as job descriptions for each level of nurses, the way nurses should practice within the new work system, and the best way to implement the tentative model using the new system. Another fruitful outcome of this meeting was the decision to carry out in-house training on how to embed caring behaviors into daily nursing work.

(3) Designing new job descriptions

Job descriptions were designed jointly by the researcher, the two key participants, and three nurse supervisors. Job descriptions were designed for registered nurses, practical nurses, and nurse assistants. The main purpose of these job descriptions was to avoid overlapping job duties and unclear allocation of nursing tasks among the staff nurses, as well as to integrate the caring approach into nursing efforts at every level of practice, as mentioned above.

(4) Conducting in-house training on how to embed caring behaviors into daily nursing work

This in-house training was carried out separately for the different levels of nurses. Every day during the morning shift, two nurses had to attend short informal sessions (about one hour) with the head nurse and two supervisors. In these sessions, they discussed and reviewed the caring protocol (revised CPG) and the job descriptions for every nurse. The nurse supervisors gave examples of caring behaviors, based on the appropriate job descriptions, and then the training nurses practiced these behaviors under the supervision of the nurse supervisors. The nurses who were involved in this in-house training felt that they learnt something new and were challenged to apply all that was taught to them to better care for the patients and families.

(5) Conducting a joint- prayer session led by nurses

One aspect in the intensive stroke care unit in need of improvement was the dimension of spiritual care. The participants believed that by performing prayer sessions together that were led by nurses, the caring relationships among nurses, patients, and family members would improve. The joint-prayer sessions were conducted two days a week: Tuesday for Muslim patients and Wednesday for Christian patients. Every prayer session was led by a registered nurse and attended by family members. The main purpose of these joint-prayer sessions was to ask God to cure the patients and provide support for them.

Reflection. The nurse participants and the patients' families were interviewed to obtain information on their experiences with the implementation of the tentative PCM in the unit. The indicators of nursing care quality were also measured to evaluate the impact of the model's implementation.

(1) The nurse participants' experiences in implementing the tentative PCM

The participants reflected on their experiences in implementing the tentative professional caring model. Their experiences are described as follows.

(1.1) Changes during cycle three

At the end of cycle three, the nurse participants had implemented the tentative professional caring model. The tentative professional caring model was well-understood and was being applied in daily practice. The participants noted many improvements in both the practice of the nurses in the unit as well as in the behaviors of the individual participants. In general, after applying the tentative professional caring model, the

participants perceived positive changes in nursing practice and improvements in caring behaviors.

The participants implemented some practice changes in the unit, which included introducing themselves to patients and families, informing patients before performing procedures, accompanying family members during visiting hours, focusing more on work tasks, and providing more comprehensive care for the patients. When a patient was admitted to the unit, the participants practiced introducing themselves and informing the patient of all regulations in the unit. This orientation for newly-admitted patients was a novel approach for the participants. One participant stated:

“At first, I introduced myself to the family by saying, “Good evening, Mrs. A, I am Nurse F and am responsible for the care of your husband.” Then I explained the nature of the stroke unit as an intensive unit, different from an ordinary ward, in which family could not accompany patients at all times.” (Nurse Participant 5)

The participants also felt that by using the tentative professional caring model, they were compelled to provide comprehensive care to the patients. They realized that performing nursing practice involved not just the completion of routines, but also included other aspects of care, such as psychological and spiritual care. Two participants commented on this comprehensive care:

“After applying this caring model, I really saw nursing care comprehensively because under this model, the nurses needed to learn to love and learn to work sincerely without seeing differences in the backgrounds of different patients.” (Nurse Participant 3)

“I kept reminding the family members that they should help the patients to continue with good habits to avoid future strokes. For example, I suggested they do dawn praying with the patients or play Islamic music with a walkman for the patients, based on their religions.” (Nurse Participant 7)

Besides changes in their practices, the participants also developed improved caring behaviors. As the model emphasized the importance of demonstrating caring behaviors to others during daily practice, the nurse participants strove to improve their caring behaviors day after day. The participants mentioned several caring behaviors in particular that they practiced during their daily routines, such as greeting the patients and families, being friendly, talking politely, paying close attention to others, performing caring through touching, maintaining eye contact, and calling patients and family members by name. The participants expressed their improvements in caring behaviors in the following quotes:

“An example of a change that I made was that I greeted the patients, saying, for example, “Good morning, Mr. B? How do you feel today?” Another example concerned a patient who was restless. I talked to him and used touch with him, while saying, “How are you today? Where do you feel pain?” (Nurse Participant 4)

“I noticed that after applying this model, the nurses were more friendly to the patients. The nurses often talked with the families as well, and the families often shared insights with the nurses. In this way, we served the families well.” (Nurse Participant 8)

(1.2) Benefits gained by the participants

After having applied the tentative professional caring model for more than one year, the participants were noted to have indeed gained benefits. They stated that the benefits consisted of self-improvement, good relationships with others, appreciation from patients and families, a greater sense of caring for others, better cooperation with other health team members, greater work satisfaction, and knowledge of the patients as people. The participants felt that using the tentative professional caring model in daily practice enriched their experiences as nurses. Other improvements that they experienced included greater motivation to work, self-confidence, sensitivity to patient needs, communication skills, and knowledge of critical stroke care. These self-improvement observations were commented on by the following participants:

“Previously, we just did our work and then finished. Now we have a professional caring model that we must follow. Our knowledge about caring has increased. Our way of communicating to others has improved and has made me more confident. My self-confidence is higher in giving explanations to families.” (Nurse Participant 4)

“By applying this model, of course, I was encouraged to be more caring. It motivated me to work from the bottom of my heart so I could help the patients.” (Nurse Participant 1)

Another benefit perceived by the participants was the establishment of good relationships with others. Nurses developed good relationships with the families and harmonious relationships with their colleagues and other health care team members. The participants commented:

“This model helped us in establishing good relationships with other health team members, such as physicians, pharmacists, and physiotherapists. Because physicians like Dr. G and Dr. I knew about the model, they usually asked us to improve our performance, especially for patients with medical conditions. They were supportive of the program and interacted in a more friendly way than before with the nurses.” (Nurse Participant 5)

“I developed positive outcomes which helped me to cooperate well with others. Among the nurses, I felt that there was a harmonious relationship and that the sense of cooperation was greater than before.” (Nurse Participant 4)

The participants also received appreciation from the patient and their families when they implemented the tentative professional caring model. The families showed respect to the participants. In addition, because of the quality caring which was provided to the patients and families, the image of the nurses in the minds of the family members changed for the better. Families came to feel that the nurses in the unit were quite different from those in other wards. Examples of appreciation were given by the participants, and follow:

“The patient in bed no. five could not move physically, yet he was conscious. He said he didn’t want to be moved to any other ward. He said he wanted to be hospitalized here longer because the nurses were good. That was praise received from a patient who healed well. It means that the application of this model was successful. And it is

also a compliment from a patient who has since returned home.”

(Nurse Participant 3)

“In turn, the families have begun to pay more respect to the nurses.

The family members now often smile when they meet or talk with a

nurse.” (Nurse Participant 5)

Another important benefit gained by the participants was the fact that they came to care more for others. The tentative professional caring model led them to establish a high degree of tolerance, create feelings of love, and develop a sense of empathy with the patients and families. One participant commented:

“The caring model encouraged me to express feelings of love. This was usually embedded in our actions. For example, when a patient coughed, I then gave him medicine and I applied caring touching and encouraged him with calming words. So we did not merely do our job duties, but also gave caring touching and reassurance to the patients.” (Nurse Participant 5)

After the participants implemented the tentative professional caring model, they felt that there was satisfaction among themselves with the results. They worked with more heart than before and were pleased with the rewards and compliments they received from patients and families. They were also proud because they were providing quality care and the patients were progressing better. One participant stated her satisfaction in the following quote:

“I was really satisfied. My heart was more peaceful. Indeed, I considered the patients to be like my parents, my family. I created feelings of love for every patient and I worked happily. When a patient recovered, I was highly satisfied. It left a lasting impression in my heart.” (Nurse Participant 5)

(1.3) The participants’ impressions on the model’s implementation

The participants had many impressions on the implementation of the tentative professional caring model. When asked about the biggest improvements they observed, the participants mentioned several things, such as consistency in showing caring behaviors to all patients, significant changes in the work shifts, friendly relationships between nurses and families, reciprocal caring between nurses and families, changes in attitudes towards becoming more caring, and greater trust from patients who had recovered.

One of the observations made during the implementation of the tentative caring model that was most impressive was the level of reciprocal caring among the nurses and families. The participants did not expect anything in return after they demonstrated caring behaviors to the patients and families, but they did receive positive responses from these parties. A participant’s comment on the reciprocal caring that occurred follows:

“The most impressive thing I noted during the implementation of this project was the caring reciprocated by the families to the nurses. They saw us providing good caring for the patients, so they became nice to the nurses in turn. For example, they smiled a lot more at us than before.” (Nurse Participant 4)

Another participant said she was impressed with her own changes in her caring behaviors. Previously, she often practiced with uncaring behaviors, but now she was more caring. One example was that she included the provision of spiritual care in her daily patient care efforts. This participant commented:

“My most impressive observation was the change in my attitudes. My way of communicating with the patients was also altered. Previously, my attitude towards the patients was “cuelk” (ignoring them), but now that changed. Previously, we never gave any opportunities to the patients or family members to perform spiritual activities; now, we have begun to allow them to practice spiritual activities.” (Nurse Participant 6)

(1.4) The participants’ suggestions

To improve and develop the model, the nurse participants provided some suggestions. Their suggestions were to continue applying the professional caring model in the future in the unit (even though the research project had already ended), to extend the use of the model to other intensive wards, and to obtain the involvement of every nurse for the future implementation of the model.

The primary suggestion was to continue implementing the model in this intensive stroke care unit and also implement it in other intensives wards, such as the intensive care unit (ICU) and the intensive coronary care unit (ICCU). They made this suggestion based on the benefits of their experiences and also on the benefits that they observed were gained by the patients and families. One participant stated:

“My suggestion was to keep running this model. This model also needed to be applied to other wards so we could make much-needed

changes. It should be applied not only in intensive wards, but in all other general wards.” (Nurse Participant 6)

(2) The family members’ experiences in receiving caring

The family members reflected on their experiences with receiving caring and their observations on the caring received by the patients. Their experiences and observations are described as follows.

(2.1) Care received by the patients and families

In this cycle, the families perceived that comprehensive care was delivered by the nurses in the intensive stroke care unit. The care received by the patients was comprised of physical care, psychological care, spiritual care, and health education. The families observed that the nurses provided physical care, such as by performing procedures, providing hygienic care, making observations, performing massages, administering medicines, and changing patient positions. Two family members commented on the care received by the patients in the following quotes:

“It was so different—the way the nurses now cared for the patients. The nurses always checked the patients constantly for instances of infusion, then changed it and performed suctioning on the patients.”
(Family Member 26)

“The nurses directly took such actions as applying electrodes for heart monitoring and measuring pulses, respiration rates, and blood pressure levels. I sometimes saw them put cold compresses on feverish patients.” (Family Member 21)

The families also noticed that psychological care was provided by the nurses. This psychological care included comforting the families, giving support to the patients and families, and accompanying the families during visiting hours. Psychological care was commented on by a participant in the following quote:

“During the visiting times, the nurses paid close attention to the patients and their families. They came and saw the patients and talked with the families. It was really supportive for the families.” (Family Member 26)

In addition, the families observed that the nurses provided spiritual care to the patients. The nurses often asked the families to pray for the recovery of their loved ones. They also asked the families to pray together at the bedsides and the nurses led the prayer sessions. The families were happy to have this kind of spiritual support from the nurses. One participant stated:

“The nurse asked us to pray together and she led the prayer. It was very good. By praying together, we built unity. We were just like a family. It also helped the patient become more conscious, since he was able to hear and knew he had friends.” (Family Member 22)

(2.2) Families' feelings

When they were asked about their feelings in regards to receiving care from the nurses, the families stated they were satisfied. They also felt happy with the care provided and felt comforted by it. They were mainly satisfied with the fact that the nurses delivered quality nursing care, as one participant stated:

“I felt satisfied to see that my father received good care from the nurses and was recovering well. He was also clean and well-cared for. The nurses were also kind. They wanted to invite the patients and families to talk.” (Family Member 26)

(2.3) Impact of the model’s implementation

During the implementation of the tentative professional caring model in this cycle, the families recognized some of its impacts, based on the care they received. They felt that they developed more knowledge of stroke care. They attended the health education sessions and received information on stroke care with the nurses. In addition, the families were kept informed about the conditions of their loved ones on a daily basis. The nurses always accompanied the families during visiting times and also provided information about the patients during those times. Another important impact that the families noticed concerned improvements in the patients. The families perceived that the patients had improved health. These improvements ranged from slightly increased levels of consciousness to referrals to the general ward. The families stated explicitly that the nurses provided better nursing care to the patients staying in the unit than they did before. The participants commented on the impact of the model’s implementation, as the following quotes show:

“I thought that the service given to the patients was good here. It was different from the past. In the past, when a patient came in, he did not directly receive care. But now, if a patient came in, he was directly checked and handled by the nurses. It has improved.” (Family Member 22)

“Before this, my mother’s condition was worse. However, after the nurses provided good caring, there was an improvement. Formerly, she could speak, although her voice was not very clear. Now, even though her speaking was still not clear, she has begun to communicate better.” (Family Member 23)

(2.4) Families’ perceptions of nurses’ caring behaviors

While visiting the patients in the intensive stroke care unit, the families noticed that the nurses demonstrated caring behaviors. They felt that the nurses were friendly and patient. The nurses also gave prompt responses when they were asked for something. In addition, the families observed that the nurses always greeted them when encountering each other, and the nurses also paid more attention to the patients and families than before.

(2.5) Families’ expectations

There were three suggestions from the families to further improve the nursing care in this unit. Their suggestions were to continue to maintain the current quality of caring, operate on a one nurse to one patient caring arrangement, and make the visiting hours even more flexible. One participant commented:

“If it were possible, I would like to see more nurses working in this unit, so that each patient could have his or her own nurse. Then there would be a responsible nurse in charge of each patient, so family could directly contact the nurse assigned to their loved one for any information.” (Family Member 26)

(3) Quality of nursing care

In this cycle, it was found that family satisfaction with the nursing care of the intensive stroke care unit was at a high level (a score of 82.4 out of 100). Nurses were found to have high levels of satisfaction towards their work (84.6 out of 100), though nurses' caring behaviors were at a moderate level (77.3 out of 100). Nurses' knowledge of critical stroke care was rated at a very high level (90 out of 100) by the patients. Meanwhile, other statistics showed one patient had decubitus ulcers, seven patients had infections, and the average length of stay was 6.8 days.

CYCLE 3

Maintaining the Sustainability of the Tentative Professional Caring Model's Implementation in the ICU

Time Duration: 4 months

REFLECTION

1. Impacts on the nurses
 - Improved caring behaviors
 - Increased nurse satisfaction
 - Improved knowledge of the patients and families
2. Impacts on the patients/families
 - Improved health status
 - Kept them better informed of the patients' conditions
 - Improved knowledge of stroke care
3. Lessons learnt
 - From the nurses
 - Changing behaviors takes time and requires patience
 - There are always objections to some degree from a few people towards changes and these need to be wisely considered.
 - From the patients/families
 - Families need flexible times to visit patients, especially those in very critical condition
4. Suggestions from the nurses:
 - Continue application of the model in the future
 - Extending use of the model into other intensive wards

PROBLEM SITUATIONS:

1. The Tentative PCM was not completely practiced by all participants
2. Some nurses still demonstrated uncaring behaviors

PLANNING:

Goal

1. To maintain the sustainability of the Tentative PCM's implementation by encouraging all participants to practice the model

Plans to act

1. Building understanding among members of each team regarding the practice of the tentative PCM
2. Promoting the use of the Tentative PCM for every level of nurses (RN, PN, NA)
3. Applying caring protocol

Strategies

1. Gaining commitment from all nurse participants to apply the model
2. Conducting in-house training on how to embed caring behaviors into daily nursing practices
3. Changing the policy for nursing staffing regarding RN, PN, and NA composition

ACTIONS

1. Meetings with nurse managers in middle and upper levels to change staffing methods regarding RN, PN, and NA composition
2. Meetings with nurse participants to build up the understanding of the nurses regarding the practice of the Tentative PCM
 - Evaluating the team's understanding of the Tentative PCM's application
 - Determining team practice methods
3. Designing new job descriptions
4. Conducting in-house training on how to embed caring behaviors into daily nursing practice
5. Arranging joint prayer sessions between nurses and family members (on Tuesdays for Muslims and Wednesdays for Christians)

OBSERVATIONS

1. The practice of the Tentative PCM on a teamwork basis
2. Nursing documentation
3. Caring behaviors

End

Overall Impact of the Professional Caring Model's Implementation on the Quality of Nursing Care in the ISCU

The overall impact of the model's implementation was measured by using nursing care quality indicators, which included family satisfaction, nurse satisfaction, nurses' caring behaviors, nurses' knowledge of critical stroke care, decubitus rates, infection rates, and lengths of stay. The aforementioned quality indicators were measured both before and after the implementation of the professional caring model, and were thus compared.

Family satisfaction. The findings revealed that the mean score for family satisfaction was 61.00 (SD=11.58) before the model's implementation, and this significantly increased to 82.36 (SD=10.68) after the model's implementation (t-value=8.885, df=24, p-value=0.000). Details are presented in Table 4.4.

Table 4.4

A comparison of the mean scores for family satisfaction before and after the implementation of the professional caring model (n=30)

Variable	X	SD	t-value	df	p-value
Before implementation	61.00	11.58	8.885	24	0.000
After implementation	82.36	10.68			

Nurse satisfaction. The findings revealed that the mean score for nurse satisfaction was 38.85 (SD=4.22) before the model's implementation, and this increased significantly to 42.15 (SD=2.85) after the model's implementation (t-value=2.588, df=12, p-value=0.024). Details are presented in Table 4.5.

Table 4.5

A comparison of the mean scores for nurse satisfaction before and after the implementation of the professional caring model (n=17)

Variable	X	SD	t-value	df	p-value
Before implementation	38.85	4.22	2.588	12	0.024
After implementation	42.15	2.85			

Nurses' caring behaviors. The findings revealed that the mean score for the nurses' caring behaviors was 6.00 (SD=3.46) before the model's implementation, and this significantly increased to 12.08 (SD=3.43) after the model's implementation (t-value=4.160, df=12, p-value=0.001). Details are presented in Table 4.6.

Table 4.6

A comparison of the mean scores for the nurses' caring behaviors before and after the implementation of the professional caring model (n=17)

Variable	X	SD	t-value	df	p-value
Before implementation	6.00	3.46	4.160	12	0.001
After implementation	12.08	3.43			

Nurse's knowledge of critical stroke care. The findings revealed that the mean score for the nurses' knowledge of critical stroke care was 14.92 (SD =1.80) before the model's implementation, and this increased significantly to 18.00 (SD = 0.00) after the model's implementation (t-value=6.160, df=12, p-value=0.000). Details are presented in Table 4.7.

Table 4.7

A comparison of mean scores for the nurses' knowledge of critical stroke care before and after the implementation of the professional caring model (n=17)

Variable	X	SD	t-value	df	p-value
Before implementation	14.92	1.80	6.160	12	0.000
After implementation	18.00	0.00			

Length of stay. The findings revealed that the mean patient length of stay before the model's implementation was 5.14 days (SD =1.22). It slightly increased to 5.18 days (SD = 0.84) after the model's implementation. There was no significant difference found between length of stay before and after the implementation of the model (t-value=0.105, df=11, p-value=0.918). Details are presented in Table 4.8.

Table 4.8

A comparison of the mean lengths of stay before and after the implementation of the professional caring model

Variable	X	SD	t-value	df	p-value
Before implementation	5.14	1.22	0.105	11	0.918
After implementation	5.18.	0.84			

Decubitus rate. The findings revealed that the mean score for decubitus rate before the model's implementation was 1.66 (SD =1.23). It did not decrease significantly (X=1.08, SD=1.44) after the model's implementation (t-value=1.074, df=11, p-value=0.306). Details are presented in Table 4.9.

Table 4.9

A comparison of the mean scores for decubitus rate before and after the implementation of the professional caring model

Variable	X	SD	t-value	df	p-value
Before implementation	1.66	1.23	1.074	11	0.306
After implementation	1.08	1.44			

Infection rate. The findings revealed that the mean score for infection rate was 9.25 (SD =3.46) before the model's implementation, and this decreased significantly to 4.91 (SD = 4.01) after the model's implementation (t-value=2.545, df=11, p-value=0.027). Details are presented in Table 4.10.

Table 4.10

A comparison of the mean scores for infection rate before and after the implementation of the professional caring model

Variable	X	SD	t-value	df	p-value
Before implementation	9.25	3.46	2.545	11	0.027
After implementation	4.91	4.01			

As summary, some changes were observed at the end of every cycle of action research in this present study in term of structure, process, and outcomes (Table 4.11). Structural changes in cycle 1 included adding 2 bachelor-prepared nurses, developing a vision and mission, conducting workshop on nursing caring and action research, and making a policy on using tentative PCM and CPG. In cycle two, the structural changes

included adding 1 diploma-prepared nurse, conducting a workshop on caring for critical care patient, and developing nursing care plan. In the last cycle, structural changes consisted of adding 1 diploma-prepared nurse, developing a caring protocol, conducting in-house training, and changing the way of shift take-over.

Concerning the process changes in every cycle, the main changes were on caring behaviors of the nurses and the caring atmosphere in the unit. Besides, the previous two main changes, other changes observed in cycle 2 included conducting education session for family members, and accompanying family members during visiting hours. Meanwhile, additional process changes in cycle 3 consisted of leading join-prayer session by nurses, introducing self to newly admitted patient and family members, using Islamic recitation, and providing comprehensive nursing care.

In term of outcomes, significant changes were on improvement of caring behavior of the nurses and quality of nursing care in every cycle of the action research in this study. Improved quality of nursing care was observed in term of increasing score of family satisfaction, nurse satisfaction, nurse's knowledge of critical stroke care, and caring behavior. Improvement of caring behaviors of the nurses in every cycle is given in Table 4.12.

Table 4.11

Changes in every cycle of action research

	Structure	Process	Outcomes
Cycle 1	<ul style="list-style-type: none"> • Adding 2 bachelor- prepared nurses • Developing a vision and missions • Conducting workshop on nursing caring and action research • Developing clinical practice guideline (CPG) • Policy on using tentative PCM and CPG in daily practice • Posting pictures of caring nurse on the unit wall 	<ul style="list-style-type: none"> • Caring behaviors • Caring atmosphere 	<ul style="list-style-type: none"> • Improved caring behaviors (CB) such as got used to greet patients and others, showed respect to patient & FM, being patience (15 CB identified) • Improved score of quality of nursing care indicators: <ul style="list-style-type: none"> ○ family satisfaction (FS) ○ nurse satisfaction (NS) ○ nurse's knowledge of critical stroke care (NK) ○ caring behavior (CB)
Cycle 2	<ul style="list-style-type: none"> • Adding 1 diploma- prepared nurse • Conducting workshop on caring for critical stroke patient • Developing nursing care plans for critical stroke patient 	<ul style="list-style-type: none"> • Caring behaviors • Caring atmosphere • Conducting education session for family members (FM) • Accompanying FM during visiting hours 	<ul style="list-style-type: none"> • Improved caring behaviors (CB) such as being sensitive to patient & FM needs, listening to patient & FM, using caring touch, spending time with patient & FM (9 different CB from cycle 1 identified) • Improved score of quality of nursing care indicators: FS, NS, NK, & CB • closed relationship with patients & FM
Cycle 3	<ul style="list-style-type: none"> • Adding 1 diploma- prepared nurse • Developing caring protocol • New policy on nursing staffing system (RN,PN,AN) • Developing job description based on new nursing staffing system • Conducting in-house training on how to embed caring behaviors into daily nursing work • Changing the way of shift take-over 	<ul style="list-style-type: none"> • Caring behaviors • Caring atmosphere • Leading join-prayer session by nurses • Introducing self to newly admitted patient & FM • Using Islamic recitation via walkman • Providing comprehensive nursing care 	<ul style="list-style-type: none"> • Improved caring behaviors (CB) such as use of eye contact, high tolerance, empathy etc (4 different CB from cycle 1&2 identified) • Improved score of quality of nursing care indicators: FS, NS, NK, & CB • good relationship with patient & FM and harmonious relationship with colleagues & health care team members

Table 4.12

Caring behaviors (CB) of the nurses in every cycle of action research

Cycle 1	Cycle 2	Cycle 3
<ol style="list-style-type: none"> 1. paying attention to patient & family members (FM) 2. greeting patient and others 3. being responsive 4. showing good manners 5. calling patient by name 6. talking prior initiating a procedure 7. using local language 8. being friendly 9. providing prompt response 10. providing respect to patient & FM 11. being patience 12. being polite 13. being diligent 14. being sincere 15. showing feeling of love to patient & FM 	<p>All CB in cycle 1</p> <ol style="list-style-type: none"> 1. being sensitive to patient & FM needs 2. listening to patient & FM 3. using caring touch 4. calming/reassuring patient & FM 5. spending time with patient 6. providing kind communication 7. being empathy to patient & FM 8. keeping communicating with unconscious patient 9. accompanying FM during visiting hours 	<p>All CB in cycle 1 & 2</p> <ol style="list-style-type: none"> 1. introducing self to newly admitted patient & FM 2. using eye contact 3. being high tolerance 4. leading join-prayer session

The Professional Caring Model for Enhancing the Quality of Nursing Care for Critically Ill Patients in Indonesia

The professional caring model for enhancing the quality of nursing care for critically ill patients in Indonesia (see Figure. 4.2) was derived from the findings of this study through the action research process. A professional caring model for a critical care unit incorporates structure-process-outcome framework with two core values. The core values are caring relationship and caring environment. Structural component of the PCM consists of seven essential aspects: manpower, philosophy of nursing, policy, protocol, training, nurse staffing, and job description. Process component focuses on process of care, meeting human needs of critical patient, meeting family needs, working method, and interpersonal of care process. Outcome component composes of patient/family outcomes and nurse outcomes.

Manpower aspect in the structural component of the PCM includes caring nurses and healthcare team (physician, physiotherapists, and pharmacist). Nurses as the main focus in this model need to have caring nursing characteristics which include two elements: cognitive and affective element. The cognitive element includes being knowledgeable about the critical illness and the critically ill patient and the family and having technical competence. Affective element includes empathy, sensitivity, loving kindness, and genuine interest. This model emphasizes the importance of the relationships between nurses, patients, and family members (humanistic nurse-client relationships), and between nurses and other critical care team members (collaborative caring relationships). Humanistic nurse-client relationships include all interactions and interventions for critically ill patients that are within a nurse's legal responsibilities to perform for the purpose of facilitating the patient healing process. Collaborative caring relationships

include all activities and responsibilities that nurses need to perform to collaborate with other critical care team members.

Process of care as the first aspect of process component in this model comprise of four activities: assessing, planning, implementing, and evaluating. The other two aspects are meeting human needs of critical patient and meeting family needs (Urban, 1998). Meeting human needs of critical patients refers to nurse's responsibility to meet all human needs of critical patient which encompasses physical needs (survival, recovery, minimal suffering), psychological needs (respected as individuals, provided with information, received mental and emotional comfort and support, and involved in decision making), sociocultural needs (cultural values, interpersonal norms, and connection to the real world) and spiritual needs. Meeting family needs is another component which refers to nurse's responsibility to meet family needs. Critical care nurses shall recognize the family as a primary recipient of the care in order to provide optimal care and patient outcomes. This needs include initial or immediate needs, delayed needs, and ongoing (Urban, 1998). Immediate or initial needs of the family mean the needs required by the family at the time of patient admission and during the first several days. These needs include assurance (that the staff are competent and they will be kept informed); proximity (nearness to the unit, ready access to staff and information, and initial contact with patient for reassurance); information (concrete information, visiting guidelines, discussion with physician and nurse, access to information at any time, and estimation of outcomes); comfort (consistency of caregivers and information sources); and support (access to other family or friends and access to clergy). Delayed needs of the family mean the needs of family members after initial crisis of the patient is passed. This needs include proximity (frequent visitation, opportunity to spend time with patient and to visit at any time); information (involvement in care delivery and decision making, progress update); comfort (respected

and cared by staff); and support (respect for cultural needs or rituals and discussion about event, their meaning, and planning for future). The last family need is ongoing needs which mean the needs of family at any time along the continuum of care. These needs include assurance (that staff provide a personally caring response, the best care possible is provided, and reason for hope) and information (honest information, frequent updates, and preparation for transfer).

The third aspect of process component in this model is working method. Working method means the ways of nurses in providing care in critical care settings which is focused on patient and family. The last aspect of process component is interpersonal of care process which refers to exhibits caring behaviors and involvement of family members in patient care.

The outcome component composed of patient/family and nurse outcomes. The patient/family outcomes include family satisfaction, infection rate, decubitus rate, and length of stay. The nurse outcomes include caring behavior of the nurses, nurse satisfaction, and nurse's knowledge.

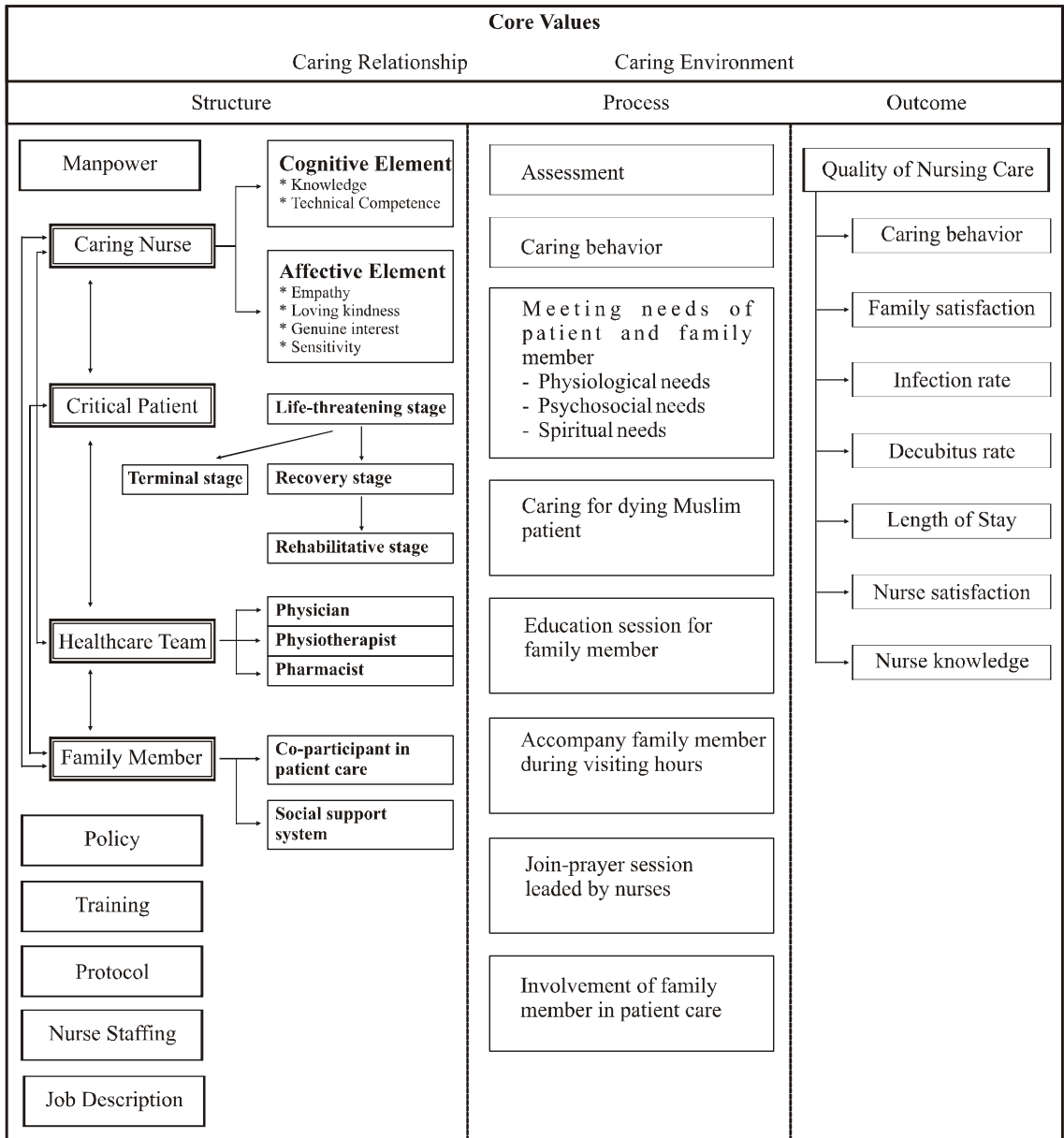


Figure 4.2 The Professional Caring Model

Discussion

The findings of this study were compared to the findings of prior relevant research studies so as to identify similarities and differences. The discussion section is divided into four parts: 1) the process of the model's development, 2) impacts of the model on the quality of nursing care, 3) contributions to knowledge development, and 4) lessons learned.

The Process of the Model's Development

A professional caring model for enhancing the quality of nursing care for critically ill patients was implemented in a critical care setting after being developed based on theoretical frameworks. As a model for daily nursing practice, this model closed the gap between the theory and application, and reflected holistic nursing care, which includes the physical, psychological, sociocultural, and spiritual aspects of caring for critically ill patients. This model also reflected holistic care in that it focused on meeting the needs of both the patients and the patients' families (Bouley, von Hofe, and Blatt, 1994).

This model emphasizes the importance of a caring nurse in the provision of care for critically ill patients and their families. To be a caring nurse, a critical care nurse needs to be equipped with cognitive and affective skills (Valentine, 1989; Bush & Barr, 1997). It is true that critical care settings contain complicated, advanced equipment, and it is the nurse's obligation and responsibility to properly use such items. But, on the other hand, it is also true that critically ill patients, even though they may be unconscious, need to be cared for with respect and dignity as befits a human being. Thus, the critical care nurse, as presented in the model, has to understand the fact that caring consists of both cognitive and affective elements.

As is widely known, critical care units use a lot of highly technical equipment to support patients. Combined with the unconscious condition of many patients, this extensive use of machines may alienate the patients from the nurses (Cooper, 1993). Furthermore, it is evident that, in critical care settings, there is a lack of professional skills in the various dimensions of humane care (Rushton, 1991). Therefore, the use of Watson's theory of human caring to guide the development of the professional caring model was believed to be invaluable for helping to create a humanistic approach for critical care nurses.

The model was developed based on Watson's theory of human caring. The affective elements (empathy, sensitivity, genuine interest, and loving kindness) and cognitive elements (knowledge and competence) of the model were derived from the carative factors explained in Watson's theory. The theory was also woven into the clinical practice guideline and caring protocol as guidelines for critical care nurses to follow when providing daily care for critical patients. In addition, the use of Watson's theory is believed to help nurses reconnect with themselves, their patients, and other health care team members (Foster, 2006).

In this model, caring relationships were considered central to effective nursing practice. Building such relationships requires that nurses meet the needs of the patients and ensure adequate time is spent being with patients. It also requires that the nurses be committed to establishing caring relationships with patients' families and other health care team members. Thus, when conducted properly, the nurses' clinical decisions become based on the caring connections among themselves, the patients, the families, and the other health care team members.

Impact of the Model on the Quality of Nursing Care

Professional caring in nursing and quality of nursing care are undoubtedly linked. Thorsteinsson (2002) suggested that the largest component of quality nursing care is the personal qualities of the nurses who provide the care—their attitudes, manners, ways of being, clinical competence, and caring behaviors. These things are all considered aspects of professional caring.

The findings of the present research study showed significant, positive changes in family satisfaction, nurse satisfaction, nurses' caring behaviors, nurses' knowledge of critical stroke care, and infection rates. However, other quality nursing indicators, such as length of stay and decubitus rate, were not significantly influenced by the implementation of the model.

Patient/family satisfaction. Data generated from this study revealed that the patients and family members were satisfied with the care provided by the nurses. Important aspects of caring, as perceived by the families, included that fact that a nurse accompanied them at least 15 minutes during visiting hours, that fact that health education sessions were offered every Thursday, the fact that a nurse led prayer sessions, and the fact that the nurses demonstrating good caring behaviors overall. When accompanying families during visiting hours, the nurses provided information on the patients' conditions and progressions. They also encouraged the families to get involved in caring for the patients, such as by performing massages and passive ranges of motion for the patients.

The families were also satisfied with the health education sessions they attended. Through the teaching sessions provided by the nurses, they gained knowledge about stroke care. They believed that the knowledge was useful to them not only when they took part in patient care in the hospital, but also when their loved ones were discharged and returned

home. Because of these educational sessions during the action research process, the relationship between the nurses and families became closer (Watson, 1999).

Another reason why the families were satisfied with the nursing care in this intensive stroke care unit was due to the nurse-led prayer sessions. This kind of spiritual care was believed by the families to have positive impacts on the patients. They also felt that it created harmonious relationships among the nurses, patients, and families. In addition, the quantitative data analysis revealed that the family satisfaction score increased significantly after the model's implementation. These results support the conclusion that the professional caring model, based on Watson's notions, was successful in improving patient or family satisfaction.

The degree of nurse caring that exists in a unit is an important factor in patient satisfaction. Kipp (2001) implemented caring standards in an emergency unit and found that patient satisfaction increased 6.6% after the caring standards were implemented. A study by Duffy (1991), which was a descriptive correlational study, examined nurse caring behaviors and selected outcomes of care, such as patient satisfaction, perceived health status, total length of stay, and nurse caring costs. The study was conducted on patients who were hospitalized due to medical surgery, and it found a positive relationship between nurse caring behaviors and patient satisfaction. No other factors were found to significantly influence perceived patient satisfaction. Meanwhile, Larson and Ferketich (1993) investigated the correlation between patient satisfaction and nurse caring efforts by studying 268 hospitalized adults who were medical-surgical patients. The researchers found that there was a strong correlation between nurse caring efforts and patient satisfaction ($r=0.80$). In similar study, Dingman, Williams, Fosbinder, and Warnick (1999) employed a caring model which consisted of five caring behaviors, and their findings on patient satisfaction were similar to the aforementioned studies. In this study, an

examination of the caring behaviors involved in the writing of patient care documentation, nurse job descriptions, and nurse performance appraisals was conducted. The result was that patient satisfaction, as measured six months before the intervention and six months after the intervention, was found to have increased significantly.

These findings were congruent with those from a study by Mastal, Hammond, and Roberts (1982), which implemented the Roy Adaptation model into the 18-bed unit of a small community hospital. They found that the model's implementation enhanced patient satisfaction and also improved health outcomes. Similarly, Wolf, Miller, and Devine (2003), in a study on the relationship between nurse caring and satisfaction in patients undergoing invasive cardiac procedures, found a positive, moderately strong, and statistically significant correlation between nurse caring efforts and patient satisfaction with nursing care. This finding was also supported by a study by Glasson et al. (2006) on the evaluation of a certain model of nursing care for older patients, and which used participatory action research in an acute medical ward. In their study, Glasson et al. found that the model's implementation using participatory action research resulted in significantly increased patient satisfaction with the nursing care.

Furthermore, a similar result was found in a study by Leenerts, Koehler, and Neil (1996), which employed Watson's theory as the foundation for their Nursing Care Partnership model. This study provided an exciting example of how a nursing model driven by Watson's theory of human caring could impact patient outcomes, such as patient satisfaction. It found that patients expressed satisfaction with the holistic nature of the care they received, and that they preferred involving their nursing care partner in hospital care and discharge planning. A study by Rafii, Hajinezhad, and Haghani (2006) found that the caring demonstrated by Iranian nurses in medical surgical units was reported to have a significant effect on the patients' satisfaction with their nursing care. In addition, a study

by Bulfin (2005), which developed a caring-based model in a community hospital, strengthened the present study's findings. At the completion of her project, Bulfin found that patient satisfaction scores had increased dramatically during the year following the initiation of the project. In conclusion, it can be asserted that a professional caring model which is grounded in human caring can have a significant impact on patient or family satisfaction.

Nurse satisfaction. The research data revealed that the nurses in the study perceived its benefits and were satisfied with the model's implementation. The nurses were satisfied because they received a lot of information and guidance on how to provide caring to patients and families, and because they noticed good outcomes for themselves, such as greater motivation to work from the heart, increased self-confidence, increased sensitivity to the patients' needs, improved communications skills, and increased knowledge of critical stroke care. Quantitatively, the nurses had statistically better scores regarding their satisfaction levels after the model's implementation.

Implementing caring into nursing practice not only affects the patients who receive the care, but also the nurses who provide the care. Numerous studies have shown that the implementation of caring into nursing practice raises nurse satisfaction levels (Duffy, Baldwin, & Mastorovic, 2007; Schroeder & Maeve, 1992; Wadas, 1993). Wadas (1993) implemented a nursing practice model using Watson's 10 caring behaviors. Through this model, the nurse manager developed transpersonal and empathetic relationships with the patients in the hospital and with the greater community. Despite improving the job satisfaction of the nurses, this study also demonstrated that caring relationships promote professional accountability and professional and personal growth opportunities. In addition, Duffy, Baldwin, and Mastorovich (2007) in pilot implementation of revised care

delivery system using quality-caring model in a 352-bed acute care hospital found that patient satisfaction rose 2.7% after implementation of the revised care delivery system.

Findings from other studies have shown that the implementation of a model for patient care improves the job satisfaction of nurses. A study conducted by Allen and Vitale-Nolen (2005) on the development and implementation of a patient care delivery model found a significant improvement in nurse job satisfaction after the model was implemented. In addition, another study by Moreau, Poster, and Niemela (1993) reinforced the findings of this project. Their study provided evidence that implementing the Attending Nurse Model, a Johnson-based model of nursing care, in a neuropsychiatric hospital improved nurse job satisfaction. Moreover, this study's outcome of increased nurse satisfaction was consistent with that of a previous study by Glasson et al. (2006), which evaluated a model of nursing care. They reported that nursing staff were more satisfied with the care provided during the implementation of the model than with the care prior to the model.

Nurses' caring behaviors. The nurses in this study perceived that they exhibited improved caring behaviors after the implementation of the model. They stated that they established a higher tolerance for annoyances, created feelings of love for others, and had an increased sense of empathy with the patients and families. These findings were confirmed by the quantitative data analysis, which revealed a significant difference between the scores for nurse caring behaviors from before and after the model's implementation.

This finding was consistent with a study by Wadas (1993), which developed professional nurse case managers using Watson's 10 caring behaviors. Wadas asserted that the use of the model allowed the nurse managers to exhibit caring behaviors, rather than

caring behaviors only. In addition, through the use of the model in Wadas's study, the case managers developed transpersonal and empathetic relationships with patients in the hospital and the community.

Nurses' knowledge of critical stroke care. The nurses in this study perceived that there was an improvement in their knowledge of critical stroke care. They felt that implementing the model in their daily practices enriched their experiences as critical stroke care nurses. The findings of this study also revealed that the mean score for nurses' knowledge of critical stroke care increased significantly after the model's implementation.

The data which emerged from the interviews and field notes relating to the development, implementation, and evaluation of the professional caring model confirmed that the nurses had gained knowledge of caring for critical stroke patients. This may be due to the provision of several workshops during the implementation of the model, and also due to the direct application of the caring protocol and clinical practice guideline by the nurses in their daily work.

The expanded knowledge of the nurses on caring for critical stroke patients was evident when the nurses had to provide health teaching sessions once every week. The nurses also consistently shared their knowledge when they accompanied the families in visiting the patients. In this way, the purpose of action research--empowering the research participants--was accomplished through their self-construction of knowledge (Reason & Bradbury, 2001).

Improved knowledge is important to the caring process, as it is one of the major concepts in Gout's theory of caring (Gout, 1983). Furthermore, Watson (1999) emphasized the importance of knowledge to caring efforts, and described this as one of the

carative factors relating to the systematic use of the scientific problem-solving method for decision making.

Length of stay. The findings of this study showed that the mean length of stay decreased slightly after the model's implementation. However, based on the statistical analysis, no significant differences existed between the length of stay scores from before and after the implementation of the professional caring model. These findings were contrary to those in a study conducted by Schroeder (1993), which demonstrated that a theory-based caring model could improve the quality of nursing care. Using estimated care costs for HIV patients in Colorado and estimated savings in hospital charges from reduced admittances, Schroeder's results showed a shortened length of stay. Similarly, another study by Leenerts, Koehler, and Neil (1996) provided evidence that caring efforts implemented into nursing practice could reduce the mean length of stay for patients.

Infection and decubitus rates. In this study, the infection rate decreased significantly after the implementation of the model. Meanwhile, the mean scores for decubitus rates decreased only slightly. However, based on the statistical analysis, no significant differences were found between decubitus rates before and after the implementation of the professional caring model. The decreased infection rate may be related to a shift in practice in which the nurses put greater focus on the patients' needs, rather than on carrying out tasks. In addition, the nurses were assigned responsibility for only a certain number of patients, rather than all patients as was previously the case. After the model's implementation, the nurses worked more seriously and with greater commitment, and certainly more professionally than in the past. They were encouraged to improve the quality of the nursing care that they delivered. This improved quality had

always been the expectation of the nursing service department head, who emphasized this matter during meetings held with all the participants. Nurses were challenged to enhance the quality of nursing care by decreasing the high incidence of infections in the unit. Additionally, quality was also improved by decreasing the incidence of decubitus. These two clinical indicators were a major focus guiding the nurses' actions, since nurses are the key factor that influences them. In implementing the professional caring model, the nurses performed actions leading to the prevention of infections and decubitus, such as ensuring tight aseptic measures when performing invasive procedures, providing good infusion care, including infusion changes every seven days, repositioning the patients every two hours, performing regular range-of-motion care (ROM) for the patients, and performing regular patient assessments and monitoring them for infections and decubitus.

Contributions to Knowledge Development

The Professional Caring Model was developed and implemented for critically ill patients at Pirngadi General Hospital in Medan, Indonesia. The model was constructed based on Watson's theory of human caring and Donabedian framework's quality of nursing care which was implemented into a natural setting. During the process of implementation, the model contributed to the development of nursing knowledge, in terms of empirical, ethical, aesthetical, and personal knowledge (Carper, 1978).

The nurses who implemented this model developed an explanation of the phenomenon of caring, especially those nurses who cared for critically ill patients. This model provided guidelines for nurses to follow when demonstrating caring behaviors for critically ill patients. By using this model, nurses were aided in seeing, describing, and measuring evidence of caring—the quality indicators of nursing care. The nurses performed assessments and evaluations, and then analyzed the situation of each patient in order to

predict and prevent future risks. This model assisted nurses in making such assessments and predictions so that they could have a plan in advance of what to do.

The Professional Caring Model provided ways for the nurses to respond to patient needs in an ethical way. This model assisted the nurses in understanding other persons, as well as themselves, through the processes of reflection and discussion on nursing practice. Nurses who embraced this model developed consciousness of themselves as people who take responsibility for others with ethical behavior founded in natural caring. The nurses then made commitments to act on behalf of the people cared-for, and showed continual interest in the lives and well-being of these people. The nurses also strove to bring to each nursing situation the values and beliefs to which she or he was committed. This generated the ethical knowledge which led to the protection of human dignity and the preservation of humanity (Watson, 1999).

In the process of caring for the critically ill patients, especially for those who were unconscious, unethical behaviors were a constant danger. This was prevented by implementing this model, which emphasized the autonomy of critically ill patients. Therefore, the nurses who followed this model paid respect to the autonomy, as human beings, of such unconscious patients. This caused the nurses to interact more deeply with the patients, and enabled the nurses to create strong and creative relationships with them. The relationship-developing experience was a necessary condition for the nurses to practice esthetically. As every patient had their own characteristics and needs, deep interactions with patients enabled the nurses to explore each one's uniqueness and learn to respond to their needs in a creative, aesthetic manner, which further improved the nurses' aesthetic knowledge.

When practicing with this model, the nurses were encouraged to establish transpersonal caring relationships, which allowed them to experience others

intersubjectively. It was through experiencing others that the nurses became artists who created unique approaches to patient care, based on their goals for the ones being cared for. Hence, the nurses were free to comprehend and express the beauty of each caring moment. By being fully engaged in each nursing situation, the nurses truly comprehended the nature of caring as it relates to the nursing practice.

When following this model, the nurses were directed to use the art of expression for their caring behaviors by developing effective communication with patients and families. In Indonesian culture, spirituality is a high priority, so the nurses creatively deepened the spiritual aspect of caring for the patients and families, such as by providing more time for family members to pray and taking the time to pray along with their patients.

This professional caring model helped the nurses to know themselves in relation to other human beings, and to better engage with those human beings as people. With knowledge of themselves, the nurses authentically responded to others and fully participated in the nurse-patient relationship by sharing the patients' journeys. This model was helpful in guiding the nurses in developing personal knowledge regarding the way to approach patients—not as objects or categories of illness, but as human beings. Personal knowledge occurs only by entering the interpersonal space of others. The Professional Caring Model required the nurses to understand themselves personally and professionally in order to truly know their patients. This enabled the nurses to develop both therapeutic skills and authentic knowledge.

By using this model, the nurses, in many instances, transformed their caring behaviors and their knowledge, and implemented these into their daily practice. This transformation took place through knowing themselves and knowing their patients. It was difficult to get to know many of the critically ill patients, especially those who were

unconscious, but the nurses used innovative strategies to get to know them better. One such strategy involved first touching the patient, and then observing how the patient reacted. Other strategies included observing the feelings and body language of the patients. For example, when a patient cried, the nurse could guess that he was sad.

Lessons Learned

By conducting this action research study for the first time, the researcher gained impressive, meaningful experiences. These occurred at all stages—while analyzing the problem, entering the research setting, starting the project, collecting and analyzing the data, and finalizing the findings. These valuable lessons are described below.

Lessons learned from conducting the action research. The process of choosing the intensive stroke care unit as the research setting in which to observe the situation and initiate the nurses, who had different educational backgrounds, into the program made the researcher realize that caring for critically ill stroke patients is very complicated and is influenced by many factors. The caring behaviors in this critical care setting that were demonstrated by the nurses were based on traditions whereby senior nurses were imitated and junior nurses then learned by doing and by experience. The caring efforts focused more on the application of procedures and technologies rather than on the understanding of patients as human being. The curing was more dominant than healing aspect of nursing and the patient care aspect. Therefore, a professional caring model made up of cognitive and culturally learned action behaviors, techniques, processes, and patterns was necessary for the setting, so as to better help the patients and families (Leininger, 1981, as cited in Valentine, 1989).

As the beginning of the research project, the researcher believed that the nurses already had both positive and negative aspects to their current caring efforts. Thus, the professional caring model was developed to integrate the nurses' existing positive caring practices into the program's caring theory so that the nurses would be transformed for the better. Even though some of the nurses on the research ward personally knew the researcher as a lecturer and knew that the nursing division chairman supported the research project, it was nonetheless difficult, as an outsider, for the researcher to make changes to the status quo of the ward. However, it was the purpose of the researcher not only to generate knowledge, but also to make a positive contribution to the setting (Herr & Anderson, 2005). In addition, the researcher had no prior experience conducting action research, and also lacked experience in critical care, so there were certainly doubts and insecurities present at the beginning of the project. However, equipped with support from the nursing division chairman, the head nurse, and many other nurses who expected better nursing practices to result, and combined with the nurses' potential to perform better, the researcher was convinced that the study would be successful.

During the research process, the researcher realized that teamwork among the nurses and also other health team members was a prerequisite for the success of the model's implementation. Plans and strategies set up in each cycle always involved the other parties in the unit to ensure successful teamwork. To arrange meetings among all the parties involved was difficult due to time constraints. However, with coordination and understanding, the overall process of action research was completed and took place in an appropriate manner.

Some barriers were faced in this research project, as it introduced some changes in both policies and the ways of working in the unit. Disagreements were noted among the nursing staff. Evidence of these disagreements emerged from the interviews, from

informal conversations with the participants, and from observations made by the researcher. The lack of support and involvement from the senior nurses was also further evidence of the existence of disagreements. These kinds of disagreements were also experienced by Webb (1989), who ran a ward development action research project. Similar to Webb's project, this study also discovered the source of disagreement: personality clashes and communication difficulties. In addition, findings in another study (Gerrish & Clayton, 2004) indicated that nurses with experience were unsupportive of changing practices, as were managers. Thus, in this study, these disagreements, coupled with other limitations regarding time, budget, and the diverse nursing staff, made conducting the action research into a complicated task that the researcher needed to overcome. However, none of these perceived barriers ultimately hindered the progress of the model's development and implementation.

It was evident that by carrying out the study using action research, many barriers would be faced. This occurred in a study by Glasson et al. (2006) on the implementation of a new model of care for older patients using participatory action research. They revealed that the nurse participants listed several barriers to implementing the model, including a tendency among the nurses to resist change, time constraints, and nursing staff levels.

Despite facing the aforementioned barriers, the researcher admitted that many benefits were gained by conducting this project. Through the action research process (which included planning, acting and observing, reflecting, and revising), the nurses perceived their contributions to the development of the model. The nurses also came to understand that the professional caring model, which was based on Watson's theory of human caring, provided guidelines for their professional work. As a result, they

demonstrated their willingness to change their daily practices. Furthermore, they realized their unique role in caring for critically ill patients and providing holistic care.

The nurses were also benefited by the expanded knowledge of critical stroke care that they obtained. This was evident from the fact that the nurses were continuously attending consecutive nursing workshops on providing stroke care for critically ill patients. They were also involved with educating the family members about stroke care through weekly education sessions.

Another important result of the action research was the idea to use nurses as change agents. Change agents were needed to help the team achieve the predetermined goals and ensure that change would happen. The change agents in this study were the head nurse and two other nurses who held bachelors' degrees in nursing. The head nurse functioned as both a manager and caregiver. He served as a role model for the ideal caring of critical stroke patients since he had effective skills and long experience in taking care of critical stroke patients. He had not only supported the other nurses in carrying out the professional caring model, but he also took part in caring for the patients using the model. The excellent caring he provided resulted in the researcher classifying him as a positive deviant (Sternin, 2002). By identifying the head nurse as a positive deviant, the other nurses in the intensive stroke care unit were better able to adopt their behaviors and model their caring efforts after his. This was one of the successful methods used in this study to produce changes.

Lessons for the researcher's self-development. The initial intention of the researcher in conducting this action research was to produce significant and useful outcomes from the research setting and to integrate local wisdom into the model's development. In order to achieve these goals, the researcher tried to put his best effort into

every cycle of the action research. Throughout the whole process, the researcher, along with the participants, learned to be a problem solver. Changes and improvements were promoted in the unit. Some innovative methodologies centering on the research process were implemented and some applicable materials were designed to facilitate the implementation of the professional caring model. In these ways, the action research was useful in introducing changes in the nursing practice as a means to empower the nurses, in terms of acting, collaborating, and reflecting, to be caring nurses to the critically ill patients.

Throughout this action research process, the researcher learned how to use many research tools in the proper way, including field notes, interviews, focus group discussions, and more. In addition, the researcher also learnt how to analyze huge amounts of qualitative data through codification and categorization techniques. Finally, the skill of using Weft QDA software for analyzing qualitative data was developed.

During the action research journey, the researcher experienced many challenges. A major challenge was how to develop various strategies and actions in order to make changes in nursing care practices to improve the quality of care. The development of strategies and actions involved various levels of nursing staff, and also other health team members. Thus, different approaches were needed in the development process to ensure the actions would be carried out. Therefore, these experiences enriched the researcher in terms of improving thinking skills, becoming more reflective in taking actions in life, developing a greater willingness to share and communicate, becoming more flexible, and learning to show respect towards people's attitudes regarding the process of change. Finally, the journey to integrate caring theory with clinical practice using action research helped the researcher develop many important professional contacts and inspired him to engage in continuous critical self-inquiry as a professional necessity.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusion, implications for the nursing profession, recommendations for further research, and the limitations of the study.

Conclusion

The action research method was applied in this study to develop a professional caring model for enhancing the quality of nursing care for critically ill patients in Indonesia. This study specifically intended to describe the process of the development of a professional caring model and its impact on the quality of nursing care. This study involved seventeen nurse participants, thirty patients, thirty family members, a physician, a physiotherapist, a pharmacist, and seven nurse supervisors. The research setting was an eight-bed, intensive stroke care unit in a teaching hospital in Medan, Indonesia.

The research process consisted of four cycles. These four cycles included reconnaissance and three cycles of spiral action research: 1) cycle I: creating a caring atmosphere and introducing the tentative professional caring model into the intensive stroke care unit, 2) cycle II: the nurse-client interaction in implementing the tentative professional caring model in the intensive stroke care unit, and 3) cycle III: maintaining the sustainability of the tentative professional caring model's implementation in the intensive stroke care unit. Before commencing the first cycle, the researcher conducted a reconnaissance phase, which aimed at helping the researcher decide on the main problem as a basis for planning and action, at providing the researcher a better understanding of the initial setting and activities, and at establishing the relationship between the researcher and

the participants. In this phase, the tentative professional caring model and the clinical practice guideline were developed.

The first cycle aimed at creating a caring atmosphere in the intensive stroke care unit and at introducing the tentative professional caring model and the clinical practice guideline to nurses to follow in order to enhance the quality of nursing care for critical stroke patients. Planning was carried out together among the participants, including the staff nurses, head nurses, supervisors, the nurse manager, and a physiotherapist. Several strategies were put in place: 1) the researcher would partially take part in providing care to the patients, 2) all participants would learn together while caring for the critical stroke patients, 3) knowledge and experiences would be shared among the researcher and the participants, 4) pictures of a caring nurse would be posted on the unit wall to motivate caring mind, 5) a workshop would be conducted on caring, and 6) regular meetings would be held fortnightly. In addition, the participants accomplished several activities. These included the following: 1) having an initial meeting with the director of nursing service; 2) developing a vision and mission for the unit; 3) providing knowledge on caring, quality of nursing care, and action research through a workshop and individual discussions; 4) improving interpersonal interactions; 5) performing activities to promote caring; 6) making structural changes to promote caring activities; 7) making policy changes to promote caring; and (8) applying the tentative professional caring model and the clinical practice guideline.

The second cycle aimed at facilitating caring interactions between the nurse participants and the patients and families, and also at facilitating the participants' abilities in implementing the tentative professional caring model into the intensive stroke care unit. Several strategies were defined, and included: 1) conducting a workshop on caring for critical stroke patients, 2) assigning one participant to take care of one patient by following the clinical practice guideline, and 3) sharing knowledge and experiences with applying

the clinical practice guideline through the discussion of case studies. Meanwhile, actions taken in this cycle included: 1) applying the tentative professional caring model on a one participant to one patient basis, 2) conducting education sessions for family members, 3) assigning participants to accompany family members during visiting hours, 4) developing nursing forms, and 5) conducting a workshop on caring for critical stroke patients.

The purpose of the third and last cycle was to maintain the sustainability of the tentative professional caring model's application in the unit by encouraging all participants to practice the model. The strategies included: 1) gaining commitment from all participants to continuously apply the tentative professional caring model; 2) conducting in-house training for participants on how to embed caring behaviors into daily nursing jobs; 3) changing nursing staffing policies regarding the RN, PN, and NA classifications; and 4) using the caring protocol. In this cycle, actions taken included: 1) having a management meeting for changing nursing staffing policies, 2) having a ward meeting to increase understanding of the new policies and their relation to the tentative professional caring model, 3) conducting in-house training on how to embed caring behaviors into daily nursing jobs, and 4) conducting joint-prayer sessions that were led by nurses.

The professional caring model's implementation had significant impact on several nursing quality indicators. This study revealed that both family satisfaction towards nursing care and nurse job satisfaction increased significantly after the model's implementation. In addition, there were significant increases in the nurses' caring behaviors and the nurses' knowledge of critical stroke care. This study also found significantly decreased infection rates, although there it had no impact on lengths of stay or decubitus rates.

Implications for Nursing

This study has implications on nursing service management, nursing in-service education, and standardized nursing care.

Implications for Nursing Service Management

Policies which support patient families and encourage their participation in caring for critically ill patients should be clearly stated to facilitate the quality of nursing care in critical care settings. These policies should include flexible visiting hours for families and a proper unit admission process for family members.

Implications for Nursing In-Service Education

Nursing in-service education, regarding both the use of nursing theory in daily nursing practice and the caring for patients and families in critical care settings, should be conducted on a regular basis. Such continuing education is expected to facilitate the practice of professional caring in critical care settings.

Implications for Standardized Nursing Care

This study provided a good example of the use of standardized nursing care for the purpose of helping critical stroke patients. The use of the clinical practical guideline and caring protocol was proven to assist the nurses in providing quality care for the critical stroke patients. It is strongly encouraged that other intensive care units should develop similar guidelines and protocols to serve as guidelines for nurses in their daily practice.

Recommendations for Further Research

Based on the research findings, it can be said that the professional caring model can be best applied to other hospital settings by first considering the contexts of the settings and the need to be culturally sensitive to Indonesian culture. In addition, a quasi-experimental study is needed to provide accurate evidence on the effects of the professional caring model on nursing quality indicators.

Limitations of the Study

This study used action research, which in practice demonstrated certain limitations in terms of its applicability to other settings. Thus, the model developed has a limited application, and should only be used in similar settings. In addition, this model was developed by the researcher, nurse participants, nurse managers, the physiotherapist, and the physicians from the intensive stroke care unit. This resulted in an incomplete picture of caring for critical care settings. Therefore, the involvement and participation of all critical care personnel is needed to develop and implement future models in intensive care units.

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APPENDICE

APPENDIX A
INFORMED CONSENT FORM

APPENDIX B
INTERVIEW GUIDE

Interview Guide

Interview guide for nurses

I would like you to describe your experiences in giving nursing care for critical stroke patients in this unit.

1. How do you feel about working in this intensive stroke care unit?
2. How do you describe the quality of nursing care in intensive stroke care unit?
3. What are the obstacles for you to promote quality of nursing care in this intensive stroke care unit?
4. What can you do to improve the quality of nursing care in this intensive stroke care unit?
5. What do you expect to improve the quality of nursing care in this intensive stroke care unit?

Interview guide for patients/families

I would like you to describe your experiences of nursing care in this intensive stroke care unit.

1. Can you tell me about the first feeling you had with nurses in this intensive stroke care unit?
2. What kinds of nursing care did you get in this intensive stroke care unit?
3. What is your impression of nursing care you have received in this intensive stroke care unit?
4. What are the good and bad things about nursing care in this intensive stroke care unit?
5. What do you expect from nurses in taking care of you?
6. What should the nurses do to improve the quality of nursing care in this intensive stroke care unit?

APPENDIX C
DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

Please check “√” in the space available or put the number in front of the item that is appropriate for you.

1. Gender Male Female
2. Age Years old
3. Religion Islam Christian
 Buddhist Hindu
4. Marital Status Single Married Widow
5. Education SPK Diploma Bachelor degree
6. Employment in Nursing < 5 6-10 11-15 >15
(years)
7. working experience < 1 2-3 4-5 >5
(years in this stroke unit)
8. Monthly income < Rp1 jt Rp 1-2 jt > Rp 2 jt
9. Training on stroke Yes No

If yes, please specify:

APPENDIX D
FAMILY SATISFACTION SCALE

Family Satisfaction Scale

1: Strongly Disagree
2: Disagree
3: Neutral

4: Agree
5: Strongly agree

No	Statement	1	2	3	4	5
1.	The nurse is skillful in doing procedures.					
2.	The nurse really knows what she is talking about.					
3.	The nurse is not precise in doing her work.					
4.	The nurse makes it a point to show patient/family how to carry out the doctor's orders.					
5.	The nurse is too slow to do things for patient or family.					
6.	The nurse fulfill all my personal needs when I stayed at the acute stroke unit.					
7.	The nurse gives directions at just the right ways.					
8.	The nurse explains things in simple language.					
9.	It is always easy to understand what the nurse is talking about.					
10.	The nurse always gives complete enough explanations of why tests are ordered.					
11.	The nurse is understanding in listening to a patient/family's problems.					
12.	The nurse should be more attentive to the patient/family than she is.					
13.	When I need to talk to someone, the nurse was always available.					
14.	The nurse is too busy at the desk to spend time talking with me.					
15.	The nurse is a person who can understand how I feel.					
16.	The nurse should be friendlier than she is.					
17.	I was treated well and respected by the acute stroke unit nurses.					
18.	I could discuss my problem with nurses in the acute stroke unit.					
19.	I got all information I need about my stroke disease.					
20.	The nurse has done everything to make the patients recover.					

APPENDIX E
NURSE SATISFACTION SCALE

Nurse Satisfaction Scale

Please circle the number which is the most appropriate with your experience.

- 1: Strongly Disagree 4: Agree
 2: Disagree 5: Strongly agree
 3: Neutral

Statement					
1. I am satisfied with activities which I have done in my work.	1	2	3	4	5
2. I had enough time to provide direct nursing care to the patients.	1	2	3	4	5
3. The patients and family members respected for the care I have delivered.	1	2	3	4	5
4. I have delivered high quality of nursing care.	1	2	3	4	5
5. My colleagues trusted in my skills in caring for the patients.	1	2	3	4	5
6. I felt more autonomous in doing my work.	1	2	3	4	5
7. I experienced personal development during taking care of the patients.	1	2	3	4	5
8. I had enough opportunity to contribute to the patients' recovery.	1	2	3	4	5
9. I like the trust given to me by the patients or family members.	1	2	3	4	5
10. I always learn something when I interact with the patients or family members.	1	2	3	4	5

APPENDIX F

NURSE'S KNOWLEDGE OF CRITICAL STROKE CARE SCALE

Nurse's Knowledge of Critical Stroke Care Scale

Statement	True	False
1. The majority of patients have had a transient ischemic attack prior to their stroke.		
2. People with atrial fibrillation are not at increased risk of stroke.		
3. It is possible to reliably distinguish cerebral infarction from cerebral hemorrhage on the basis of clinical history and examination.		
4. Intracerebral Hemorrhage (ICH) causes 10% stroke and had high death percentage which commonly attacks people of age 60 or more.		
5. Convulsion can be found in 10% stroke patients.		
6. Agnosia is a condition in which the patient loses the ability to recognize objects.		
7. High level of blood glucose is related to worst brain edema and hemorrhage.		
8. Body temperature over 38,5 ⁰ C is related to increased stroke severity, mortality, and worst outcomes in ischemic stroke.		
9. Actions to prevent brain edema are to overcome hyponatremnia, fever, and controlled blood glucose.		
10. Inability to understand the spoken word is called expressive dysphasia.		
11. Intensive stroke unit receives patients in order to get through monitoring of blood pressure, pulse, respiratory rate, hemorrhage, and neurology assessment.		
12. Carotid surgery can significantly reduce the risk of further strokes in patients with severe symptomatic carotid stenosis.		
13. The majority of strokes are due to brain infarction rather than hemorrhage.		
14. A stroke due to cerebral infarction typically appears as a white area on a CT scan.		
15. Treatmen for intensive stroke patients with convulsion are to control airway, oxygen administration, and hidration with isotonic solution.		
16. The purposes of solution treatment for stroke patient are to optimize cerebral perfusion with normovolemia and to limit brain edema.		

Statement	True	False
17. Glasgow Coma Scale (GCS) is the scale that can be used to assess comatous patient and the initial score is related to the severity of brain injury and prognosis.		
18. Persistent urinary incontinence following a stroke is a predictor of poor prognosis.		
19. Over 30% of acute stroke patients who are admitted to hospital die in the first three months post stroke.		
20. A decrease level of consciousness in ischemic stroke patients occurs at 2-4 days after stroke onset and is predictor of worst recovery.		

APPENDIX G
CARING BEHAVIOR CHECKLIST

Caring Behaviors Checklist

Please mark (✓) on the following according to what you have observed.

Statement	Yes	No
Verbal Caring Behavior		
1. Introduce self to the patients or families.		
2. Call the patients or families by their names.		
3. Speak with polite and soft voice.		
4. Respond verbally to the patients or families' call or complain.		
5. Inform the patient prior to initiation of a nursing action or procedure.		
6. Provide information on general condition of the patients to the families.		
7. Verbally reassure the patients during care or families during visits.		
8. Discuss topics of the patients' or families' concerns.		
Nonverbal Caring Behavior		
9. Accompany the families during the visiting hours.		
10. Demonstrate caring touch in every interaction with the patients or families.		
11. Maintain eye contact when interact with the patients or families.		
12. Provide physical comfort measures and privacy.		
13. Pay full attention and genuine interest to the patients or families.		
14. Listen to the patients or families with open heart.		
15. Treat the patient as a unique individual.		

APPENDIX H
CARING PROTOCOL

**Caring Protocol
Intensive Stroke Care Unit
Pirngadi General Hospital**

The nursing staff in the stroke unit supports and maintains the Nursing Caring Protocol. In the spirit of that protocol, the nursing staff in the stroke unit is expected and required to adhere to the following protocol:

I. When patient's admission

- Introduce yourself to the patients/families, speak calmly, and pay attention on the patients' condition
- Actively listen to the patients/families
- Maintain eye contact
- Explain admission procedures to the patients/families
- Provide orientation including rules in the unit to the patients/families
- Perform nursing assessment and collect baseline data
- Carry out standard procedures for newly admitted patients including nasogastric tube and urinary catheter insertion, cardiac monitoring devices application, and laboratory examinations

II. When carry out a procedure

- Call the patients by their name
- Give explanation before starting the procedure
- Keep communicating with the patients during the procedure

III. Patient-focused procedure standards

- Monitor patients by doing neuro checks every hour
- Prompt response when patients' alarm activated
- Perform immediate actions when the patients have a problem according to existing protocols
- Check the patients' status and drug reaction within 30-60 minutes after administration
- Document all findings from monitoring, assessment, and other important information
- Perform spiritual activities for the patients and families

IV. During visiting hours

- Accompany the patients and families at least for 10 minutes
- Explain on the patients' condition and progression
- Explain to the families the actions or procedures which have completed and will be done to the patients

V. Standards for team collaboration

- Communicate the caring process and actions which will be performed including patients' progression to the physician, other nurses, or other health care team members
- Anticipate the needs of help for colleagues without request
- Avoid making or receiving a call through mobile phone in the ward

VI. When patient's discharge

- Prepare a summary of patient's discharge
- Provide health education to the patients/families
- Prepare drugs which is needed to continue
- Contact other wards if the patient will be referred.

APPENDIX I
CLINICAL PRACTICE GUIDELINE

Clinical Practice Guideline (CPG)
Intensive Stroke Care Unit
Pirngadi General Hospital

The nursing staff in the stroke unit supports and maintains the Nursing Caring Protocol. In the spirit of that protocol, the nursing staff in the stroke unit is expected and required to adhere to the following protocol:

Core values

1. smiling in a friendly manner
2. speaking with a kind, soft voice and without judgment
3. listening with compassion and an open heart
4. carrying a caring intentionality in all of his/her technical skills and interactions with patients
5. being a caring consciousness in every nursing action
6. focusing in present moment in performing every nursing action
7. working from heart-centered space

Principles/Guidelines

1. introducing themselves to the patient
2. addressing the patient by their names
3. creating a therapeutic caring presence through connection, openness, and love
3. being physically present during body-body contact with patient
4. anticipating patient needs
5. including patient/family in their plan of care
6. providing and supporting for patient religious practices (rituals)
7. providing conducive environment which facilitate patient's recovery
8. providing privacy and comfort
9. conducting teaching session and the materials related to patient's condition and treatment

Plan of Care	Day 1-2	Day 3-4
Procedures	<ul style="list-style-type: none"> • Establish IV • Check vital signs (VS) q 1 hr and as needed • Check neurovital signs and mental status every 1-2 hours until stable, then every 2-4 hours and as needed • Give oxygen to maintain O2 saturation • Assess for bleeding and for signs of increasing intracranial pressure (ICP) • Obtain baseline data physical and neurological assessment • Protect patient from injury • Suction as needed and maintain airway 	<ul style="list-style-type: none"> • Check vital signs (VS) q 2 hours and as needed • Check neurovital signs and mental status every 2-4 hours and as needed • Give oxygen to maintain O2 saturation • Assess for swallowing and gag reflex • Assess for presence of visual field deficit, cognitive and language deficit, cranial nerve deficit, changes in LOC, aspiration and paralytic ileus • Assess for bleeding and for signs of increasing intracranial pressure (ICP) • Protect patient from injury • Suction as needed and maintain airway
Activities	<ul style="list-style-type: none"> • Assess ability to perform ADL • Encourage bedrest with head of bed elevated > 30 degrees • Turn and position q 2 hours as indicated • Consult physiotherapy for use of splint or orthotics to prevent footdrop and contractures; have patient perform ROM exercise to extremity; and assess safety needs and provide appropriate measure 	<ul style="list-style-type: none"> • Turn and position q 2 hours as indicated • Have patient perform ROM exercise to extremity; • Assess safety needs and provide appropriate measure
Diet	<ul style="list-style-type: none"> • Obtain baseline nutritional and hydration needs • Insert nasogastric tube (NGT) as indicated • Give nothing by mouth (NPO) 	<ul style="list-style-type: none"> • Test for swallowing ability (gag reflex) • Thicken liquids if swallowing reflex is intact • Assist with medications • Keep head elevated and tilt head slightly forward when eating • Teach patient to eat small, frequent meals, and supplement feedings if indicated • Teach patient to avoid foods that may cause choking (soft bread) • Assess need for TPN and enteral feed for NPO patient

Plan of Care	Day 5-6	Day 7-8	Day 9-10
Procedures	<ul style="list-style-type: none"> • Check vital signs (VS) q 4 hours and as needed • Check neurovital signs and mental status every 1-2 hours until stable, then every 2-4 hours and as needed • Discontinue oxygen if O2 sat > 95% on room air • Assess systems every shift • Protect patient from injury • Suction as needed • Maintain airway 	<ul style="list-style-type: none"> • Same as previous day 	<ul style="list-style-type: none"> • Same as previous day
Activities	<ul style="list-style-type: none"> • Turn and position q 2 hours • Have patients get up in chair b.i.d if tolerated • Have patients begin walking • Have patients perform ROM exercise to extremity • Assess safety needs and provide appropriate measure • Praised activities and tasks accomplished 	<ul style="list-style-type: none"> • Turn and position q 2 hours • Have patient get up in chair t.i.d if tolerated • Have patients walk with physiotherapist b.i.d • Have patients perform ROM exercise to extremity • Assess safety needs and provide appropriate measure • Praised activities and tasks accomplished 	<ul style="list-style-type: none"> • Turn and position q 2 hours • Have patients get up in chair t.i.d • Have patients walk with physiotherapist t.i.d • Have patients perform ROM exercise to extremity • Assess safety needs and provide appropriate measure • Praised activities and tasks accomplished
Diet	<ul style="list-style-type: none"> • Advance diet as tolerated • Assist with meals • Keep head elevated and tilt head slightly forward when eating 	<ul style="list-style-type: none"> • Advance diet as tolerated • Assist with meals • Keep head elevated and tilt head slightly forward when eating 	<ul style="list-style-type: none"> • Give advance diet • Assist with meals as needed

Plan of Care	Day 1-2	Day 3-4
Elimination	<ul style="list-style-type: none"> • Take baseline assessment of urine and bowel pattern of elimination. • Insert indwelling catheter or condom catheter if needed • Measure intake and output (I&O) • Assess bowel sounds • Observe for presence of constipation and paralytic ileus 	<ul style="list-style-type: none"> • Measure intake and output (I&O) • Assess bowel elimination and urinary voiding • Assess bowel sounds • Observe for presence of constipation and paralytic ileus • Perform catheter spooling (disinfecting the indwelling catheter) q 2 day
Hygiene	<ul style="list-style-type: none"> • Take baseline integumentary assessment • Keep skin clean and dry • Protect skin from breakdown • Provide oral hygiene q.i.d 	<ul style="list-style-type: none"> • Keep skin clean and dry • Protect skin from breakdown • Provide or assist oral hygiene before and after meals and at bedtime • Encourage as much self-care as possible
Patient/Family Teaching	<ul style="list-style-type: none"> • Include family in care as appropriate • Orient patient/family to environment • Prepare for diagnostic tests • Give brief, simple instructions relating to care • Inform family about health status of patient and plan of treatment • Make appointment with family to have meeting to make plan together 	<ul style="list-style-type: none"> • Educate about stroke (cause, sign & symptom, treatment) • Begin teaching related to ADL training • Evaluate understanding of teaching • Instruct in use of assistive devices for communication, eating, and walking • Teach transfer technique • Teach family how to care stroke patient (bed changing, change urine bag, how to prevent complication such as pneumonia, uti, stiffness.
Spiritual	<ul style="list-style-type: none"> • Encourage family to involve in pray during visiting time • Allow family members (2 persons) to perform praying for patient beyond visiting time if patient is critical • Provide booklet for praying according to patient's religion 	<ul style="list-style-type: none"> • Same as previous day
Discharge Planning	<ul style="list-style-type: none"> • Assess need for home care (placement, economic status, support system, 	<ul style="list-style-type: none"> • Identify placement for discharge

Plan of Care	Day 5-6	Day 7-8	Day 9-10
Elimination	<ul style="list-style-type: none"> • Measure I & O • Assess bowel elimination & urinary voiding • Asses bowel sound • Observe for presence of constipation and paralytic ileus • Begin bladder training 	<ul style="list-style-type: none"> • Measure I & O • Assess bowel elimination & urinary voiding • Asses bowel sound • Observe for presence of constipation and paralytic ileus • Discontinue indwelling catheter • Continue bladder training 	<ul style="list-style-type: none"> • Assess bowel & urine elimination • Continue bladder training
Hygiene	<ul style="list-style-type: none"> • Same as previous day 	<ul style="list-style-type: none"> • Same as previous day 	<ul style="list-style-type: none"> • Encourage as much self-care as possible
Patient/Family Teaching	<ul style="list-style-type: none"> • Repeat previous teaching • Teach lifestyle modification (diet, exercise, smoking cessation) • Teach importance of blood pressure monitoring • Teach family how to care patient and evaluate their skills 	<ul style="list-style-type: none"> • Repeat previous teaching • Teach about medications: name, route, dosage, time, action, adverse effects • Explain safety precaution related to anticoagulant therapy • Teach family about recurrent, S/S to take patient to hospital • Teach family about environment and instruments used at home such suction, electronic bed 	<ul style="list-style-type: none"> • Reinforce previous teaching • Give specific verbal and written discharge instructions • Teach importance of follow-up care • Review of family care ability at home • Provide patient/family with booklet of stroke care
Spiritual	<ul style="list-style-type: none"> • Same as previous day 	<ul style="list-style-type: none"> • Same as previous day 	<ul style="list-style-type: none"> • Same as previous day
Discharge Planning	<ul style="list-style-type: none"> • Begin referrals to rehabilitation or long term care, or ensure that home has assistive devices • Evaluate patient's and family's knowledge related to resource support needs 	<ul style="list-style-type: none"> • Same as previous day • Begin arrangements for follow-up visit with doctor 	<ul style="list-style-type: none"> • Finalize plans for home care

Plan of Care	Day 1-2	Day 3-4
Diagnostic Tests	<ul style="list-style-type: none"> • Complete blood count (CBC) • Protrombin time (PT) • Activated partial thromboplastin time (APTT) • Computed tomography (CT) scan of head • Electrocardiogram (ECG) • Serum chemistry • Arterial blood gases (ABG) • Blood glucose level • Lipid profile • Pulse oximetry q 4 hours as needed • Urinalysis if indicated • Chest-X ray 	<ul style="list-style-type: none"> • Complete blood count (CBC) • Protrombin time (PT) • Activated partial thromboplastin time (APTT) • Pulse oximetry q 8 hours as needed • Serum albumin • Cerebral arteriogram
Medications	<ul style="list-style-type: none"> • Antihypertensives: angiotensin-converting enzyme (ACE) inhibitors, beta blockers, calcium channel blockers (Captopril, Nipedefin, Adalat) • Anticoagulants: heparin or enoxaparin • Diuretics: furosemide (Lasix), bumetadine (Bumex), mannitol • Neurotam (citicoline, choliner) • Antiplatelets: aspilet, alista • Antilipidemia agents (Simvastatin) • Consider thrombolytic: alteplase, tissue plasminogen activator (tPA), plavic, pletal • Anticonvulsants: phenytoin (diazepam) • Stool softener: laxadine (syrup), dulcolax (sup) • IV 0.9% sodium chloride or 0.45% sodium chloride at 80 ml/hr or IV intermittent device or KAEN 3B 	<ul style="list-style-type: none"> • Same as Day 1

Plan of Care	Day 5-6	Day 7-8	Day 9-10
Diagnostic Test	<ul style="list-style-type: none"> • CBC • PT/INR • APTT • Serum albumin • Pulse oxymetry q 12 hours and as needed 	<ul style="list-style-type: none"> • CBC • PT/INR • APTT • Serum albumin • Pulse oxymetry q 12 hours and as needed • 	<ul style="list-style-type: none"> • Same as previous day
Medications	<ul style="list-style-type: none"> • Antihypertensives • Anticoagulants: heparin or enoxaparin; start warfarin (Coumadin) if indicated • Neurotam • Diuretics • Analgesics • Anticonvulsants • Stool softener • Saline or heparin lock IV • Simvastatin 	<ul style="list-style-type: none"> • Same as previous day 	<ul style="list-style-type: none"> • Same as previous day

APPENDIX J
NURSING CARE PLAN

Problem occurred Date/Time Sign	Problem overcome Date/Time Sign	Focus/Problem	Outcomes Patient/Family will:	Plan/Intervention * Record implementation on flowsheet * Record outcome on nurse notes
		<p>6. Self-care deficit related to: - decreased level of consciousness - hemiplegia - visual field deficit - bedrest</p> <p>7. Anxiety (patient or family) related to: - patient's disease condition</p> <p>8. Potential for infection related to: - infusion insertion - catheter insertion</p>	<p>Maintain self-care</p> <p>Identify anxiety associated with patient's disease condition Use effective coping mechanism</p> <p>Have no infection</p>	<p>1. Perform selfcare procedures to patient at least 2 times a day: - Bathing - oral hygiene</p> <p>1. Provide special time for patient/family to discuss patient's condition 2. Facilitate patient/family to express feeling 3. Discuss with patient/family about care plan 4. Explain relationship between deficit and injury area</p> <p>1. Carry out invasive procedure with aseptic technique 2. Check signs of infection every day 3. Change infusion dressing at least 2 times a day</p>

APPROVAL : February 2008 By: Intensive Nursing Manager (Floor. IV)

REFERENCE :

Lewis, S, Heitkemper, M. & Dickson, S (2004). Medical Surgical Nursing: Assessment and Management of Clinical Problems 4ed. St. Louis: Mosby.

APPENDIX K
NURSING PROCEDURE MANUAL

PIRNGADI GENERAL HOSPITAL
Nursing Procedure Manual

PROCEDURE : *Neurological Check*

PURPOSE : To describe the steps for completing neurological checks

LEVEL : Performed by RN (Ners) or PN (AMKep)

SUPPORTIVE DATA: The purpose of performing neurological checks is to establish a baseline upon which subsequent assessments can be compared and changes in neurological status can be determined

EQUIPMENT :

- Penlight
- Sphygmomanometer
- Stethoscope

CONTENT:

Steps:

1. Determine eye opening and orientation/ level of consciousness.
2. Perform pupil check as follows:
 - a. Darken the room or have the patient close eyes for 30 seconds prior to testing.
 - b. Using a penlight or flashlight, check each pupil separately and then at the same time for size and shape, equality of reaction and consensual reaction.
 - c. Check extraocular eye movement; ask the patient to have eyes follow an object without moving head

Important Point:

1. Utilize eye opening and verbal components of Glasgow coma scale.
2.
 - b. The light used for checking must be brighter than the room light.

Steps:

3. Assess speech for appropriateness, clarity, expressiveness and receptive components.
4. Check facial symmetry by asking patient to smile or wrinkle forehead.
5. Check motor function by asking patient to:
 - a. Follow commands:
 - grip onto and release your hands
 - push their arms against you
 - pull their arms away from you
 - extend and flex both feet against resistance (i.e. your hands)
 - raise both legs equally off bed
 - hold both arms up with palms toward ceiling with eyes closed for 10-seconds (observe any turning of the hands or if the arms fall or drift)
 - b. Determine response to physical stimulus if unable to follow commands. Place arms away from patient's side (place on abdomen) to determine if patient moves arm up or down or to the side.
 - c. Rate extremity strength as follows:
 - 5=strong against resistance
 - 4=breaks against resistance
 - 3=moves against gravity
 - 2=unable to move against gravity
 - 1=flicker
 - 0=no response
 OR
 per narrative documentation.
6. Check sensory function by observing patients' response to touch if conscious.
7. Obtain vital signs.
8. Assess gait for ataxia, weakness or spasticity. Determine need for implementing Falls Prevention protocol.
9. Score patient using the Glasgow Coma Scale

Important Point:

4. Observe for symmetrical forehead, lip and facial muscle movement
5.
 - a. Determine if patient is able to follow commands. Right and left should be evaluated at the same time to determine any differences
 - b. Note if patient vocalizes, withdraws, has abnormal flexion or extension, or if there is no response
6. Question patient about any numbness/ tingling or pain in face and extremities.

- DOCUMENTATION** : Document the following:
- vital signs
 - patient response to and tolerance of assessment
 - presence or absence of parameters
 - patient and/or family teaching
 - patient and/or family learning needs

APPROVAL : February 2008 By: Intensive Nursing Manager (Floor. IV)

REFERENCE:

Mills, E. (2004). Nursing Procedures, 4ed. Philadelphia: Lippincot William & Wilkins

APPENDIX L
LIST OF EXPERT

List of Expert

Content validity of the Family Satisfaction Scale and the Nurse Satisfaction Scale were performed by the five experts:

Liberta Lumbantoruan, S.Kp, M.Kep

H. Adam Malik General Hospital, Medan, Indonesia

Achmad Sobari, S.Kp

H. Adam Malik General Hospital, Medan, Indonesia

Nastri Emalia, Amk,SPd.

Pirngadi General Hospital, Medan, Indonesia

Abu Chairi, S.Kep, NS

Pirngadi General Hospital, Medan, Indonesia

Salbiah, S.Kp, M.Kep

Faculty of Nursing, University of Sumatera Utara, Medan, Indonesia

List of Expert

Content validity of the Nurse's Knowledge of Critical Stroke Care Scale was performed by four experts:

Dr. Irsan NHN Lubis, Sp.S

Pirngadi General Hospital, Medan, Indonesia

Cholina Trisa Siregar, S.Kep, M.Kep, Sp.KMB

Faculty of Nursing, University of Sumatera Utara, Medan, Indonesia

Mula Tarigan, S.Kp, M.Kes

Faculty of Nursing, University of Sumatera Utara, Medan, Indonesia

Ikhsanuddin Ahmad Harahap, S.Kp, MNS

Faculty of Nursing, University of Sumatera Utara, Medan, Indonesia

List of Expert

Content validity of the Caring Behavior Checklist was performed by three experts:

Farida Linda Sari Siregar, S.Kep, Ns, M.Kep

Faculty of Nursing, University of Sumatera Utara, Medan, Indonesia

Jenny Marlindawani Purba, S.Kp, MNS

Faculty of Nursing, University of Sumatera Utara, Medan, Indonesia

Rosina Br. Tarigan, S.Kp, M.Kep, Sp.KMB

Faculty of Nursing, University of Sumatera Utara, Medan, Indonesia

APPENDIX M
ACTIVITIES IN THE RESEARCH STUDY



Workshop on caring and action research



Workshop on caring and action research



Dr. Arphorn made a visit to ICU



Dr. Arphorn made a visit to ICU

Action Research Cycle 1



Workshop on caring for critical stroke care



Accompanying family members during visiting hour



Accompanying family members during visiting hour



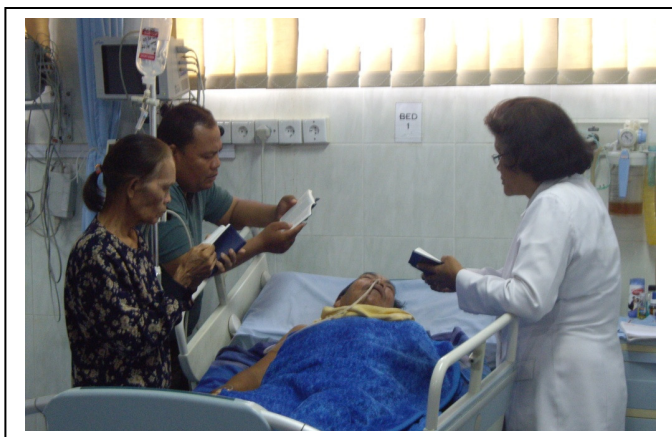
Workshop on caring for critical stroke care



Education session for family members



Joint-prayer session led by a nurse (Islam)



Joint-prayer session led by a nurse (Christian)



Accompanying family members during visiting hour

Action Research Cycle 3

APPENDIX N

Institutional Review Board Documents

Faculty of Nursing, Prince of Songkla University
 Criteria for Approval of Institutional Review Board

249

Name Mr. Setiawan Code 4858001 Year 3 Date 6 December, 2007

Thesis Title: Development of professional caring model in enhancing quality of nursing care of hospitalized stroke patient

Please determine all of the following items for research approval regarding ethical components (issues)

- | | Yes | No |
|--|-------------------------------------|-------------------------------------|
| 1. There are risks to subjects | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| If any, please identify..... | | |
| 2. Research plan provides adequate monitoring for risks | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The appropriateness of subject selection
(Sampling, equity of selection) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Respect to subject's risks to clearly identified | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Informed consent is presented | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. Confidentiality of data is maintained throughout the research process | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Results

- Exempt
- Need to be approved by IRB
- Notify the researches to correct as follow :

.....

.....

.....

Evaluator's Signature..... *Aranya Chaowalit*
 (Assoc. Prof. *Aranya Chaowalit*)
 Date..... *Dec 6, 2007*

To Chair of IRB

The researcher has already corrected as follow :

- 1.....
- 2.....
- 3.....

(.....)

Researcher

(.....)

Advisor

FACULTY
OF **NURSING**



PRINCE OF SONGKLA UNIVERSITY

P.O.BOX 9, KHOR HONG, HAT YAI
SONGKHLA, THAILAND, 90112
FAX NO. 66-74-212901
TEL. NO. 66-74-286400
66-74-286401

January 3, 2008

Director of Pirngadi General Hospital,
Medan, Indonesia.

Dear Director,

I am writing this letter to ask a permission for Mr Setiawan to conduct his thesis entitled "Development of a Professional Caring Model in Enhancing Quality of Nursing Care of Critically Ill Patients in Indonesia" in Pirngadi General Hospital. He has scheduled to do his research fieldwork and data collection for a period of approximately a year between January and December, 2008.

Mr Setiawan is currently a doctoral candidate of Faculty of Nursing, Prince of Songkla University (PSU), Hat Yai, Songkhla. His thesis proposal has been approved by the Human Research Ethics Committee of the Faculty of Nursing, PSU. It would be my great appreciation if you can give him a permission to conduct the research and kindly facilitate him to do his research fieldwork and data collection in the hospital. If you have any questions, please do not hesitate to contact Mr Setiawan at PSIK-FKUSU, phone number 8213318 or his thesis advisor, Assistant Professor Dr Urai Hatthakit at urai.h@psu.ac.th or 66-74-286401 (Work) or 66-74-212901 (Fax).

Thank you very much for your assistance and cooperation.

Yours faithfully,

Ladawan Pratheepchaikul

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Educational Attainment

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Predoctoral Visiting Fellow	University of Texas Health Science Center at Houston, School of Nursing, USA	2008
Master in Nursing Science	Prince of Songkla University Thailand	2002
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Scholarship Awards during Enrolment

Scholarship Award of Provincial Health Project II, Department of Health Republic of Indonesia.

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List of Publication and Proceedings

Publication

Setiawan. Chaowalit, A. & Suttharangsee, W. (2004). Ethical dilemmas experienced by nurses in providing care for critically ill patients in intensive care units, Medan, Indonesia. *Songklanagarind Medical Journal*, 22, 4, 221-229.

Proceedings

Setiawan. Hatthakit, U, Boonyoung, N. & Engebretson, J.C. (2010, April 8). *Development of a professional caring model for enhancing quality of nursing care for critically ill patients in Indonesia*. Oral presentation at 2010 International Nursing Conference on Diversity and Dynamic of Nursing Science and Art, Phuket, Thailand.

Setiawan. Hatthakit, U, Boonyoung, N. & Engebretson, J.C. (2010, April 10). *Creating a caring atmosphere in an intensive stroke care unit: An action research approach*. Oral presentation at International Conference on Humanities and Social Sciences, at Faculty Liberal Art, Prince of Songkla University, Thailand.