

**FACTORS INFLUENCING NURSING PROCESS
UTILIZATION IN CLINICAL PRACTICE**



**A THESIS SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF NURSING SCIENCE
(PEDIATRIC NURSING)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY**

2007

COPYRIGHT OF MAHIDOL UNIVERSITY

Thesis
Entitled

**FACTORS INFLUENCING NURSING PROCESS UTILIZATION
IN CLINICAL PRACTICE**

Thuanchai Seelasana

Miss Thuanchai Seelasana,
Candidate

Rashanee Seeda

Assoc.Prof. Rashanee Seeda,
M.Ed.
(Educational Measurement and Evaluation)
Major Advisor

Kaimook Wichiencharoen

Assoc.Prof. Kaimook Wichiencharoen
Ed.D.
(Curriculum Research and Development)
Co-Advisor

Pornsri Sriussadaporn

Assoc. Prof. Pornsri Sriussadaporn,
M.Ed. (Educational Research)
Co-Advisor

Jirasthi

Prof. M.R. Jirasthi, Ph.D.
Dean
Faculty of Graduate Studies

Pornsri Sriussadaporn

Assoc. Prof. Pornsri Sriussadaporn,
M.Ed. (Educational Research)
Chair
Master of Nursing Science
Faculty of Nursing

Thesis
Entitled

**FACTORS INFLUENCING NURSING PROCESS UTILIZATION
IN CLINICAL PRACTICE**

was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Nursing Science (Pediatric Nursing)

on

8 March, 2007

Thuanchai Seelasana
.....
Miss Thuanchai Seelasana
Candidate

Wanlaya Thampanichawat
.....
Lect. Wanlaya Thampanichawat,
Ph.D. (Nursing)
Chair

Kaimook Wichiencharoen
.....
Assoc.Prof. Kaimook Wichiencharoen, Ed.D.
(Curriculum Research and Development)
Member

Rashanee Seeda
.....
Assoc.Prof. Rashanee Seeda,
M.Ed.
(Educational Measurement and Evaluation)
Member

Sasithorn Wannapong
.....
Assoc.Prof. Sasithorn Wannapong,
M.S. (Physiology)
Member

Pornsri Sriussadaporn
.....
Assoc.Prof.Pornsri Sriussadaporn,
M.Ed.(Educational Research)
Member

Jisnusun Svasti
.....
Prof. M.R. Jisnusun Svasti, Ph.D.
Dean
Faculty of Graduate Studies
Mahidol University

Kobkul Phancharoenworakul
.....
Assoc. Prof. Kobkul Phancharoenworakul,
Ph.D. (Nursing)
Dean
Faculty of Nursing
Mahidol University

ACKNOWLEDGEMENT

The successful of this thesis can be attributed to the extensive support and assistance from my major advisor, Assoc. Prof. Rashanee Seeda and my co-advisors, Assoc. Prof. Kaimook Wichiencharoen and Assoc. Prof. Pornsri Sriussadaporn. I deeply thank them for their valuable advice and guidance during this research study. I also would like to express my grateful appreciation to the thesis committee, Assoc. Prof. Sasithorn Wannapong and Lect. Wanlaya Tampanichawat, for their constructive comments and valuable recommendations.

My thanks also go to the validators for their essential comments and valuable suggestions to improve the research instruments in this study. In addition, I would like to thank you to the Research Ethic Review Committee and the Director of Queen Sirikit National Institute of Child health for a permission of data collection. Without their support, my thesis cannot be achieved.

I am grateful to all lecturers and staff of the Pediatric Nursing Department for their valuable advice and thanks also go to graduate students and friends in the Faculty of Nursing for their encouragement. Their kindly support always cheered me up while I was doing this research study.

Finally, I would like to give many thanks to my mother who entirely loves me and strongly believes in me. So the usefulness of this thesis, I dedicate to my mother, all the lecturers, and my best friends.

Thuanchai Seelasana

**FACTORS INFLUENCING NURSING PROCESS UTILIZATION
IN CLINICAL PRACTICE**

THUANCHAI SEELASANA 4436978 NSPN / M

M N.S. (PEDIATRIC NURSING)

THESIS ADVISORS: RASHANEE SEEDA, M.Ed. (Educational Measurement and Evaluation), PORNSRI SRIUSSADAPORN, M.Ed. (Educational Research)
KAIMOOK WICHIENTHAROEN, Ed.D, (Curriculum Research and Development)**ABSTRACT**

This descriptive research aimed to determine the level of nursing process utilization in clinical practice of professional nurses and the predictability of attitude towards nursing process utilization and organizational support systems on nursing process utilization. The sample comprised 239 professional nurses in Queen Sirikit National Institute of Child Health. Data were collected by questionnaires: demographic data, organizational support systems, attitude towards nursing process utilization and nursing process utilization. The data were analyzed by using descriptive statistics, Pearson's Product Moment Correlation Coefficient and Stepwise Multiple Regression.

The results showed the mean score on the level of nursing process utilization by professional nurses was high ($\bar{X} = 2.59$, S.D. = 0.34). Organizational support systems had a statistically significant relationship with a coefficient value at 0.586 ($p < .01$) while nursing process utilization and attitude towards nursing process utilization had a statistically significant relationship with a coefficient value at 0.356 ($p < .01$). Organizational support systems accounted for 34.4% of the variance in nursing process utilization score.

According to the research results, Queen Sirikit National Institute of Child Health has nursing process utilization in clinical practice at a high level. However, there should be further development of each nursing process step and strengthening of support organizational systems in order to improve the quality of nursing care.

KEY WORDS: NURSING PROCESS / CLINICAL PRACTICE

90 P.

ปัจจัยที่มีอิทธิพลต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล
(FACTORS INFLUENCING NURSING PROCESS UTILIZATION IN CLINICAL PRACTICE)

เดือนใจ ศีละชนะนา 4436978 NSPN/M

พย.ม. (การพยาบาลเด็ก)

คณะกรรมการควบคุมวิทยานิพนธ์ : รัชณี สีดา, ค.ม. (การวัดและประเมินผลการศึกษา),
ไข่มุกข์ วิเชียรเจริญ, กศ.ค. (การวิจัยและพัฒนาหลักสูตร), พรศรี ศรีอัญญาพร, ค.ม. (วิจัยการศึกษา)

บทคัดย่อ

การวิจัยเชิงบรรยายนี้มีวัตถุประสงค์ เพื่อศึกษาการใช้กระบวนการพยาบาลในการปฏิบัติการพยาบาล และศึกษาอำนาจการทำนายของปัจจัยด้านเจตคติ และระบบสนับสนุนขององค์กรต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติ การพยาบาลของพยาบาลวิชาชีพ กลุ่มตัวอย่างเป็นพยาบาลวิชาชีพที่ปฏิบัติงานในหอผู้ป่วย และห้องสังเกตอาการของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี กรมการแพทย์ กระทรวงสาธารณสุข จำนวน 239 คน เก็บรวบรวมข้อมูล โดยใช้แบบสอบถามข้อมูลส่วนบุคคล แบบสอบถามการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล แบบสอบถามเกี่ยวกับระบบสนับสนุนขององค์กรในการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล และแบบวัดเจตคติต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล วิเคราะห์ข้อมูล โดยใช้สถิติเชิงบรรยาย สัมประสิทธิ์สหสัมพันธ์ของเพียร์สัน และการวิเคราะห์ถดถอยพหุ แบบขั้นตอน

ผลการศึกษาพบว่ากลุ่มตัวอย่างนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลโดยรวมเฉลี่ยในระดับมาก ($X = 2.59$, $S.D. = 0.34$) ระบบสนับสนุนขององค์กรและเจตคติต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลมีความสัมพันธ์ทางบวกกับการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลอย่างมีนัยสำคัญทางสถิติ ($r = 0.586, 0.356$; $p < 0.01$) ระบบการสนับสนุนขององค์กรในการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล สามารถทำนาย การนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลของพยาบาลวิชาชีพได้ร้อยละ 34.4 อย่างมีนัยสำคัญทางสถิติ ($R^2 = 0.344$, $p < 0.001$)

จากผลการศึกษา แม้ว่าสถาบันสุขภาพเด็กแห่งชาติมหาราชินีมีการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลในระดับมาก แต่ควรมีการพัฒนาการปฏิบัติการพยาบาลในแต่ละขั้นตอนของกระบวนการพยาบาลให้ครอบคลุมมากขึ้น รวมทั้งการพัฒนาระบบการสนับสนุนที่ดีอยู่แล้วให้เข้มแข็งและยั่งยืน จะทำให้คุณภาพการพยาบาลมีประสิทธิภาพสูงสุด

CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
ABSTRACT (ENGLISH)	iv
ABSTRACT (THAI)	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER	
I INTRODUCTION	1
- Background and Significance of the Study	1
- Conceptual Framework	3
- Purposes of the Study	4
- Research Questions	5
- Scope of the Study	5
- Expected Outcomes and Benefits	5
- Definition of Terms	5
II LITERATURE REVIEW	7
Nursing Process	7
- Definitions of nursing process	7
- Steps of nursing process	10
- Nursing process utilization in clinical practice	14
- Benefits of nursing process utilization in clinical practice	15
- Problems and obstacles in nursing process utilization in clinical practice	16
Influential factors involved in nursing process utilization in clinical practice	18
- Attitude towards nursing process utilization	19
- Organizational support systems in nursing process utilization	22

CONTENTS (Cont.)

CHAPTER	Page
III METHODOLOGY	27
- Population and Sampling	27
- Setting	27
- Instrumentation	28
- Validity and Reliability of the Instrumentation	30
- Data Collection	31
- Protection of Human Subjects	32
- Data Analysis	32
IV RESULTS	34
V DISCUSSION	53
VI CONCLUSION	64
- Implications and Recommendations	65
REFERENCES	68
APPENDIX	74
BIOGRAPHY	90

LIST OF TABLES

Table	Page
1. Demographic Characteristics of the Subjects (n = 239)	35
2. Possible range, actual range, means, and standard deviations of the organizational support systems in the nursing process utilization in clinical practice by overall, classified by each item. (n = 239)	37
3. Possible range, actual range, mean, and standard deviation of attitude towards the nursing process utilization in clinical practice (n = 239)	41
4. Possible range, actual range, mean, and standard deviation of nursing process utilization in clinical practice (n = 239)	44
5. Possible range, actual range, mean, and standard deviation of nursing process utilization in clinical practice divided by each step of nursing process (n = 239)	45
6. Minimum, maximum, mean, standard deviation, and matrix of correlation coefficients among nursing process utilization, organizational support systems and attitude towards nursing process utilization in clinical practice (n = 239)	49
7. Standardized Multiple regression analysis with enter technique to determine the predictive power of organizational support systems and attitude towards nursing processes utilization in clinical practice (n = 239)	50
8. Stepwise multiple regression analysis to determine the predictive power of organizational support systems and attitudes toward nursing processes utilization in clinical practice (n = 239)	51

LIST OF FIGURES

Figure	Page
1. The Conceptual Framework of the Study	4
2. The relationship of each step of the nursing process	14
3. Histogram of Residuals	87
4. Plot of Residuals Against the Predicted Values of Nursing Process Utilization	88
5. Normal P-P Plot of Regression Standardized Residual	89

CHAPTER I

INTRODUCTION

Background and Significance of the Study

When children are sick and needed to be admitted in the hospital, pediatric nurses then have an important role in taking care of ill children, families, as well as whoever goes to the hospital. Nurses, in turn, are required to take care and to be close to ill children for 24 hours in order to give effective nursing service which responds to ill children' needs and their families by following the professional nurse standard and creating satisfaction between service providers and receivers (Seeda,R., 2002). For the effective nursing practice, the quality of nursing requires not only nursing care but also effective nursing care. It depends on the ability and knowledge of nurses.

Nursing process is an essential tool which maintains a good quality of nursing practice. The nursing process is a systematic method of arts and sciences which professional nurses must apply to take effective nursing care of patients and patients' families in order to raise the quality of nursing activities. In other words, this is not only doing their routine job, but also applying their theoretical nursing knowledge for taking care of patients in order to achieve the standardization. The utilization of nursing process is very necessary for clinical practice which is a fundamental basis for nurses to understand each patient's problem and to diagnose patient health condition, leading to the efficient nursing care plan. Moreover, the nursing evaluation and the nursing documentations soon will be developed responding to the goals of nursing service, increasing satisfaction from patients and families. The more utilization on nursing process in clinical practice is in the hospital organization, the more service and nursing system would be better (Pukboonmee,R., Senadisai,S., Wongwiwat,J., & Dangsay,J., 2001). Hence, the nursing process should be utilized in any hospital organizations continuously, starting from the patients' admits in the hospital until they can return home (Alfalo-LeFevre, 1998).

Nursing process can be seen as a fundamental basis for professional nurses to give nursing service for patients and patients' families. Many studies state that the utilization of nursing process is the standardization that professional nurses should follow since this process can be applied to any nursing situations. In addition, the nursing process is very flexible and be applicable to any receivers or patients so it is necessary to follow each nursing process systematically (Luangamornlert,S., Limamnoeylap,S, & Senarak,W., 1997). Some studies support the benefits of the utilization of nursing process due to the fact that it is time-saving, cost-saving, as well as increasing the satisfaction of patients. (Tunmookayagul, A., & Sirirungsri, B., 1994). The most important object is that the nursing process maintains the standard of clinical practice by professional nurses (Iyer, Taptich & Bernocchi-Losey, 1995).

From the above reasons, the utilization of nursing process has been dramatically used under the consideration and support of the Bureau of Nursing. The investigation on the utilization on nursing process in nursing practice from 1998-2001 shows that most professional nurses lack of the opportunity for long-term nursing care plan. In 2003-2004, the results reveal that the supervisors and the support systems in the hospital organization raised an importance of the utilization of nursing process in nursing practice, which led to 90% satisfaction from whoever received the nursing service (Sripattarapinyo, J. & Sararach, A., 2003).

Based on national and international relevant literature review, it is found that the nursing process utilization in clinical practice by professional nurses is at medium level Most professional nurses believe that the utilization of nursing process in clinical practice is a complicated process (Rattanatanya, D., 1990; Nunsupawat, W., Nanasil, W., Sangsuwan,, J., & Suwannoy, C., 1995; Chalermwanapong, S., & Singchangchai, P., 1999; Panasantipap, B., Buspawattana, P., & Tritan, J., 2000). Moreover, some professional nurses lack of skill in nursing practice as well as utilizing the nursing process in the hospital (Varcoe, 1996; Af, 2000; Binh, 2001; Ojo & Innoye, 2002). Sometimes, the utilization of the nursing process in clinical practice cannot be followed systematically(Hildman & Ferguson, 1992; Watanasen, D., 1998; Luangamornlert et al., 1997; O'Connel, 1998; Waters & Easton, 1999; Fuly, Freire & Almeida, 2003)

For Queen Sirikit National Institute of Child Health, this institute is suitable to apply the nursing process due to the practice that there are various complicated patients' health problems and families. In order to increase the effective nursing, Queen Sirikit National Institute of Child Health raises the importance of utilization nursing processes in clinical practice. In contrast, the study by Queen Sirikit National Institute of Child Health (2004) revealed that this institute got a medium score on nursing diagnosis, nursing care plan and nursing evaluation. Hence, the researcher, an officer of pediatric nursing department, then decided to further investigate what are the factors that affect the utilization of nursing process in clinical practice in Queen Sirikit National Institute of Child Health.

The results of this study therefore may be used to guide how to develop and to apply the utilization of nursing process effectively. Also, the results may enable the professional nurses at Queen Sirikit National Institute of Child Health to improve themselves as health care providers for ill children and families.

Conceptual Framework

Nursing process is the solving method of arts and sciences which is required to follow each step continuously: pre-nursing plan, utilizing of nursing process in clinical practice effectively, the nursing consideration, and the relationship between professional nurses and patients. It is necessary to follow the goals of nursing process by focusing on patients' needs. Nursing process then can be seen as a tool to diagnose and solve patients' problems, to maintain the good quality of nursing activities and evaluation. This nursing process consists of five steps: nursing assessment, nursing diagnosis, nursing care plan, nursing implementation, and nursing evaluation.

Attitudes have a strong influence of the utilization of nursing process in clinical practice since attitudes includes the personal feelings and the beliefs towards the nursing process utilization in clinical practice. Many researchers in nursing profession state that the positive attitudes towards the utilization of nursing process effect to the nurses certainly accept and raise the quality of utilization of nursing process in clinical practice (Moleechati, T., 1990; Chalermwannapong, S. & Singchangchai, P., 1999; Panasantipap, B., et al, 2000).

Another factor which directly results in the nursing process utilization is the organizational support systems. This includes managing the utilization of nursing process, the nursing documentations, the organizational policy, the orientation on nursing process utilization in clinical practice, and the nursing evaluation. The organizational support systems in the hospital are the important key to facilitate professional nurses applying the nursing process more and developing their nursing activities. In addition, Panasantipap, B., Buspawattana, P. and Tritan, J. (2000) found that there was a statistically significant relationship at $p < .05$ between the organizational support systems and the utilization of nursing process in clinical practice in Chaoprayayomraj Hospital, Suphanburi province.

As far as this study has been concerned, there was not been the study related to the influence of organizational support systems and attitude towards the nursing process utilization in clinical practice by professional nurses at Queen Sirikit National Institute of Child Health. So this study aims to investigate these factors which may give a clear picture how to develop the utilization of nursing process in clinical practice for this institute. This study is focused on the factors that related to the nursing process utilization in clinical practice as shown in Figure 1.

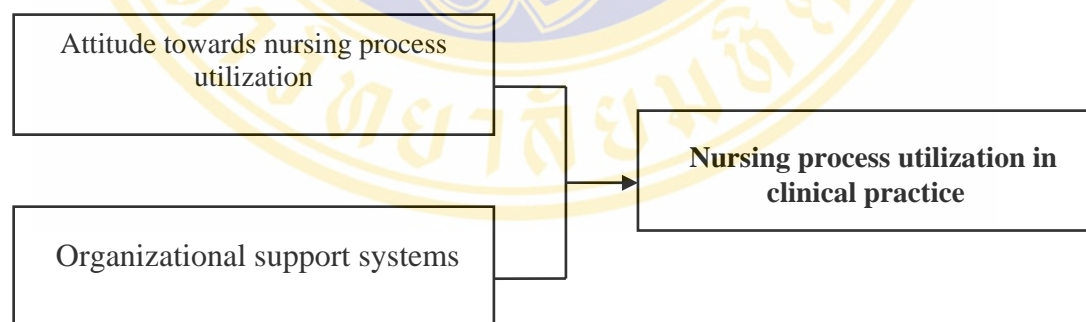


Figure 1 Conceptual Framework of the Study

Purposes of the Study

1. To determine the nursing process utilization of professional nurses at Queen Sirikit National Institute of Child Health.
2. To determine the predictability of organizational support systems and attitude on the nursing process utilization in clinical practice

Research questions

1. How is the nursing process utilization in clinical practice of professional nurses at Queen Sirikit National Institute of Child Health?
2. Could the organizational support systems and attitudes predict nursing process utilization of professional nurses at Queen Sirikit National Institute of Child Health?

Scope of the Study

The study is scoped to the nursing process utilization in clinical practice of professional nurses who worked at in-patient wards and observation room in Queen Sirikit National Institute of Child Health

Expected Outcomes and Benefits of the Study

This study is designed to investigate the affective factors which can affect nursing process utilization in clinical practice of professional nurse at Queen Sirikit National Institute of Child Health. So the results of this study may provide the guidelines for any authorities to understand how to strengthen the nursing process utilization in clinical practice of pediatric nurses, as well as, the nursing organization in the hospital.

Definitions of Terms

Attitude towards nursing process utilization refer to feelings, concepts, and the readiness of the professional nurses to the use of nursing process in clinical practice. These attitudes are expressed as to agree or disagree depending on their experience which can be measured by questionnaires developed by Rattanatanya, D. (1990)

The Organizational support systems can be defined as managing the resources and working atmosphere in the hospital organization in nursing process utilization in clinical practice, for example: policy, structure of hospital organization, inservice education, communication, public relation, documentation systems and materials. The organizational support systems of Queen Sirikit National Institute of Child Health were assessed by the questionnaire of Rattanatanya, D. (1990).

Nursing process utilization in clinical practice refer to the nursing practice in a real situation by professional nurses who taking care of ill children and families, which consists of nursing assessment, nursing diagnosis, nursing care plan, nursing implementation, nursing evaluation and nursing documentation. The level of utilization is measured by questionnaires developed by the researcher.



CHAPTER II

LITERATURE REVIEW

This research comprised the nursing process utilization in clinical practice and the predictive power of the organizational support systems and attitude towards the nursing process utilization in clinical practice at Queen Sirikit National Institute of Child Health. The researcher reviewed related documents and literature on the following topics:

Nursing Process

- Definition of nursing process
- Steps of nursing process
- Nursing process utilization in clinical practice
- Benefits of nursing process utilization in clinical practice
- Problems and obstacles in nursing process utilization in clinical practice

Influential factors involved in the nursing process utilization in clinical practice

- Attitude towards nursing process utilization
- Organizational support systems in nursing process utilization

Nursing Process

Nursing process is the most important concepts to be utilized in clinical practice in order to provide a systematic scientific method and nursing knowledge into nursing intervention to solve patients' problems. A number of nursing researchers have defined nursing process as follows:

Definitions of nursing process

According to Atkinson & Murray (1992), nursing process is an assurance of nursing intervention quality while patient-centered nursing care planning

allows healthcare service recipients to participate in nursing care planning to resolve related health problems.

Gordon (1994) defined the nursing process as a scientific process to resolve problems systematically and continually.

Kozier, Erb, Blais & Wilkinson (1995) stated that the nursing process is a systemic, rational method of planning and providing individualized nursing care. Its purpose is to identify a client's health status, actual or potential health care problems or needs; to establish plans to meet the identified needs; and to deliver specific nursing intervention to meet those needs. The nursing process is cyclical; that is, the components of the nursing process follow a logical sequence, but more than one component may be involved at any one time.

Wilkinson (1996) defined nursing process as a specific method for nursing intervention which utilized knowledge and skills to systematically collaborate and operate in order to identify, prevent and solve existing or potential health problems while promoting good health condition.

Alfaro-LeFevre (1998) regarded the nursing process as a five-step process of caring for healthcare service recipients comprising individuals, families and the community in order to achieve the service recipients' needs effectively and beneficially. These five steps involved nursing assessment, nursing diagnosis, nursing care plans, nursing implementation/intervention and evaluation of the outcome.

Seaback (2001) stated that the nursing process is a tool promoting organization and utilization of the steps to achieve desired outcomes. The steps of the nursing process build upon each other, overlapping previous and subsequent steps. The nursing process may be used with clients throughout the life span and in any setting where care is provided to clients.

Wong, Hockenberry-Eaton, Wilson, Winkelstein, & Schwartz (2001) defined nursing process as a method of problem identification and problem solving that describes what the nurse actually does. The five steps model that is accepted as the nursing process is: assessment, diagnosis (problem identification), planning (with outcome development), implementation, and evaluation.

White (2003) defined nursing process as systematic planning and provision of care to healthcare service recipients with the objectives of effective and

comprehensive patient-centered nursing care. Although various nursing procedures are correlated, some procedures may be crossed over in order to proceed with subsequent steps.

Doenges & Moorhouse (2003) referred to nursing process as a reasonable and systematic method of solving problems in order to provide effective care in response to the needs of healthcare service providers.

Kozier, Erb, Berman, & Snyder (2004) defined the nursing process that is a systematic, client-centered method for structuring the delivery of nursing care. The nursing process entails gathering and analyzing data in order to identify client strengths and potential or actual health problems and developing and continually reviewing a plan of nursing interventions to achieve mutually agreed outcomes. At every stage of the process, the nurse works closely with the client to individualize care and build a relationship of mutual regard and trust.

Luangamornlert, S., Limamnoeylap, S., & Senarak, W. (1997) believed that nursing process was a process with clear theory background and guidelines to allow flexibility for implementation in any situation and could be adjusted to meet the needs of the dimensions of individual nurses who can easily classify the steps into nursing intervention that is organized, systematic and deliberate.

Panomlit, S. and Udomluk, S. (1998) concluded that nursing process was a significant instrument and method of the nursing profession for collecting the information of healthcare service recipients leading to diagnosis, planning, implementation and evaluation. Nursing process promotes the quality of nursing care as it meets individual goals of maintaining health condition.

Chalermwannapong, S. (2001) summarized the nursing process as basic skills which nurses use as belief or knowledge to establish guidelines for nursing practice to promote good well conditions while identifying, preventing and solving or alleviating the health problems of those who had or were about to have health problems. Thus, nursing care meets the objective of maintaining good health condition for individuals, families and communities.

The Bureau of Nursing, Department of Medicine by Sripattarapinyo, J., & Sararach, A. (2003) defined the nursing process as the systematic and scientific method of solving problems by systematically gathering significant information,

advance planning, knowledge-based evidence, ability, skills and decisions of nurses with good relationships between patients and nurses according to clear objectives and patient-centered care.

From definitions mentioned above, it can be concluded that nursing process is a professional nursing instrument that helps nurses analyze and solve the patients' problems while facilitating nursing practice and effectively evaluating the nursing intervention outcomes, thus permitting holistic nursing care that yields successful results, is suitably matched to the problems and individual needs of individual patients.

Steps of nursing process

Nursing process is a nursing practice which uses the principle of scientific problem solving with critical thinking in order to help patients or service recipients comprising individuals, families and communities (Wilkinson, 1996). Thus, nursing practice to successfully provide care and help solve problems for service recipients or patients relies on nursing process which consists of the following 5 or 6 steps: data collection; diagnosis; outcome identification; planning; implementation; and evaluation.

The American Nursing Association (ANA) Practice Standards (1991) classified nursing process as the following 6 steps: Assessment-the data collection regarding the patients' problems, Diagnosis-use of data gathered in the assessment to identify the patients' problems, Outcome identification-the classification and identification of anticipated results for each patient, Planning-specification or development of nursing care plans as guidelines for nursing practice in order achieve anticipated outcomes; and Evaluation-the evaluation of changes or improvements of patients as a result of nursing intervention.

A number of nursing researchers (Wilkinson, 1996; Alfaro-Lefevre, 1998; Doenges & Moorhouse, 2003; White, 2003) have explained the 5 steps involved in nursing procedure as follows:

1. **Nursing Assessment** is the first significant step in the nursing process and consists of data collection, analysis, storage and recording of information (Doenges & Moorhouse, 2003). The information regarding health condition is gathered and verified to correctly and thoroughly identify conditions, malfunction or risk factors

which might cause health problems in order to facilitate the step of diagnosis by observation, background interviews, physical examination and assessment of patients' emotions, social and development condition in combination with laboratory results, patient's reports, medical diagnostic reports and interviews with healthcare personnel, example: asking for patients' chief complaint, asking for patients' present illness, asking for patients' demographic data, asking for patients' past history, use medical records as sources of data, utilizing the laboratory findings, development assessment, asking for nutritional history, psychosocial assessment, family history taking and performing physical examination. However, each individual nurse gathers information differently according to guidelines or nursing theories and work experience. In gathering information, therefore, the patients' data must be covered with regard to the psychosocial conditions of patients and in order to correctly analyze the patients' problems. Afterwards, the information is systematically filed according to the forms used to check for completeness and accuracy. Then, the information is recorded without any summarization or interpretation. The information from interviews and background checks are extremely important. Therefore, interview questions should be made simple for the healthcare service recipients (Taylor, 2000).

2. **Nursing Diagnosis** is the conclusion of the problems or needs of patients and the cause of the problems. Information regarding the patient's development, emotions, family, economic status and society as well as laboratory results are regrouped and analyzed to identify existing or potential problems. Then, problems, contributive factors and nursing diagnosis are identified. Nursing diagnosis consists of problems or the failure to meet the current needs of healthcare service recipients, the causes of problems which must be related to those problems, supporting information and current symptoms. The nursing diagnosis, which is correctible by nursing activities and supporting information, is then written, after which the nursing care plan covering the nursing diagnosis, nursing goals, criteria and nursing activities is also written. Nursing activities which are consistent with the nursing diagnosis, nursing care plan are included by specifying time required for anticipated outcome, both at the hospital and at home while allowing opportunities for the patients and families to participate in the nursing care plan, example: using laboratory findings in nursing diagnosis writing, writing nursing diagnosis in statement which can be solve by

nursing intervention, writing nursing diagnosis with supporting data, using physical and development data in nursing diagnosis writing, using psychological data in nursing diagnosis writing, using family data in nursing diagnosis writing and using socioeconomic data in nursing diagnosis writing.

3. **Nursing care plan** nursing care planning is the next step following nursing diagnosis and is the instrument that determines the direction of nursing implementation by nurses. Therefore, nursing care planning must cover the combined components of the patient and be effective. Effective nursing care plans, therefore, help to solve the health problems of patients. The steps of nursing planning require that nurses prioritize problems and work hand-in-hand with administrators or caregivers in setting nursing goals. In other words, the anticipated nursing outcomes of the nursing implementation should include the specification of assessment criteria, after which the nursing activities need to be determined with the inclusion of follow-up, assistance, treatment, instruction, suggestions and prevention in response to the nursing diagnosis, recording nursing care plans for individual patients (Santawaja, J., 2005) by designating a period of time in which results can be expected for both in-patients and for discharge to home care, example: nursing intervention suitable for nursing diagnosis giving an opportunity for patients and family to participate in planning of care, writing nursing care plan which include nursing diagnosis, goal, criteria and nursing intervention, establish nursing care plan during hospitalization and for home care and specified expected outcome and timeframe.

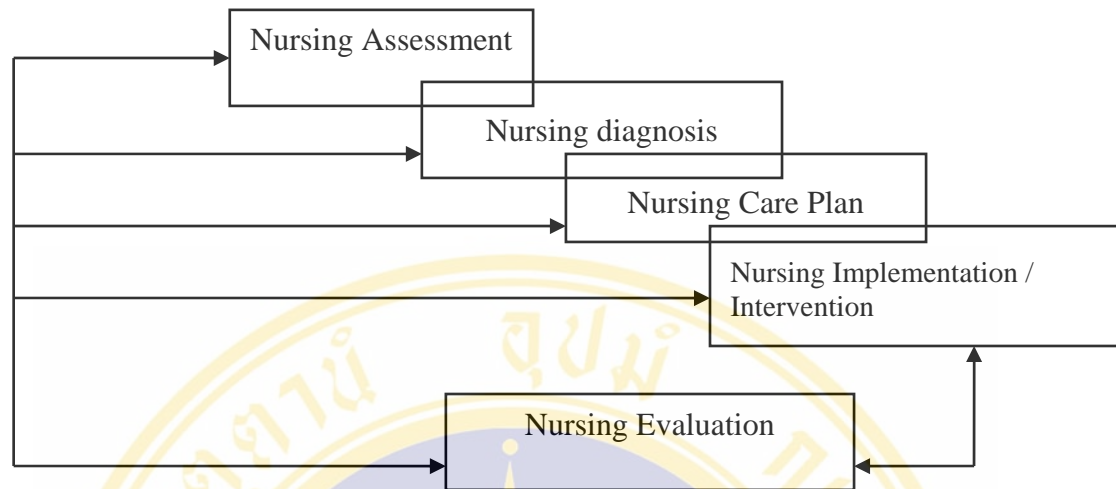
4. **Nursing implementation** reviews the nursing care plan previously set as a guideline or method of practice prior to carefully initiating the nursing implementation with conscientious reconsideration by assessing the health condition factors of the healthcare service recipient before implementing the intervention in order to determine whether the problem of the healthcare service recipient has changed, or whether there are other urgent problems or not, in order to revise the nursing care plan to be more suitable, stressing a holistic approach to nursing care and supporting the participation of family members in the care of in-patients and preparing both patients and family members for discharge to home care. Following all nursing interventions, records and reports of the health status of patients must be kept. These records should include the questions of both patients and family members concerning the nursing intervention

provided for the patient, example: encouraged family members to participate, in caring for the patients during hospitalization, giving care on holistic nursing concept, answering questions for patients and families relevant to nursing interventions, giving nursing care by following the nursing care plans, prepare patients and their families for home care and reviewed care plans before starting nursing care.

5. **Nursing evaluation** is the step at which is determined whether or not nursing has been effective by assessing the changes in the health condition or problems of the healthcare service recipient through comparing the progress of the patient to standardized nursing assessment criteria as specified in the nursing care plan after practicing nursing activities in order to determine whether or not the activities were able to respond to the needs or problems of the service recipient. For goals that are not achieved or fail to meet the set criteria, the nursing care plan can be revised or procedures preceding the nursing process can be examined and improved upon for continued suitability, example: evaluated the patients' problems at the end of shift, evaluated nursing intervention outcomes, using analyzed outcomes for care plan improvement and using evaluation criteria as the criterion

It can be seen that there are 5 steps to nursing process: Nursing Assessment; Nursing Diagnosis; Nursing Care Plan, which is the step that combines the determination of desired outcomes and nursing practice methods; Nursing Implementation and Nursing Evaluation.

Although nursing process is a repetitive correlational cycle the follows a continual order, it is not necessary for each step to be completed before moving onto subsequent steps. Although some steps may be incomplete, it may become necessary to proceed with subsequent steps; or assessment of the condition may be performed along with nursing intervention, allowing the nurse to return to other previous steps as necessary. The relationships of each step of the nursing process are shown in Figure 2.



**Figure 2. : The relationship of each step of the nursing process
(Alfaro-LeFevre, 1998)**

Nursing process utilization in clinical practice

The utilization of nursing process in clinical practice is considered individual behaviors which result from different factors. Thus, in order to promote desired behaviors, different measures have to be taken into consideration. For instance, factors which have an influence on such behaviors need to be analyzed so that planning can be made to effectively promote them. Kumpalikit, S., (1989) points out that to successfully implement the nursing process, factors regarding nursing personnel and administration need to be taken into account. Thus, a study on these factors would lead to support for the utilization of the nursing process in clinical practice as follows:

1. Nursing personnel need to understand the significance of nursing process and determine to use them.

2. Administration needs to rely on specification of philosophy, policy, and objectives of the utilization of the nursing process in clinical practice clearly and in writing. Manpower needs to be prepared to support effective utilization of the nursing process, and staffs need to be trained and equipped with knowledge and skills to implement the nursing process. Moreover, tasks need to be continuously assigned to ensure continuous problem solving and respond to the needs of service receivers. This is very important for the successful utilization of the nursing process in clinical

practice. In addition, supervision and nursing records need to be systematically organized, and committee should be set up to take charge of the utilization of the nursing process in clinical practice for subsequent supervision and evaluation. Assistance should also be provided when there are problems and obstacles in the utilization of the nursing process in clinical practice (Suthasanajinda, S, 1992).

3. Materials and equipment which facilitate the utilization of the nursing process in clinical practice such as textbooks, documents, etc. should be provided so as to make service provision more effective.

4. Budget also plays a major role to support successful utilization of the nursing process in clinical practice.

Benefits of nursing process utilization in clinical practice

Nurses who use the nursing process in a thoughtful and systematic way achieve a clear and efficient plan of action by which the entire nursing team can achieve results for patients. There are many advantages in using nursing process: (Af, 2000)

1. The nursing process provides a framework within which the individual needs of the patient and families.

2. The steps of the nursing process focus the nurse's attention on the "individual" human responses of a patient to a given medical situation, resulting in a holistic plan of care addressing these specific problems/needs.

3. The use of the nursing process provides an organized, systematic method of problem-solving, minimizing dangerous errors or omissions in care giving and avoiding time-consuming repetition in care and documentation.

4. The use of the nursing process promotes the active involvement of the patient in his or her own health care, enhancing consumer satisfaction. Such participation increases the patient's sense of control over what is happening to him or her, stimulates problem-solving, and promotes personal responsibility all of which strengthen the patient's commitment to achieving identified goal.

5. The use of the nursing process enables nurse to have more control over own practice. This enhances the opportunity for nurses to use the knowledge, expertise, and intuition constructively and dynamically to increase the likelihood of a

successful patient outcome. This, in turn, promotes greater job satisfaction and professional growth.

6. The use of the nursing process provides a common language for practice, unifying the nursing profession. Using the system the clearly communicates the plan of care to colleagues and patients enhances continuity of care, promotes achievement of patient goals, aids in the development of nursing standards, provides a vehicle for evaluation.

7. The use of the nursing process provides a means of assessing nursing economic contribution to patient care. The nursing process supplies a vehicle for the quantitative and qualitative measurement of nursing care that meets the goal of cost effectiveness and still promotes holistic care.

Problems and obstacles in nursing process utilization in clinical practice

According to an extensive review of research literature regarding the utilization of the nursing process in clinical practice, it was found that a considerable number of studies have been conducted and nursing process has been widely implemented. However, there are still some professional nurses who do not implement the nursing process in their practice or who use only some of the steps involved in the nursing process. Also, those who apply the nursing process may do so ineffectively (Sanaruk, W., 1989; Rattanatanya, D., 1990; Oeasomboon, K., 1994; Watanasen, D., 1998; O'Connell, 1998; Waters & Easton, 1999). Kumpalikit, S. (1996) summarizes problems and obstacles in the utilization of the nursing process in clinical practice as follows:

1. Too much emphasis is placed on writing. In fact, the utilization of the nursing process in clinical practice is to enable nurses to think with a scientific process, and the writing part in each of the steps should aim at allowing colleagues to understand what has been done for the patients and to continue care effectively. At present, each step of the nursing process emphasizes writing, which can be very time consuming. For this reason, nurses are unable to practice in a limited time, making them feel that the nursing process could not be applied in their actual clinical practice (O'Connell, 1998).

2. There are still conflicts in the specification of nursing diagnosis. Research conducted both locally and abroad regarding the utilization of the nursing process in clinical practice indicated that specification of nursing diagnosis is a difficult issue (Nunsupawat, W., Nanasil, J., Sangsuwan, J., & Suwannoy, C., 1995; O'Connell, 1998) due to uncertainty in accuracy of nursing diagnosis. Nurses can have different opinions when performing nursing diagnosis based on the same source of information, and the language used in nursing diagnosis is so specific that it can hardly be used to communicate with the patients, especially the nursing diagnosis accepted by the North American Nursing Diagnosis Association (NANDA) (Whitley, & Gulanick, 1996; Hogston, 1997).

3. There is a lack of the continuity of the utilization of the nursing process in clinical practice. In generally, the nursing process is fully implemented among nursing students or among a particular group of nurses. Nurses in general, especially those who are highly experienced, tend to overlook the significance of the nursing process and believe that they are more suitable for study, not for actual practice (Hildman, & Ferguson, 1992). In particular, the nursing plans which have been written in advance are seen as outdated and can't be used with the patients whose symptoms change all the time (Waters, & Easton, 1999). For this reason, most of the nursing implementations become solving immediate problems, routine tasks, and the doctor's assignment (O'Connell, 1998), all of which prevent nurses from realizing the benefits of the nursing process on the patients, making them lose motivation to implement them in their line of work.

4. Using a broad conceptual framework which lacks details and clear boundary can result in miscommunication or misunderstanding among users. This can bring about conflicts in gathering data and performing nursing diagnosis based on the nursing theories and conceptual frameworks. Thus, users tend to use the nursing process according to the medical model they are familiar with. In addition, problems and obstacles in the utilization of the nursing process in clinical practice depend on nurses' skills and environmental factors as well.

5. As for nurses' skills, nurses need to be able to create interpersonal relationships. They also need skills regarding knowledge, intellectuality, tactfulness, decision making, use of language and writing, nursing practice, nursing techniques,

and evaluation. These are needed in different steps of the utilization of the nursing process in clinical practice. Nurses who have problems or lack some of the necessary skills are very likely to encounter problems with the utilization of each step of the nursing process. For instance, if nurses lack skills regarding interpersonal relationship or lack knowledge or tactfulness, they may not be able to gather comprehensive data and their diagnosis is likely to miss the point and lacks comprehensiveness. Also, if nurses lack writing skills, they may have problem writing nursing diagnosis to make themselves understood by other nurses.

6. The last problem concerns working environment. Nurses have to work amidst constant changes regarding the doctor's treatment plan, the patients' symptoms, and the hospital policy requiring nurses to use different files for one patient for information record (O'Connell, 1998). Generally, nurses who are in charge of acute patients such as medical or surgical patients tend to pay more attention to the patients' physical condition and provision of medication rather than their psychosocial condition. This is because nurses want to complete their routine tasks as much and as soon as possible. As a result, provision of a patient-centered holistic care becomes very difficult, if not impossible (Latimer, 1994).

These problems result in nurses' lack of utilization of the nursing process in clinical practice to reap the highest benefits. To solve these problems, nursing institutions, nursing service institutes, and professional nursing organization have to help one another find way to promote a wider and more concrete use of the nursing process in clinical practice. For example, forms should be provided to save nurses' time to write down information, staff who are not professional nursing should be recruited to help with routine non-nursing tasks, and job descriptions should be clearly and specifically described.

Influential factors involved in nursing process utilization in clinical practice

Nurses can have different personalities and work in different working environments. Thus, the utilization of the nursing process in clinical practice can vary. A review of literature has shown that the factors which are found to have an influence on the utilization of the nursing process in clinical practice are as follows:

Attitudes towards nursing process utilization in clinical practice

Attitude refers to individuals' beliefs about persons, materials, actions, situations, and others. Attitude also involves individuals' behaviors which indicate their perception about one thing or another. Although attitude is an abstract noun which results in expression of action or behavior, it is not a motive or drive. In fact, attitude is individuals' readiness to respond to arousals. In other words, attitude encompasses individuals' ideas, thinking, beliefs, opinions, truth, and both positive and negative feelings, all of which can lead to behaviors. In general, it is believed that attitude is related to practice and has an influence on individuals' expression of behaviors (Suwan, P., 1983).

However, behaviors do not result solely from attitude. Instead, it also results from other components such as rules and regulations, social norms, personal habits, which influence what individuals think, feel, or do. It is worth noting that there may be some factors in the social environment that prevent individuals from expressing certain behaviors. For instance, even if individuals have a positive attitude toward the nursing process, but there are difficulties or obstacles they have to overcome, they may use the nursing process less than they should. Thus, it could be concluded that individuals' behaviors or actions result from attitude, social norm, personality, and expected outcomes. Thus, if nurses have a positive attitude towards nursing process, it is likely that they will be ready to make use of nursing process to effectively offer care to the patients. As such, attitude is an important factor in clinical practice, especially the attitude of the group. If most of the members have a negative attitude towards work system, they will easily lose faith in their work, eventually leading to the failure of the whole group and organization. Examples of research studies which attempted to examine attitudes towards the utilization of the nursing process in clinical practice are presented below.

First, Rattanatanya, D., (1990) investigated the relationship between a number of factors and the utilization of nursing process in clinical practice at Maharaj Nakorn Chiangmai Hospital. The findings showed that the factors which were positively related to the utilization of nursing process in clinical practice included attitudes towards the utilization of nursing process, organizational support systems related to the utilization of nursing process in clinical practice, and reinforcing behaviors of

individuals regarding the utilization of nursing process in clinical practice. Also, the factors which could predict the utilization of nursing process in clinical practice were organizational support systems related to the utilization of nursing process and attitudes towards utilization of nursing process.

Moreover, Moleechati, T., (1990) conducted a study to compare the use of nursing teams and the utilization of nursing process of professional nurses at Siriraj Hospital who had different levels of knowledge and attitudes. According to the study findings, nurses who had a positive attitude toward utilization of nursing process were better able to utilize the nursing process in their line of practice. However, there was no difference in nurses' utilization of nursing process in their work regardless of their different levels of knowledge.

Hildman, & Ferguson (1992) compared the attitudes to professional nurses towards written nursing plans and nursing process at a hospital in Mississippi, U.S.A. They reported that the nurses' attitude towards nursing process was better than that towards written nursing plans. However, there was no difference in nurses' attitudes even though they had different educational background, but nurses who had been working for less than one year had more positive attitude towards nursing process and written nursing plans than those who had been working for ten years or longer. They explained that the nursing process, especially the nursing plan, had received more emphases in the current nursing curriculum, enabling newly graduated nurses who maintained a positive attitude towards their profession. On the other hand, nurses who had been working for a long period of time viewed written nursing plans as an instructional tool not appropriate for actual practice.

Nunsupawat, W., Nanasil, J., Sangsuwan, J., & Suwannoy, C., (1995) investigated attitude towards nursing process and problems and obstacles in implementing the nursing process among Thai nursing students. She found that nursing students had a positive attitude towards overall nursing process. However, when considering each aspect of the nursing process, it was discovered that these students had a negative attitude toward assessment of the condition of the service receivers, which was perceived as the most difficult step as it required the use of different areas of knowledge and skills. Furthermore, they pointed out that the nursing

diagnosis aspect was the most difficult aspect to understand, while the nursing planning was long and not so concise as it should be.

Whitley, & Gulanick (1996) surveyed nursing diagnosis which was a step of the nursing process at a hospital in Illinois, U.S.A., to determine supporting factors and obstacles in the utilization of nursing diagnosis. The findings revealed that most nurses were unable to implement nursing diagnosis with the nursing standard specified in the quality assurance of the hospital because it was perceived as too complicated to use, especially among older nurses. Also, major obstacles in implementing nursing diagnosis were lack of a continuous study on nursing diagnosis and lack of motivation to learn about nursing diagnosis.

Besides, Chalermwannapong, S., and Singchangchai, P. (1999) studied the factors influencing the utilization of nursing process in clinical practice among professional nurses working at a university hospital. The analysis suggested that the factors which had a statistically significant influence on utilization of nursing process in clinical practice were attitudes towards the utilization of nursing process in clinical practice, problems and obstacles in the utilization of nursing process in clinical practice, experience with training on the nursing process, and work position at the 0.05 level.

Af (2000) carried out a study to explore the utilization of nursing process in clinical practice at Siriraj Hospital. In this study, it was found that the factors influencing the utilization of nursing process in clinical practice were attitudes, organizational support systems, and behaviors of significant persons in the project. On the other hand, the factors which were not associated with the utilization of nursing process in clinical practice were work experience and previous training on nursing process.

Finally, Binh (2001) studied the utilization of nursing process in clinical practice of Vietnamese nursing students. There factors that were investigated in the study were predisposing factors, enabling factors, and reinforcing factors. The findings showed that nursing students utilized the nursing process in their practice at a moderate level. It was also found that the factors that had an influence on the utilization of nursing process in clinical practice were attitudes towards nursing process, reinforcing behaviors of nursing instructors, and systematic and clear-cut organizational structure.

Organizational support systems in nursing process utilization

Organizational support systems refers to management of resources and environments of the organization to facilitate the utilization of nursing process in clinical practice including policy, organizational structure, job description, establishment of committee in charge of the utilization of nursing process in clinical practice, supervision, communication, records and reports, and materials. Tunmookayagkul, A., & Siritarungsri, B. (1995) classified the organizational support systems as follow:

Organizational policy is deemed significant as it determines different patterns of the organization that nurses should follow in their practice. If the utilization of nursing process is appropriate and the policy to implement the nursing process is clearly specified in writing, it can greatly facilitate wider utilization of nursing process in clinical practice.

Organizational structure refers to the specification of different components of the organization related to authority, scope of responsibility, internal communication, etc. Clear and systematic organizational structure enables ease and convenience of service provision, arrangement of different activities to further develop nursing personnel, quality assessment, and utilization of nursing process in clinical practice.

Job description refers to the specification of the tasks of the organization based on the organization's policy. Job description of professional nurses should cover what nurses need to do in each step of the nursing process, as this should help raise their awareness of implementing the nursing process in their actual practice.

Establishment of a community in charge of the utilization of nursing process in clinical practice is also necessary because there needs to be a committee to ensure successful utilization of nursing process through periodical planning and assessment. The committee should also be responsible for setting the goal of the organization, devising the operational plans, specifying tasks, assessing progress, and continuously promoting the utilization of nursing process. It should also be the leader and role

model of the utilization of nursing process in clinical practice and should also be able to give advice regarding the utilization of nursing process.

Supervision refers to monitoring and control of work regarding evaluation and consultation of the subordinates to ensure the accomplishment of the goal of the organization. However, in practice, it has been found that a large number of nurses still lack confidence to implement the nursing process in their work despite the existence of this policy because the organization lacks necessary supervision of nursing practices.

Communication is another significant factor in nursing administration. Effective bottom-up and top-down management enables administrators to foresee problems and obstacles and to take prompt action to solve such problems. In other words, effective communication system in the organization contributes to the successful utilization of nursing process.

Records and reports are another system which results in effective utilization of nursing process. There needs to be a tool which can be used to record nursing reports such as the Cardex form which is used to keep information regarding nursing plans, patients' symptoms, and patients' health status on file. It is noteworthy that such tool needs to be suitable for the working condition of the organization and facilitate the utilization of nursing process. The tool needs to be uniformed; that is, the whole organization uses only one tool.

Materials and equipment necessary for successful utilization of the nursing process in nursing practice were texts, documents, manuals on the nursing process and nursing practice, and venues for meetings and consultation.

A review of research literature has shown that a large number of studies have been conducted to investigate organizational support systems on utilization of nursing process in clinical practice. Examples are as follows:

First, Oeasomboon, K., (1994) investigated the supporting factors of the utilization of nursing process in clinical practice of nurses working at hospitals under the Bangkok Metropolitan Administration. The finding revealed that nurses had overall knowledge and knowledge in each aspect of the nursing process at a moderate level. As regards supervision, they perceived that the supervision they received supported overall and each aspect of the utilization of nursing process in clinical

practice at a moderate level. Moreover, when considering the supervision to support the utilization of nursing process in clinical practice as perceived by these nurses, it was found that those who received the supervision had mean scores of overall and each aspect of the utilization of nursing process than those who did not receive supervision with statistical significance at the .05 level. It was explained that supervision and training may have had an impact on development of positive attitudes and decision making of individuals. Thus, nurses who had undergone training were better able to understand and utilize the advice of the supervisor, hence a higher level of perception of the effectiveness of the supervision.

Watanasen, D., (1998) conducted a study to examine the factors which supported and hindered the utilization of nursing process in clinical practice. The study sample consisted of six administrative nurses, seven professional nurses, and five technical nurses who were working in Male Surgical Ward 2 Lampang Regional Hospital. Data were collected by means of semi-structured interviews among administrative nurses, while group discussion and unstructured observation were used with professional and technical nurses. According to the findings, nurses did not implement all steps of nursing process. Administrative nurses reported that they supported the utilization of nursing process through specification of philosophy, policy, objectives, development of knowledge and skills, regular supervision, and arrangement of facilities to maximize the utilization. However, practical nurses felt that those supporting factors were insufficient and lacked clarity. Also, they viewed their workload as a main obstacle in fully implementing the nursing process.

Furthermore, O'Connell (1998) studied the utilization of nursing process with chronically ill patients. The subjects were professional nurses working at a public hospital in Western Australia. The findings showed that the situation which prevented nurses from practicing different steps of the nursing process was the assessment of newly admitted patients. This was because nurses tended to copy the information from the physician's records due to lack of time, making nursing information inconclusive and insufficient. This, in turn, affected nursing diagnosis as most of the information belonged to the physician that tended to involve physical conditions of the patients, so nurses were unable to use such information to give appropriate care to the patients. In addition to time constraint, nurses also lacked confidence to continuously

record nursing diagnosis, making colleagues and other personnel unable to understand them or foresee the problems that are about to take place. Also, most of the records were done at the end of the shift since nurses had limited time and needed to fully complete their caring responsibilities, and recording became a routine practice to comply with the hospital's policy.

Waters & Easton (1999) conducted a qualitative study to investigate the implementation of a treatment plan for specific patients. Data were collected by means of observation, interview, and tape recording. The study sample included three patients and 12 nurses. The findings showed that nurses used practical nursing care and nursing team to offer care to the patients. It was also noticed that patients received routine nursing care daily and it was difficult to ask for assistance from nurses as they emphasized that the patients should make the most use of their own potential as the first priority in the nursing plan. Moreover, most nurses did not understand the needs or the problems of the patients, so they were unable to devise appropriate nursing plans for them. If the patient required a nursing plan, nurses would report that to the doctor and wait for the doctor's order. For this reason, there was little nursing planning during nurses' actual practice. However, as there were always unforeseen situations arising in the ward, the prepared nursing plans made nurses feel uneasy and they used them less than they should. Some nurses used the previously prepared nursing plan only at the end of the shift to examine the nursing activities offered to the patients.

In addition, Panasantipap, B., Buspawattana, P., & Tritan, J., (2000) conducted a study to explore the implementation of the nursing plan in clinical practice of professional nurses at Chaoprayayomraj Hospital, Suphanburi Province. The factors investigated in this study included work experience, knowledge about the nursing process, attitudes towards utilization of nursing process, organizational support, and organizational atmosphere. It was found that the utilization of nursing process in actual practice of professional nurses was at a moderate level. Also, the factors which were statistically significantly associated with the implementation of nursing process of professional nurses were attitudes towards implementation, organizational support, and organizational atmosphere ($p < 0.05$). In contrast, the factors which were not

related to the utilization of nursing process in actual practice of professional nurses were work experience and knowledge of the nursing process.

Finally, Chainoy, D., (2001) studied the utilization of nursing process in clinical practice, as well as problems and obstacles, and compared the actual utilization of nursing process in clinical practice of professional psychiatric nurses with different work experiences and training. The findings showed that professional nurses at these ten psychiatric hospitals implemented nursing process at a high level. In addition, the most important problems and obstacles in the utilization of nursing process in clinical practice were lack of knowledge, lack of skills, and dislike of nursing process. As regards obstacles in administration and management, it was found that the most important obstacle perceived by these nurses was lack of systematic supervision, while the most important obstacle in terms of materials and equipment was lack of systematic nursing records. It was also discovered that professional nurses with different work experiences did not implement the nursing process differently. However, professional nurses with different training implemented the nursing process differently with statistical significance at the 0.05 level.

Based on the review of literature, it could be concluded that in general nursing process are implemented as a routine practice and that they are not implemented in the clinical practice as much as they should, despite the fact that they are specified in the nursing quality development plan which emphasized the necessity to implement the nursing process to improve nursing quality. Besides, the review also revealed that there are different factors which influence the utilization of nursing process in clinical practice including organizational support systems and attitudes of the nurses themselves. Therefore, the researcher aimed at investigating whether or not these two factors had an influence on the utilization of nursing process in nursing practice of professional nurses working at Queen Sirikit National Institute of Child Health.

CHAPTER III

METHODOLOGY

This descriptive study was used to determine the nursing process utilization in clinical practice at Queen Sirikit National Institute of Child Health and the factors predicting: organizational support systems and attitude towards the nursing process utilization in clinical practice.

Population and Sampling

Population: The target population in this study was 255 professional nurses in in-patient wards and observation room at Queen Sirikit National Institute of Child Health. The samples were selected by purposive sampling with the following inclusion criteria:

1. These professional nurses must directly provide nursing care for pediatric patients and families.
2. These professional nurses have nursing licenses by Thailand Nursing Council.

Setting

Queen Sirikit National Institute of Child Health is an institute under the department of medical services, Ministry of Public Health which have responsibilities in taking care pediatric patients and young children ranging from newborn to 18-year-old patients. In this institute, there are 348 professional nurses, 255 working in the in-patient wards and observation room as follows:

1. Medical wards which give treatment for the infected and non-infected patients, consisting of 6 medical wards: specific medical ward, intestinal and nutritional medical ward, haemorrhagic fever ward, medical pediatric wards. There were 78 professional nurses working in these wards.
2. Surgical wards mean the ward where the surgical patients stay there pre-operation and post-operation, consisting of 4 wards: newborn surgical ward, pediatric

surgical ward, orthopedic surgical ward. There were 52 professional nurses working in these wards.

3. Intensive Care Unit (ICU) means the ward giving treatment for patients who are in critical medical and surgical condition consisting of 3 wards: surgical ICU, newborn ICU and pediatric ICU. There were 40 professional nurses working in these wards.

4. Newborn ward is the ward for taking care of newborn which consisted of 2 wards: preterm-newborn ward and term-newborn ward. There were 36 professional nurses working in these wards.

5. ENT ward is the ward that deals with the patients who have abnormalities or diseases on eye, ear, nose and throat. There was only one ward with 9 professional nurses.

6. Private ward is the ward for pediatric patients who have medical and surgical diseases, consisting of three wards with 31 professional nurses.

7. Observation room is a place that supervising or observing each patient before the doctors making a decision what treatment they should give continuously. This ward consisted of 9 professional nurses.

Instrumentation

The research instruments used in this study are four questionnaires as described in the following (Appendix A):

Part 1: Demographic data questionnaire

The demographic data questionnaire was developed by the researcher to elicit the information about age, educational background, duration of work, and received inservice education on nursing process.

Part 2: The nursing process utilization in clinical practice questionnaire

In this study, the researcher created the questionnaire from the literature review in order to fit the objectives of the study. The characteristics of the questionnaire were 37 rating scale items. The questions in this part focused on the nursing activities and how to utilize the nursing process of each process which includes:

- The nursing assessment (item 1 – 11)

- The nursing diagnosis (item 12 – 18)
- The nursing care plan (item 19 – 23)
- The nursing implementation (item 24 – 29)
- The nursing evaluation (item 30 – 33)
- The nursing documentation (item 34 – 37)

These questions were followed the six steps of nursing process and level of nursing practice.

Level of Nursing practice	Score
High	3
Moderate	2
Low	1
Never	0

In order to analyze the results of this study, the total score of nursing process utilization in clinical practice ranged from 0 - 111. High scores indicated the utilization of nursing process in clinical practice is high, whereas low scores reveal that the utilization of nursing process is low.

Part 3: Organizational support systems questionnaire

This questionnaire, adapted from Rattanatanya,D. (1990), mainly focused on the support systems in the hospital organization in order to encourage the nursing process utilization in clinical practice. This questionnaire contained 20 items with 5 rating scale (the reliability of the original questionnaires was .957). The questions were then related to policy, public relation, organizational structure, inservice education, communication, recording system, the supervising, as well as the management of each human resources. The answers were rated as following.

Level of Supporting	Score
Highest	5
High	4
Moderate	3
Low	2
Lowest	1

The datas were analyzed by checking the total scores on the support systems in the nursing process utilization in clinical practice from 20 – 100. High scores show that

the support systems in the nursing process utilization in clinical practice is high, whereas the low scores show that the support systems in the nursing process utilization in clinical practice is low.

Part 4: Attitude towards the nursing process utilization in clinical practice questionnaire: this questionnaire focused on the attitude which influence on the utilization of nursing process in clinical practice. The questionnaire, adapted from Rattanatanya, D. (1990), was employed in this study with five levels Likert scale. In addition, there were 11 positive questions and 9 negative questions in this questionnaire. The criteria of this questionnaire can be divided into 5 levels:

Absolutely agree	meant	the subjects totally agree with this question.
Agree	meant	the subjects agree with this question.
Not sure	meant	the subjects feel unsure with this question.
Disagree	meant	the subjects disagree with this question.
Absolutely disagree	meant	the subjects totally disagree with this question.

Scoring for this questionnaire :

Positive question	Negative question	Score
Absolutely agree	Absolutely disagree	5
Agree	Disagree	4
Not sure	Not sure	3
Disagree	Agree	2
Absolutely disagree	Absolutely agree	1

For the data analysis, the total scores on this questionnaire range from 20 – 100, the high scores show that the nurse's attitude towards utilization of nursing process in clinical practice is positive, whereas the low scores mean the nurse's attitudes towards utilization of nursing process in clinical practice is negative.

Validity and Reliability of the Instruments

Content Validity

After receiving the approval from researcher's advisers, these four questionnaires were validated by three experts: one pediatric nursing instructor, one

nursing instructor who experts in nursing process and one pediatric nurse experienced in clinical practice (Appendix B). Then, questionnaires were revised according to the experts' comments and suggestions.

Reliability

The reliability of the revised questionnaires was tested by using Cronbrach's Alpha Coefficient. A pilot study was conducted among 35 professional nurses at Queen Sirikit National Institute of Child Health. The Cronbrach's Alpha Coefficient of the nursing process utilization in clinical practice, organizational support systems in the nursing process utilization and attitude towards the nursing process utilization were 0.93, 0.92 and 0.91 respectively.

Data Collection

The data collection processes were described in the following.

1. Upon receiving an approval for conducting the study from researcher's advisers, the researcher submitted the proposal of this study to The Research Ethic Review Committee of Queen Sirikit National Institute of Child Health (Children' Hospital)
2. After the approval of The Research Ethic Review Committee and the director of Queen Sirikit National Institute of Child Health (Children' Hospital) gave permission for the collection of data (see Appendix C), the researcher introduced herself to the head nurses of in-patient wards and observation room, inform them about the study objectives and data collecting procedure, and asked for participation in data collection.
3. The samples were approached by researcher. They were informed about the study objectives, their rights to participate or refuse or withdraw from the study, the confidentiality of data and risks, as well as benefits from their participation in the study.
4. After the samples had signed the consent form (see Appendix C), they were given the questionnaires. If the samples had any questions about the questionnaires, the researcher would be willing to clarify them.

5. The samples were asked to return these questionnaires to the researcher within five days. The follow-up returning questionnaires were done by the researcher.

6. The researcher examined whether the samples completely answered all questions in the questionnaires. If one of the answers in the questionnaire was missing, this data were not be used in this study.

7. The data were analyzed by using SPSS program.

Protection of Human Subjects

In this research, the researcher protected the samples' rights by giving detailed information about the study and the rights in accepting or refusing to participate in the study. The samples were informed that their refusal or withdrawal from the study wouldn't have any consequences that might affect themselves. The samples could withdraw or cancel their participation at any time despite having signed the consent paper. The obtained data would be kept confidential and no identification of each individual samples would be presented. The sample and the obtained data would be shown as an overall picture only. When the samples expressed willingness to participate in the study, they are asked to sign the consent form.

Data Analysis

The data were analyzed by using SPSS version 13.0 to examine the results of the study and how the factors predicting, organizational support systems and attitude towards the nursing process utilization in clinical practice at Queen Sirikit National Institute of Child Health.

1. Range and frequency were used to analyze the demographic data.

2. Means and Standard deviation were used to analyze the data of the factors predicting, organizational support systems and attitude towards the nursing process utilization on nursing process utilization in clinical practice.

3. Pearson's product moment correlation coefficient was performed to determine the correlation between the variables; organizational support systems, attitude towards the nursing process utilization, and nursing process utilization in clinical practice.

4. Multiple Regression Analysis, Enter and Stepwise Technique were used to examine the predictability of nursing process utilization in clinical practice by selected factors including organizational support systems and attitude towards the nursing process utilization.



CHAPTER IV

RESULTS

A descriptive research study was done to determine the factors influencing nursing process utilization in clinical practice of professional nurses at Queen Sirikit National Institute of Child Health. The sample consisted of 255 professional nurses who worked at different wards in the hospital. Data collection took place in December 2006 during which questionnaires were distributed among the study sample. Of the total of 255, 239 returned questionnaires were completed, accounting for 93.72%. The results of the data analysis were shown in four parts as follows:

Part I: Demographic characteristics of the study sample were presented in Table 1.

Part II: Factors related to the nursing process utilization in clinical practice in the following aspects:

(1) Organizational support systems in the nursing processes utilization in clinical practice were presented in Table 2.

(2) Attitude towards the nursing process utilization in clinical practice were presented in Table 3.

Part III: The nursing process utilization in clinical practice were presented in Table 4-5.

Part IV: The predictability of organizational support systems and attitudes towards the nursing process utilization on the nursing process utilization in clinical practice were presented in Table 6-8.

Part I: Demographic characteristics of the study sample

In this study, the demographic characteristics of the study sample consisted of age, educational background, duration of work, and received inservice education on nursing process. The results showed that the subjects ranged in age from 22 to 57 years, with the mean age of 36.4 years. Thirty-eight point one percents were between 40-49 years old. The majority of the samples, 87% held a bachelor's degree. As

regards duration of work, 46% had been working for 1-10 years. The longest duration of work was 33 years. Finally, 69.4% of the samples had a course on the nursing process integrated with other nursing subjects, the details as illustrated in Table 1 below.

Table 1: Demographic Characteristics of the Subjects (n = 239)

Demographic characteristics	Number	Percentage
Age (years)		
20 - 29	53	22.2
30 - 39	82	34.3
40 - 49	91	38.1
≥ 50	13	5.4
X = 36.4 years; S.D. = 7.79; Range = 22 – 57		
Educational background		
Bachelor's degree	208	87
Master's degree	31	13
Duration of work (years)		
1-10	110	46.0
11-20	70	29.3
21-30	51	21.4
> 30	8	3.3
X = 14.03 years; S.D. = 8.19; Range = 1 – 33		
Received inservice education on nursing process		
No	20	8.4
Yes (specific on nursing process)	53	22.2
Yes (integrated with other nursing subjects)	166	69.4

Part II: Factors related to the nursing process utilization in clinical practice

1. Organizational support systems in the nursing processes utilization in clinical practice

The mean scores of overall organizational support systems in the nursing process utilization in clinical practice was at high level ($X = 3.85$, $S.D. = 0.61$). When considering each aspect of the organizational support systems in the nursing process utilization in clinical practice, it was found that the top three aspects in which nursing processes were most utilized were “specifying the scope of duties and responsibilities of nursing personnel clearly and in writing” ($X = 4.15$, $S.D. = 0.79$), “Announcing the policy regarding the nursing process utilization in clinical practice clearly and in writing” ($X=4.12$, $S.D. = 0.82$), and “Using implementation of nursing process as part of performance evaluation” ($X = 4.10$, $S.D. = 0.68$). On the contrary, the three aspects in which nursing processes were least utilized were “Head nurse/supervisor being able to give advice on nursing process utilization in clinical practice” ($X = 3.36$, $S.D. = 0.91$), “Supervisor giving praises and compliments when the nurse utilizing nursing processes in clinical practices” ($X = 3.46$; $S.D. = 0.94$), and “Facilitating documents, texts about nursing process” ($X = 3.56$; $S.D. = 0.86$), as depicted in Table 2.

Table 2: Possible range, actual range, means, and standard deviations of the organizational support systems in the nursing process utilization in clinical practice by overall, classified by each item. (n = 239)

Organizational support systems	Possible range	Actual range	X	S.D.
Overall organizational support systems	1-5	1.85-5	3.85	0.61
1. Specifying the scope of duties and responsibilities of nursing personnel clearly and in writing	1-5	1-5	4.15	0.79
2. Announcing the policy regarding the nursing process utilization in clinical practice clearly and in writing	1-5	1-5	4.12	0.82
3. Using implementation of nursing process as part of performance evaluation	1-5	2-5	4.10	0.68
4. Having nursing documental forms which contain necessary information about nursing process	1-5	1-5	4.04	0.78
5. Using documents including nursing care plans as important information for evaluation of nursing process	1-5	1-5	4.03	0.77
6. Orientating work based on nursing process concept	1-5	1-5	4.00	0.88

Table 2: Possible range, actual range, means, and standard deviations of the organizational support systems in the nursing process utilization in clinical practice by overall, classified by each item. (n = 239) (cont.)

Organizational support systems	Possible range	Actual range	X	S.D.
7. Having a good communication systems between superiors and subordinates to ensure clear understanding of assigned tasks and problem solving	1-5	1-5	3.95	0.89
8. Having clear and flexible work structure, to ensure ease of coordination, operation, and evaluation of clinical practice and supervision	1-5	1-5	3.92	0.85
9. Head nurse being the leader of the nursing process utilization in clinical practice	1-5	1-5	3.92	0.92
10. Head nurse being able to provide assistance and advice on the nursing process utilization in clinical practice	1-5	1-5	3.90	0.89
11. Colleagues being able to provide assistance and advice on the nursing process utilization in clinical practice	1-5	1-5	3.89	0.82
12. Having a venue convenient for meetings and consultations	1-5	1-5	3.86	0.84

Table 2: Possible range, actual range, means, and standard deviations of the organizational support systems in the nursing process utilization in clinical practice by overall, classified by each item. (n = 239) (cont.)

Organizational support systems	Possible range	Actual range	X	S.D.
13. Having patient health assessment form which is clear, easy to understand, and comprehensive	1-5	2-5	3.81	0.75
14. Having documents and texts on nursing process and clinical practices for further studies	1-5	1-5	3.81	1.02
15. Organizing education for nurses to increase knowledge and experience with nursing process utilization in clinical practice	1-5	1-5	3.76	0.86
16. Having consultants or committee to provide assistance and advice on nursing process utilization in clinical practice	1-5	1-5	3.73	0.93
17. Cardex form being able to completely convey nursing plans to ensure continuous practice	1-5	1-5	3.64	0.96
18. Facilitating documents, texts about nursing process	1-5	1-5	3.56	0.86

Table 2: Possible range, actual range, means, and standard deviations of the organizational support systems in the nursing process utilization in clinical practice by overall, classified by each item. (n = 239) (cont.)

Organizational support systems	Possible range	Actual range	X	S.D.
19. Supervisor giving praises and compliments when the nurse utilizing nursing process in clinical practice	1-5	1-5	3.46	0.94
20. Head nurse/supervisor being able to give advice on nursing process utilization in clinical practice	1-5	1-5	3.36	0.91

2. Attitude towards the nursing process utilization in clinical practice

The mean scores of overall attitude towards the nursing process utilization in clinical practice was at a good level ($X = 3.77$, $S.D. = 0.53$). When considering each aspect, it was found that the three aspects which received the highest positive attitudes were “Nursing process utilization helps nurses develop to quality of nursing care” ($X = 4.39$, $S.D. = 0.56$), “Nursing process make nurses become creative in solving patients’ problems” ($X = 4.27$, $S.D. = 0.57$), and “Nursing process utilization enables nurses to correctly apply knowledge in clinical practice suitable for each patient” ($X = 4.27$, $S.D. = 0.58$). On the other hand, the three aspects which received the lowest level of positive attitudes were “Each step of nursing processes is time consuming” ($X = 2.87$, $S.D. = 0.99$), “Nursing process utilization makes nurses spend more time in writing reports and unable to provide close care to patients.” ($X = 2.99$, $S.D. = 1.63$), and “Nursing process utilization means more work to do” ($X = 3.21$, $S.D. = 1.09$), as shown in Table 3.

Table 3: Possible range, actual range, mean, and standard deviation of attitude towards the nursing process utilization in clinical practice (n = 239)

Attitudes towards nursing process utilization	Possible range	Actual range	X	S.D.
Overall attitudes toward the nursing process utilization	1-5	1.95-5	3.77	0.53
1. The nursing process utilization helps nurses to develop quality of nursing care.	1-5	3-5	4.39	0.56
2. Nursing process make nurses become creative in solving patients' problems.	1-5	2-5	4.27	0.57
3. The nursing process utilization enables nurses to correctly apply knowledge in clinical practice suitable for each patient	1-5	2-5	4.27	0.58
4. The nursing process utilization leads to systematic nursing care.	1-5	1-5	4.26	0.67
5. The nursing process utilization makes nurses become more confident in providing care	1-5	2-5	4.24	0.60
6. The nursing process utilization makes nurses understand what to do in solving the patients' problems more clearly	1-5	2-5	4.23	0.54

Table 3: Possible range, actual range, mean, and standard deviation of attitude towards the nursing process utilization in clinical practice (n = 239) (cont.)

Attitudes towards nursing process utilization	Possible range	Actual range	X	S.D.
7. The nursing process utilization makes nurses become proud of their profession	1-5	1-5	4.20	0.68
8. The nursing process utilization makes nurses listen to each other's opinions.	1-5	1-5	4.06	0.68
9. The nursing process utilization makes nurses more enthusiastic with their work.	1-5	2-5	3.99	0.76
10. The nursing process utilization makes patients and family members satisfied.	1-5	2-5	3.94	0.71
11. The nursing process utilization makes nurses happy and satisfied with work.	1-5	1-5	3.88	0.68
12. Nursing process was only a theory which is suitable for teaching but not for actual practice.	1-5	1-5	3.62	1.02
13. The nursing process utilization was boring.	1-5	1-5	3.55	1.02
14. The nursing process utilization causes nurses to lose freedom in their work.	1-5	1-5	3.48	1.04

Table 3: Possible range, actual range, mean, and standard deviation of attitude towards the nursing process utilization in clinical practice (n = 239) (cont.)

Attitudes towards nursing process utilization	Possible range	Actual range	X	S.D.
15. Steps in nursing process causes difficulty in utilization in clinical practice.	1-5	1-5	3.35	1.08
16. The nursing process utilization is applicable in some clinical area.	1-5	1-5	3.35	1.09
17. The nursing process utilization causes stress and anxiety to nurses.	1-5	1-5	3.25	1.02
18. The nursing process utilization means more work to do	1-5	1-5	3.21	1.09
19. Nursing process utilization makes nurses spend more time in writing reports and unable to provide close care to patients.	1-5	1-5	2.99	1.63
20. Each step of nursing processes is time consuming	1-5	1-5	2.87	0.99

Part III: The nursing process utilization in clinical practice

The mean scores of the overall nursing process utilization in clinical practice was 2.59 (S.D. = 0.34), in the steps on nursing assessment, nursing diagnosis, nursing care plan, nursing implementation, nursing evaluation and nursing documentation, it was found that the subjects perform nursing documentation more than the others ($X = 2.73$, S.D. = 0.38) and performed nursing care plan less than the others ($X = 2.41$, S.D. = 0.51). Details as illustrated in Table 4.

Table 4: Possible range, actual range, mean, and standard deviation of nursing process utilization in clinical practice (n = 239)

Nursing process utilization	Possible range	Actual range	X	S.D.
Overall nursing process utilization	0 - 3	1.3 - 3	2.59	0.34
Nursing assessment	0-3	0.82-3	2.62	0.39
Nursing diagnosis	0-3	1 - 3	2.52	0.43
Nursing care plan	0-3	0.4 - 3	2.41	0.51
Nursing implementation	0-3	1.17-3	2.66	0.39
Nursing evaluation	0-3	1-3	2.58	0.47
Nursing documentation	0-3	1.25-3	2.73	0.38

When considering each step of the nursing process utilization in clinical practice, it was found that the subjects used nursing assessment by asking the patients about chief complaint more than the others ($X = 2.91$, S.D. = 0.34), and they performed physical examination less than the others ($X = 2.24$, S.D. = 0.71). As regards nursing diagnosis, they used information about laboratory findings in nursing diagnosis writing most

($X = 2.72$, $S.D. = 0.51$) and they used socioeconomic data in nursing diagnosis writing least ($X = 2.27$, $S.D. = 0.68$). In addition, for nursing care plan, the findings indicated that nurses specified nursing intervention suitable for nursing diagnosis most ($X = 2.69$, $S.D. = 0.51$), while they wrote the nursing care plan to specify expected outcome and timeframe least ($X = 2.13$, $S.D. = 0.75$). In terms of nursing implementation, nurses encouraged family members to participate in caring for the patients during hospitalization more than the others ($X = 2.76$, $S.D. = 0.47$) and they reviewed nursing care plans before starting nursing care least ($X = 2.49$, $S.D. = 0.60$). Furthermore, for nursing evaluation, nurses evaluated the patients' problems at the end of shift most ($X = 2.68$, $S.D. = 0.53$) and they used the evaluation criteria as the criterion least ($X = 2.48$, $S.D. = 0.63$). Finally, when it came to nursing documentation, what nurses did most often was documenting the nurses' notes when the patients' symptoms changed ($X = 2.85$; $S.D. = 0.39$). On the other hand, what they did least often was recording patients' history and physical examination after performing the patients' health assessment ($X = 2.67$; $S.D. = 0.54$) The results are shown in Table 5.

Table 5: Possible range, actual range, mean, and standard deviation of nursing process utilization in clinical practice divided by each step of nursing process (n = 239)

Nursing process utilization	Possible range	Actual range	X	S.D.
Nursing Assessment	0-3	0.82-3	2.62	0.39
- asking for patients' chief complaint	0-3	1-3	2.91	0.34
- asking for patients' present illness	0-3	1-3	2.89	0.36
- asking for patients' demographic data	0-3	0-3	2.78	0.51
- asking for patients' past history	0-3	0-3	2.72	0.59
- use medical records as sources of data	0-3	0-3	2.71	0.50
-utilizing the laboratory findings	0-3	1-3	2.69	0.51

Table 5: Possible range, actual range, mean, and standard deviation of nursing process utilization in clinical practice divided by each step of nursing process (n = 239) (cont.)

Nursing process utilization	Possible range	Actual range	X	S.D.
- development assessment	0-3	0-3	2.54	0.65
- asking for nutritional history	0-3	0-3	2.44	0.74
- psychosocial assessment	0-3	0-3	2.44	0.66
- family history taking	0-3	0-3	2.43	0.72
- performing physical examination	0-3	0-3	2.24	0.71
Nursing Diagnosis	0-3	1-3	2.52	0.43
- using laboratory findings in nursing diagnosis writing	0-3	1-3	2.72	0.51
- writing nursing diagnosis in statement which can be solve by nursing intervention	0-3	1-3	2.69	0.49
- writing nursing diagnosis with supporting data	0-3	1-3	2.66	0.52
- using physical and development data in nursing diagnosis writing	0-3	1-3	2.62	0.54
-using psychological data in nursing diagnosis writing	0-3	0-3	2.36	0.66
-using family data in nursing diagnosis writing	0-3	0-3	2.32	0.65
-using socioeconomic data in nursing diagnosis writing	0-3	0-3	2.27	0.68

Table 5: Possible range, actual range, mean, and standard deviation of nursing process utilization in clinical practice divided by each step of nursing process (n = 239) (cont.)

Nursing process utilization	Possible range	Actual range	X	S.D.
Nursing care plan	0-3	0.4-3	2.4	0.51
- nursing intervention suitable for nursing diagnosis	0-3	1-3	2.69	0.50
-giving an opportunity for patients and family to participate in planning of care	0-3	0-3	2.43	0.74
-writing nursing care plan which include nursing diagnosis, goal, criteria and nursing intervention	0-3	0-3	2.42	0.63
-establish nursing care plan during hospitalization and for home care	0-3	0-3	2.41	0.66
- specified expected outcome and timeframe	0-3	0-3	2.13	0.75
Nursing implementation	0-3	1.17-3	2.66	0.39
-encouraged family members to participate in caring for the patients during hospitalization	0-3	1-3	2.76	0.47
-giving care on holistic nursing concept	0-3	1-3	2.70	0.49
-answering questions for patients and families relevant to nursing interventions	0-3	1-3	2.70	0.49
-giving nursing care by following the nursing care plans	0-3	1-3	2.69	0.49
-prepare patients and their families for home care	0-3	0-3	2.64	0.57
- reviewed care plans before starting nursing care	0-3	1-3	2.49	0.60

Table 5: Possible range, actual range, mean, and standard deviation of nursing process utilization in clinical practice divided by each step of nursing process (n = 239) (cont.)

Nursing process utilization	Possible range	Actual range	X	S.D.
Nursing evaluation	0-3	1-3	2.58	0.47
- evaluated the patients' problems at the end of shift	0-3	1-3	2.68	0.53
-evaluated nursing intervention outcomes	0-3	1-3	2.61	0.54
-using analyzed outcomes for care plan improvement	0-3	1-3	2.56	0.60
-using evaluation criteria as the criterion	0-3	0-3	2.48	0.63
Nursing documentation	0-3	1.25-3	2.73	0.38
-documented the nurses' note when the patients' symptoms changed	0-3	1-3	2.85	0.39
-documenting all nursing interventions in nurses' note	0-3	1-3	2.72	0.48
- documenting the outcomes of nursing interventions	0-3	1-3	2.70	0.49
- record of history taking and physical examination after performing health assessment	0-3	1-3	2.67	0.54

Part IV: Predictive factors of organizational support systems and attitude towards the nursing process utilization in clinical practice

4.1 Pearson's Product Moment Correlation Coefficient was performed to determine the correlation between independent variables—organizational support systems and attitude towards the nursing process utilization—on the dependent variable which was the nursing process utilization in clinical practice. The findings revealed that organizational support systems were moderately positively related to nursing process utilization in clinical practice with statistical significance ($r = 0.586$, $p < .01$) and attitude towards nursing process utilization in clinical practice was also positively related to nursing process utilization in clinical practice with statistical significance ($r = 0.356$, $p < .01$). Besides, when considering the correlation between the two independent variables, it was found that values of the correlation coefficient of organizational support systems and attitude towards nursing process utilization were lower than 0.90 ($r = 0.506$, $p < .01$), thus, this set of data had no multicollinearity (Tabachnick & Fidell, 1996) (Table 6).

Table 6: Minimum, maximum, mean, standard deviation, and matrix of correlation coefficients among nursing process utilization, organizational support systems and attitude towards nursing process utilization in clinical practice (n = 239)

Variables	Organizational support systems	Attitudes	Nursing process utilization
Organizational support system	1		
Attitudes	.506**	1	
Nursing process utilization	.586**	.356**	1
X	3.85	3.77	2.59
S.D	0.61	0.53	0.34
Minimum	1.85	1.95	1.3
Maximum	5.00	5.00	3.0

** $p < 0.01$

4.2 Predictive power of organizational support systems and attitude towards nursing process utilization in clinical practice

Standard Multiple Regression was used to analyze the predictive power of organizational support systems and attitude towards the nursing process utilization on nursing process utilization in clinical practice. Using enter technique, both the independent variables were entered at the same time. The finding showed that the correlation coefficient was positive and moderate level ($R = 0.590$). Organizational support systems and attitude towards nursing process utilization could explain the variance of the nursing process utilization in clinical practice by 34.8% with statistical significance ($R^2 = 0.348, p < .001$). As presented in Table 7.

When determining the predictive variables by considering with beta weight of both variables, it was found that organizational support systems had the better value (Beta = 0.546). Thus, organizational support systems had more influence on nursing process utilization in clinical practice than the other. The independent variables in the model that can predict nursing process utilization in clinical practice was organizational support systems ($p < .001$). It can be consumed that organizational support systems was the only predictive variable that was statistically significance in the regression.

Table 7: Standardized multiple regression analysis with enter technique to determine the predictive power of organizational support systems and attitude towards nursing processes utilization in clinical practice (n = 239)

Independent variables	b	SEB	Beta	t	Sig.
Organizational support systems	0.567	0.063	0.546	8.962	0.000***
Attitude towards nursing process utilization	9.627E-02	0.074	0.079	1.305	0.193

Constant = 44.853, S.E. = 5.259, $R = .590, R^2 = .348, R^2 \text{ adj.} = .343, F_{\text{change}} = 63.068, ***p < 0.001$

In addition, Stepwise Multiple Regression Analysis was employed. Organizational support system was the first selected variable into the first regression equation. The regression coefficient of organizational support systems was .608, showing that it had positive correlation with the nursing process utilization in clinical practice, and could predict nursing process utilization in clinical practice at .001 statistical significance ($p < .001$), with the constant of 48.894, standardized regression coefficient of .586. That is, organizational support systems could explain the nursing process utilization in clinical practice by 34.4% with statistical significance ($R^2 = 0.344$, $p < .001$). (Table 8)

Table 8: Stepwise multiple regression analysis to determine the predictive power of organizational support systems and attitude toward nursing processes utilization in clinical practice (n = 239)

Step	Independent variable	R	R ²	F	b	Beta	t
1	Constant				48.894		11.484***
	Organizational support system	.586	.344	124.065	.608	.586	1.138***

*** $p < 0.001$

Then the second variable, attitude towards nursing process utilization was entered into the model. When they were tested with the significance level set at 0.193 ($p > .05$), the second variable was excluded from the analysis (Beta = 0.079, $t = 1.305$). The details are presented as follow.

Excluded Variables

		Beta	t	Sig.	Partial Correlation
Model					
1	Attitude	.079	1.305	.193	.085

a Predictors in the Model: (Constant), Organizational support systems

b Dependent Variable: Nursing process utilization

When the value of organizational support systems in the nursing process utilization was known (O), it would then be possible to predict the nursing process utilization in clinical practice (P) from the regression equation as follows:

The unstandardized regression predictive equation for calculation was:

$$Y (P) = b \text{ constant} + b (O) \text{ in the predictive equation}$$

Nursing process utilization in clinical practice = 48.894 + .608 (O)

According to the predictive equation, when organizational support systems in the nursing process utilization in clinical practice were increased by 1 unit, the nursing process utilization in clinical practice would be raised by .608 unit.

The standardized regression predictive equation for calculation was:

$$(ZP) = (ZO) \text{ in the predictive equation}$$

Z Nursing process utilization in clinical practice (P) = .586Z (O)

CHAPTER V

DISCUSSION

The aim of the study was to investigate factors influencing nursing process utilization in clinical practice of professional nurses working at Queen Sirikit National Institute of Child Health, Department of Medicine, Ministry of Public Health, and to determine the predictive power of organizational support systems and attitude towards nursing process utilization to predict nursing process utilization in clinical practice. In this chapter, the study findings were discussed according to the research objectives.

Objective 1: To determine nursing process utilization in clinical practice of professional nurses at Queen Sirikit National Institute of Child Health.

The results of this study showed that the level of overall nursing process utilization in clinical practice of professional nurses at Queen Sirikit National Institute of Child Health was at a high level ($X = 2.59$, $S.D. = 0.34$, Possible range = 0-3).

The aforementioned research findings reveal that the sample group utilized nursing process in clinical process at a high level because it comprised the policy and objectives of the nursing staff of the Queen Sirikit National Institute of Child Health which designate the duties and responsibilities of professional nurses in providing comprehensive nursing care to patients by utilizing the principles of nursing process (Nursing Division, Office of the Deputy Minister of Public Health, 1996). And from the curriculum for the preparatory training on nursing process for new nurses and from the periodic refresher courses on nursing process for professional nurses, the research findings showed that most of the samples (69.4%) had been trained about nursing process integrated with other nursing subjects while others (22.2%) had received specific training on the subject of nursing process (Table 1). Furthermore, hospital administrators had appointed department heads and heads of various patient wards to oversee this matter, monitoring utilization of nursing process in clinical practice of the nurses in their departments and following up by evaluating nursing quality, which is a periodic indicator of nursing practice motivating nurses to regularly utilize nursing

process with successful outcomes (Khampalikit, S., 1989; Suthasanajinda, S., 1992). This finding was concurrent with the study of Moleechati, T. (1990) who conducted a comparative study of team nursing and nursing process application in Siriraj Hospital units among nurses with different knowledge and attitude. In addition, Tungtrongjitt, T., Pimpong, S., Moleechati, T. & Kampolched, J. (1993) studied the relationship between the knowledge and attitude on the nursing practice as well as the utilization of nursing process by the nursing team at Siriraj Hospital, finding that the scores for utilization of the nursing process were at a rather good level. Af (2000) also found that professional nurses at Siriraj Hospital utilized the various steps of nursing process as guidelines for nursing practice at a good level. Furthermore, the study of Chainoy, D. (2001) yielded similar findings in her study of the utilization of nursing process in clinical practice by professional nurses at psychiatric hospitals.

When considering each step of nursing process utilization in clinical practice, it was found that the sample group utilized nursing assessment, nursing diagnosis, nursing care plan, nursing implementation, nursing evaluation and nursing documentation at high levels ($X = 2.62$, S.D. = 0.39; $X = 2.52$, S.D. = 0.43; $X = 2.41$, S.D. = 0.51; $X = 2.66$, S.D. = 0.39; $X = 2.58$, S.D. = 0.47; $X = 2.73$, S.D. = 0.38, respectively). It can be seen, therefore, that the samples utilized each of the nursing process step to a greater or lesser degree in all nursing practice procedures due to the fact that general nursing characteristics have nurses acting as managers in seeing that patients receive services from various members of the healthcare team such as preparation for doctors' examinations and sending patients for special examinations at various units. Thus, the true role, duties and responsibilities of professional nurses become confusing. In actual situations and in addition to acting as managers, nurses are also required to act as coordinators in various capacities with regard to pharmacology, social services (welfare), financial services and referrals. The nature of the aforementioned tasks and the insufficient numbers of nurses may cause the utilization of nursing process to be inadequate with regard to some steps. The researcher has divided the discussion of utilization of nursing process into the following topics:

Nursing Assessment – the samples utilized the nursing assessment step at a high level ($X = 2.62$, S.D. = 0.39) due to the fact that nurses have the direct responsibility of assessing the conditions of patients from admission, recording their

assessment in the Patient Assessment Form and continually acting according to every step of nursing process. This finding was concurrent with the studies of Rattanatanya, D. (1990) who studied the relationship between a number of factors and the utilization of the nursing process in nursing practice at Maharaj Nakorn Chiangmai Hospital and Chainoy, D. (2001) who found that professional nurses practiced nursing assessment at a high level. At the same, numerous studies have found the level of utilization of nursing assessment to be low. For example, the study of Leenachunangkul (1987) analyzed utilization of nursing process of the professional nurses at Rajavithi Hospital, finding that professional nurses had the lowest level of nursing assessment and Watanasen, D. (1998) who studied nursing process utilization in Male Surgical Ward 2 Lampang Regional Hospital, finding that nurses lacked clear understanding of nursing process, thus affecting their ability to thoroughly collect data. With regard to procedures, the sample group practiced nursing assessment by asking for patients' chief complaint at the highest level ($X = 2.91$, $S.D. = 0.34$) followed by asking for patients' present illness and asking for patients' demographic data, respectively ($X = 2.89$, $S.D. = 0.36$; $X = 2.78$; $S.D. = 0.51$) due to the fact that this information was relevant to the nurses in nursing diagnosis and nursing care plan. Furthermore, current instruments facilitate to collect information speedily, thus providing a guideline for nurses in more effective and complete nursing assessment. The item practiced least of all was nursing assessment by performing physical examination ($X = 2.24$, $S.D. = 0.71$) because the physical examinations of patients are time consuming and require the knowledge of pathophysiology, which information nurses normally obtain from the doctor's report (Senaruk, W., 2003). As for items practice at rather low levels, most involved psychosocial assessment ($X = 2.44$, $S.D. = 0.66$), family history taking ($X = 2.43$, $S.D. = 0.72$) and development assessment ($X = 2.54$, $S.D. = 0.65$) (Table 5). It can be seen, therefore, that the assessment of this data is extremely time consuming and requires good relationships between nurses, patients and their families in order to obtain true information.

Nursing Diagnosis – The samples used nursing diagnosis step at a high level ($X=2.52$, $S.D.=0.43$) because the sample group had obtained sufficient information through nursing assessment in order to establish nursing diagnosis. The fact that the nursing staff gave importance to improving the quality of nursing diagnosis,

various wards evaluated the nursing quality of their own respective units by periodically evaluating according to thorough and complete information in patients' medical records, resulting in utilization of nursing process at every step including nursing diagnosis. This finding was in concurrence with the study of Chainoy, D. (2001) which found that professional nurses utilized the nursing diagnosis step at a high level. The finding of this study differs from the findings of numerous studies which have found that utilization of the nursing diagnosis presents considerable difficulty. Nurses lack knowledge, clear understanding and nursing diagnostic skills. For example, the study of Watanasen, D. (1998) found that nurses lacked confidence in recording the details of nursing diagnosis. Furthermore, the study of Whitley and Gualanick (1996) studied utilization of nursing diagnosis found that nurses were unable to use nursing diagnosis because their abilities for establishing nursing diagnosis were lacking. Their problems stemmed from a lack of motivation to learn and opposition on the part of other personnel. This finding was similar to that of Hogston(1997) who studied nursing diagnosis in British nurses, finding that nursing diagnosis was a nursing process step marked by difficulty, thus affecting nursing quality, both in nursing practice and in conducting research. The samples of this study utilized data from laboratory findings in nursing diagnosis writing at the highest level ($X = 2.72$, $SD = 0.51$) because nurses needed to use laboratory results as evidence for establishing nursing diagnosis and nursing care plans for patients in solving the problems and responding to the needs of individual patients, writing nursing diagnosis in statement which can be solve by nursing intervention ($X = 2.69$, $SD = 0.49$) and writing nursing diagnosis with supporting data ($X = 2.66$, $SD = 0.52$), which was the second-most practiced item by the samples due to the fact that the samples had information obtained through nursing assessment to use in writing nursing diagnosis. As for using socioeconomic data was the factor least used in nursing diagnosis writing ($X = 2.27$, $SD = 0.68$), possibly because little data had been collected on this topic during nursing assessment, or possibly because this topic was not analyzed in light of the heavy workload which exceeded deficient manpower and left nurses with no time to pursue the issue. In addition, the nursing assessment results in terms of psychosocial assessment, family history taking and development which were minimally practiced had the effect of causing the nurses to include little information on these items in their

nursing diagnoses. This finding concurred with the study of Lee (2005) who studied “Nursing diagnoses: factors affecting their use in charting standardized care plans” and found that nurses tended to chart diagnostic nursing data as objective data more than information obtained directly from patients and their families. The study of Lima and Kurcgant (2006) supported the importance of nursing diagnosis, suggesting that nursing diagnosis must begin with knowledge and positive attitude towards clinical practice including individual behavior in combination with organizational support to promote actual practice and nursing quality.

Nursing Care Plan – the samples utilized the nursing care plan step at a high level ($X = 2.41$, $S.D. = 0.51$) due to the fact that establishing nursing care plan is a step that follows nursing diagnosis. Professional nurses have to establish nursing care plan for solving problems according to the nursing diagnosis in order to achieve set nursing goals. Nursing care plans are recorded in nursing documentation as clearly written communication with colleagues and as legal evidence. The study of Chainoy, D. (2001) found that professional nurses in psychiatric hospitals utilized nursing process at the nursing care plan step at a high level as well. At the same time, several studies have found that nurses utilize nursing process at the nursing care plan step at a low level, similar to the study of Watanasen, D. (1998) who found that nurses established nursing care plan with regard to certain topics, but not including every problem. No plans were made with regard to psychosocial or economical aspects, and nursing care plans were not changed in response the changing conditions of patients due to lack of time and heavy workloads. This data was not included in the nursing diagnosis, therefore, it was not written in the nursing care plan. In addition, Suthasanajinda, S. (1992) who studied utilization of nursing process in Srinakarin Hospital, Khon Kaen and found that nurses lacked knowledge, thus lacking confidence in their knowledge and skills in establishing nursing care plans and tending to perform their duties out of habit and familiarity rather than applying established nursing plans to nursing practice. The nursing activities, therefore, tended to be in compliance with treatment orders. This finding concurred with the finding of Waters & Easton (1999) who studied the utilization of nursing care plans in the care of individual patients, finding that the establishment of nursing care plans during working hours was practically impossible due to the continual occurrence of unexpected events. Nursing care plans were

sometimes established in advance, but never used. This finding was the same as that of Mason (1999) in her study, "Guide to practice or 'load of rubbish'? The influence of care plans on nursing practice in five clinical areas in Northern Ireland" which found that nurses had negative attitudes toward establishing nursing care plans because they were time consuming and held the opinion that nursing care plans should be written in tangible form rather than merely a regulation. In addition the study of Takemura and Kanda (2003) aimed at improving the quality of Japanese hospitals by creating a new model for establishing nursing care plans by using knowledge to access "the patient's subjective world" based on communication in providing nursing care that involves patient participation, promoting the power of patients in self-care in order to answer the differing needs of individual patients. With regard to this item, the samples had designated nursing intervention suitable for nursing diagnosis ($X = 2.69$, $SD = 0.51$). This was followed by giving an opportunity for patients and family to participate in planning of care ($X = 2.43$, $SD = 0.74$), which is policy to promote family-centered care. As for the items that were practiced least of all, writing nursing care plans that specified expected outcome and timeframe ($X = 2.13$, $SD = 0.75$) because nurses thought that writing nursing care plans were a form of indirect nursing practice which left them even less time to perform their nursing duties. Therefore, they tended to neglect this procedure for the most part, possibly because the nature of the samples' work was not continuous. For example, having several days off duty at a time affects the continuity of long term nursing performance as nurses lack the opportunity to follow up on nursing care plans previously established. This finding was similar to that of Lee (2005) who found that nurses tended to neglect the performance of nursing goals from nursing diagnosis in performing nursing care plans.

Nursing Implementation - The sample used nursing implementation step at a high level ($X = 2.66$, $S.D. = 0.39$). This might be because it was the policy of the nursing division and a direct duty of professional nurses to provide integrated nursing services with family-centered nursing practice for pediatric patients. The nurses who providing care for pediatric patients must be capable and special skilled because caring of child patients is more difficult than caring of adult patients. Sometimes pediatric patients cannot communicate or cooperate with the nurses. The sample in this research had quite a lot of work experience (Table 1), making them

skilled with nursing practice as well. This was in accordance with the study of Chainoy, D. (2001) which found that professional nurses in psychiatric hospitals used nursing practice step in a high level. The study of Rattatanya, D. (1990) found that professional nurses performed nursing implementation step at a moderate level and Watanasen, D. (1998) found that most nurses practiced daily routines focused only on jobs to be finished in time rather than solving problems and responding to individual patient needs. It was found that the sample scores for encouraging family members to participate in caring for the patients during hospitalization was the highest ($X = 2.76$, $SD = 0.47$), followed by the topic of “giving care on holistic nursing concept” and “answering questions for patients and families relevant to nursing interventions” ($X=2.70$, $SD=0.49$) It can be seen, therefore, that the nursing practice of the sample provided care to child patients, not only requiring special skills, but by focusing on the principle of comprehensive nursing practice by promoting the family participate in taking care of their children. As the sample reviewed care plans before starting nursing care had the lowest score ($X = 2.49$, $SD = 0.60$), possibly because the sample must be responsible for a large number of child patients, making them unable to have sufficient time to review the specified nursing plans.

Nursing Evaluation - The sample utilized nursing evaluation step at a high level ($X = 2.58$, $S.D. = 0.47$) because the nursing staff continually verifies patients' medical reports. This task was done by the head of ward who was responsible for overseeing, inspecting and advising with regard to nursing practice through the use of nursing process, periodically evaluating the quality of nursing care and motivating the sample to be alert in utilizing nursing process in actual practice. This finding was concurrent with the study of Chainoy, D. (2001) who found that nurses utilized the nursing evaluation at a high level. However, it differed from the study of Rattatanya, D. (1990) which found that professional nurses utilized nursing evaluation at a medium level, and the study of Suthasanajinda, S., (1992) which found that only some nursing evaluations of nurses in Srinakarin Hospital were worthwhile enough to be case studies or to be interesting, and the study of Watanasen (1998) which found that nurses would follow up on the evaluation of the patients' symptoms just prior to the change of the shift and there was no recording of the evaluation in the nursing documentation. In terms of specific topics, the sample group had highest scores for the

evaluation of the patients' problems at the end of shift ($X = 2.68$, $SD = 0.53$), followed by the topic of "evaluation of nursing intervention outcomes after nursing activities". This could be because the sample gave importance to following up on the nursing practice provided to the patients. The topics for which the sample had low scores were "using evaluation criteria as the criterion" ($X = 2.48$, $SD = 0.63$) and "using analyzed outcomes for care plan improvement" ($X = 2.56$, $SD = 0.60$). The low scores in these topics could have been the result of inconsistency in the practice of the samples and the samples' differences in ability to conduct the nursing evaluation.

Nursing Documentation - The sample had high scores for nursing documentation ($X = 2.73$, $S.D. = 0.38$) because in utilizing the nursing process in nursing practice, it is necessary for the nursing documentation to be kept in order to improve the quality of the nursing care and in order to inform nursing colleagues that nursing care was considered important and according to professional nursing standards. Latimer (1995). State that importance and utilization of nursing process and forms for nursing documentation enabled the nurses to systematically record information. The nursing department of Queen Sirikit National Institute of Child Health followed up on the evaluation of nursing care by continually inspecting the nursing documentation from patients' medical records, thus motivating the professional nurses to view this step with higher importance (Kumpalikit, S., 1989). Some operational units developed formats for recording nursing documentation to facilitate practice in order to reduce time spent on this step. According to the study of Oeasomboon, K. (1994) who studied factors supporting the implementation of nursing process of nurses in Bangkok Metropolitan hospitals, it was found that the documentation forms of the hospitals supported the nursing process as a whole at a medium level with the lowest level for the nursing diagnosis forms. Previous research revealed that nursing documentation was complicated and required considerable time. The study of Bjorvell, Wredling & Thorell-Ekstrand (2003) which studied the development of nursing documentation revealed that charting nursing documentation requires time. In addition, the information to be recorded requires thought. Likewise, the study of Kim and Park (2005), which analyzed nursing documentation forms, found that nursing documentation is bare as a result of the lack of time to record the care and services provided to the patients as well as a lack of knowledge regarding correct methods of

recording. Similarly, Cheevakasemsook, A., Chapman, Y., Francis, K., & Davies, C. (2006) who studied the repetition of nursing documentation, found that nursing documentation difficulties stemmed from the disruption of documentation, incompleteness in charting, the use of lengthy and unnecessary words, and the inadequacy of recording forms in which the same information had to be recorded for the same patient on several different forms. In addition, the research found the sample most commonly documented the nurses' note when the patients' symptoms changed ($X = 2.85, SD = 0.39$), whereas the sample least common practice was recording history taking and physical examination after performing health assessment ($X = 2.67, SD = 0.54$). The difficulty in nursing documentation could be explained by the overwhelming responsibility of the nurses, both the direct duty to provide nursing care according to illnesses and individual needs of patients and the duty to cooperate with related professions, especially according to the doctors' treatment plans and numerous daily activities to be performed (Boonyanurak, P., 1991). Thus, the focus is on finishing the task given, making the nurses ignorant to writing nursing records which is an indirect nursing activity, especially in terms of the information about the patients' family history and physical examinations which occur less frequently because there are small numbers of nursing evaluations. As for charting the nursing documentation when there is a change in the patients' symptoms, it is considered important and necessary to transfer the symptoms to the nursing team and it is required by the law. This is similar to the view of Tongprateep, T. & Taokam, B. (2000), who saw nursing documentation as important and a confirmation of nursing practice in providing care to patients within the limitations of the law and the ethics of the profession.

Objective 2: To determine the predictability of organizational support systems and attitude on nursing process utilization in clinical practice

The findings found that the organizational support system accounted for 34.4 % of the variance in nursing process utilization in clinical practice with statistical significance ($R^2 = 0.344, p < 0.001$) and the attitude could not explain the variance in nursing process utilization in clinical practice. These findings are discussed as follows:

The fact that organizational support can be used to predict the utilization of nursing process in clinical practice of professional nurses exhibits that Queen Sirikit National Institute of Child Health has readiness and supports professional nurses in

implementing nursing process in clinical practice at a high level with continuity. This is in concurrent with the study of Rattanatanya, D. (1990), who studied the factors influencing the utilization of nursing process in the clinical practice of professional nurses at Maharaj Nakorn Chiangmai Hospital. According to Rattanatanya, organizational support regarding the implementation of nursing process could predict 16.33 % of the implementation of the nursing process in clinical practice. Similarly, Panasantipap, B., Buspawattana, P., & Tritan, J. (2000) who studied factors related to the implementation of nursing process in clinical practice of professional nurses at Chaopraya Yomraj Supanburi, found that organizational support was positively related to the implementation of nursing process in clinical practice with statistical significance ($p < 0.05$). Also, the study of Af (2000), who studied the utilization of nursing process by professional nurses at Siriraj Hospital, found that organizational support was related to the implementation of nursing process in clinical practice with statistical significance ($p < 0.01$) and it is a factor used to predict 20% of utilization of nursing process in clinical practice.

Attitude is positively related to the implementation of nursing process in clinical practice of professional nurses with statistical significance ($r = 0.356$, $p < 0.01$). If nurses have good attitude towards utilization of nursing process, they will be determined and see the importance of the implementation of nursing process in clinical practice (Sutassanajinda, S., 1992) because a person's attitude can greatly influence his or her behavior. This is concurrent with the study of Bowman, Thompson, & Sutton (1983) which said that good attitude resulted in greater satisfaction for the nurses in utilizing nursing process. According to them, a good work environment can also affect the change in the nurse's attitude. This is in accordance with several other studies related to nursing process. The study of Rattanatanya, D. (1990), who revealed that attitude towards utilization of nursing process, was positively related to the utilization of nursing process in clinical practice. Also, Moleechati, T. (1990), who said that nurses in the group which had good attitude towards utilization nursing process could better utilize nursing process in nursing practice than nurses in the group who did not have good attitude. Furthermore, (2536)Tungtrongjitt, T., Pimpong, S., Moleechati, T. & Kampolched, J. (1993) who studied the relationship between the knowledge and attitude of the nursing team and nursing process, revealed that

professional nurses who had good attitude toward nursing process could better implement nursing process in clinical practice. Nunsupawat, W., Nanasil, J., Sangsuwan, J., & Suwannoy, C. (1994), who also studied this subject in nursing students in Thailand, found that students had good attitudes towards nursing process as a whole. Wattanasen, D. (1998), who studied the implementation of nursing process of nurses at administrative level and operational level, revealed that nurses at all levels saw the importance and the benefits of utilizing nursing process. However, nursing process was not implemented at all steps because the nurses believed it was complicated and it would take a considerable amount of time. Also, the number of nurses was not in correct proportion with the number of patients and actual daily responsibility. In the study of Chalermwannapong, S. & Singchangchai, P. (1999) who studied factors influencing the utilization of nursing process in university hospitals, it was found that attitude influenced on utilization nursing process with statistical significance ($p < 0.05$). Af. (2000), who studied the utilization of nursing process by professional nurses at Siriraj Hospital, found that attitude was one of the factors which influenced the utilization of nursing process in clinical practice.

These research findings revealed that attitude could not predict the utilization of nursing practice by the samples, possibly because factors of attitude were related to organizational support with statistical significance ($r = 0.506$, $p < 0.01$) whereas the factor of organizational support systems was able to prediction utilization of nursing process in clinical practice more than the factor of attitude due to the fact that the Beta value of attitude was 0.079 (Beta = .079, $p = 0.193$). It may be possible that the factors of attitude affected utilization of nursing process in clinical practice indirectly by passing the organization support system of the first. Furthermore, the fact that Queen Sirikit National Institute of Child Health provides good support for utilization of nursing process in clinical practice. For these reasons, intent may not be able to predict the utilization of nursing process in clinical practice of the sample in this study. This differed from the findings of the study by Rattanatanya, D. (1990) who found that attitude was a variable that was capable of predicting utilization of nursing process in the clinical practice of professional nurses at Maharaj Nakorn Chiangmai Hospital.

CHAPTER VI

CONCLUSION

The aim of the study was to investigate factors influencing nursing process utilization in clinical practice of professional nurses working at Queen Sirikit National Institute of Child Health, Department of Medicine, Ministry of Public Health. The study sample consisted of 239 professional nurses worked at in-patient wards and observation room of the Institute. Data were collected by means of questionnaires eliciting information regarding the subjects' demographic characteristics, nursing process utilization in clinical practice, organizational support in nursing process utilization, and attitudes toward nursing process utilization. Data were analyzed using a computer package in terms of frequency and percentage of demographic characteristics. In addition, range, mean, and standard deviation of nursing process utilization, organizational support in nursing process utilization and attitudes toward nursing process utilization were calculated. Predictive power of the independent variables to predict nursing process utilization in clinical practice was also determined using multiple regression analysis.

The research findings can be summarized as follows:

1. The results showed that the subjects ranged in age from 22 to 57 years, with a mean age of 36.4 years wherein the majority (81%) was aged 40-49 years old. Furthermore, the majority of the samples, 87% held bachelor degrees. In terms of duration of work, 46% had been working for 1-10 years. The longest duration of employment was 33 years. Finally, 69.4% of the samples had a course on nursing process integrated with other nursing subjects and 22.2% had a course on specific nursing process.

2. The mean scores of the overall nursing process utilization in clinical practice was high ($X = 2.59$, $SD = 0.34$). Furthermore, consideration of the utilization of nursing process in clinical practice found that the subjects performed nursing assessment by asking patients about chief complaints more than the other items on the list ($X = 2.91$, $S.D. = 0.34$) while they performed physical examinations less than other

items ($X = 2.24$, $S.D. = 0.71$). With regard to nursing diagnosis, they used information about laboratory findings to support their nursing diagnoses most ($X = 2.72$, $S.D. = 0.51$) while socioeconomic data was used least in writing nursing diagnoses ($X = 2.27$, $S.D. = 0.68$). Furthermore, in terms of nursing care plan, the findings indicated that most of the nurses specified nursing intervention suitable for nursing diagnosis ($X = 2.69$, $S.D. = 0.51$), while they least wrote nursing care plans to specify expected outcomes and duration ($X = 2.13$, $S.D. = 0.75$). With regard to nursing implementation, most nurses encouraged family members to participate in caring for the patients during hospitalization more than other items on the list ($X = 2.76$, $S.D. = 0.47$) while they reviewed nursing care plans before starting nursing care at the lowest level ($X = 2.49$, $S.D. = 0.60$). For nursing evaluation, most nurses evaluated the patients' problems at the end of shift ($X = 2.68$, $S.D. = 0.53$) and used the evaluation criteria least ($X = 2.48$, $S.D. = 0.63$). Finally, when it came to nursing documentation, nurses most often documented notes when patients' symptoms changed ($X = 2.85$; $S.D. = 0.39$). On the other hand, they least often recorded patients' history and physical examination after performing the patients' health evaluation ($X = 2.67$; $S.D. = 0.54$).

3. Organizational support systems could explain 34.4% of the variance in nursing process utilization in clinical practice with statistical significance ($R^2 = 0.344$, $p < .001$)

Implications and Recommendations

Implications for nursing practice

1. The results of this study showed that the samples utilized the nursing process in clinical practice at a high level. However, specific consideration of each step of the nursing process in clinical practice found that the samples utilized the steps incompletely. Thus, in order for the application of nursing process to be used in clinical practice with the highest results, the researcher recommends the following strategies:

1.1 There should be training program to further educate and improve nursing assessment skills, especially with regard to techniques for physical

examinations of various systems including assessment of the patient's psychological, emotional and social conditions as well as family history and the socioeconomic status of the patients and their families.

1.2 A nursing practice manual should be created including provisions on the subject of nursing diagnosis for the convenient and timely use of nurses. In addition, there should be adviser to provide guidance and advice in writing comprehensive nursing diagnoses that cover the patients' problems with clear and accurate supporting information.

1.3 Both long and short term nursing care plans should be established and promoted with participation from patients and their families. Specifications of individuals responsible for planning the nursing care of each patient should be clearly charted throughout the hospital stay to discharge.

1.4 Collaborative meetings prior to and after nursing practice should be continually established and promoted in order to exchange opinions and make adjustments to suit individual patients as well as review nursing plans prior to the nursing practice.

1.5 Evaluation should be done periodically in order to evaluate the effectiveness of the clinical practice provided for patients. Then, problems and barriers should be continually analyzed with the responsibility assigned to an adviser in order to give advice, inspect, monitor and evaluate according to criteria specified in the nursing care plan which will be used as a comparison for nursing evaluation and improvement.

1.6 Forms for nursing documentation should be developed for effective use. Information regarding interview of history, physical examination and nursing activities should be recorded in such forms.

In summary, even though Queen Sirikit National Institute of Child Health utilizes nursing process in clinical practice at a rather high level. Practical nursing guidelines should be devised for nursing process steps and professional nurses should be urged to apply the nursing process in clinical practice in order for quality nursing practice to prevail.

2. Because the research further revealed that the organizational support system could predict the utilization of nursing process in clinical practice, the

researcher would like to suggest that hospital administrators adjust strategies so nursing process will be utilized more prevalently in various aspects. The focus should be on the specification of the person responsible for the evaluation of the application of nursing process into nursing practice who can give suitable advice and suggestions regarding the utilization of nursing process in clinical practice.

Recommendations for further study

1. Further study should take a look at the level to which nursing process is utilized in the clinical practice of professional nurses in qualitative research.
2. This research reveals that the organizational support systems could explain 34.4% of the variance in nursing process utilization in clinical practice. This leaves another 65.6% of other factors which can be used as predictors of the utilization of nursing process in clinical practice. Thus, there should be further study regarding other factors which affect the utilization of nursing process in the clinical practice.

REFERENCES

- Alfaro-LeFevre, R. (1998). *Applying nursing process a step-by-step guide* (4th ed.). Philadelphia: Lippincott.
- Af, D. (2000). *Nursing process utilization among registered nurses in Siriraj Hospital Bangkok, Thailand*. Master's thesis, Mahidol University, Bangkok, Thailand.
- American Nurse Association (1991). *Standards of clinical practice*. Kansas, MO: Author.
- Atkinson, L. D., & Murray, M.E. (1992). *Fundamentals of nursing: A nursing process approach*. New York: McGraw-Hill.
- Binh, L. T. (2001). *Utilization of nursing process among nursing students in Bach Mai General Hospital, Viet Nam.*, Mahidol University, Bangkok, Thailand.
- Bowman, G.S., Thompson, D. R., & Sutton, T. W. (1983). Nurses' attitudes towards the nursing process. *Journal of Advanced Nursing*, 8, 125-129.
- Bjorvell, C., Wredling R., & Thorell-Ekstrand, I. (2003). Improving documentation using a nursing model. *Journal of Advanced Nursing*, 43(4), 402-410.
- Cheevakasemsook, A., Chapman, Y., Francis, K., & Davies, C. (2006). The study of nursing documentation complexities. *International Journal of Nursing Practice*, 12, 366-374.
- Doenges, M.E., & Moorhouse, M.F. (2003). *Application of nursing process and nursing diagnosis : An interaction text for diagnostic reasoning* (4th ed.). Philadelphia: F.A. David.
- Fuly, P. S. C., Freire, S. M., & Almeida, R. T. (2003). The nursing process and its application in intensive care at Rio de Janeiro as a support to the development of an electronic patient record. *Brazillian Journal of Nursing*, 2(3), 61-69.
- Gordon, M. (1994). *Nursing diagnosis: Process and application* (3rd ed.). St.Louis: Mosby-Year Book.
- Hildman, T.B., & Ferguson, G.H. (1992). Registered nurses' attitudes toward the nursing process and written/printed nursing care plans. *Journal of Nursing Administration*, 22(5), 5.

- Hogston, R. (1997). Nursing diagnosis and classification system: A position paper. *Journal of Advanced Nursing*, 26(3), 496 - 500.
- Iyer, P. W., Taptich, B. J., & Bernocchi-Losey, D. (1995). *Nursing process and nursing diagnosis*. California: W.B. Saunders.
- Kim, Y. J., & Park, H. (2005). Analysis of nursing records of cardiac-surgery patients based on the nursing process and focusing on nursing outcomes. *International Journal of Medical Informatics*, 74, 952-959.
- Kozier, B., Erb, G., Blais, K., & Wilkinson, J.M. (1995). *Fundamentals of nursing*. California: Addison - Wesley.
- Kozier, B., Erb, G., Berman, A., & Snyder, S. (2004). *Fundamentals of Nursing* (7th ed.). New Jersey: Pearson Education.
- Latimer, J. (1994). The nursing process re-examined: Enrolment and translation. *Journal of Advanced Nursing*, 22, 213-220
- Lee, T. (2005). Nursing diagnoses: factors affecting their use in charting standardized care plans. *Journal of Clinical Nursing*, 14, 640-647.
- Lima, A. F. C., & Kurcgant, P. (2006). Meanings of the nursing diagnosis implementation process for nurses at a university hospital. *Rev Latino-am Enfermagem*, 14(5), 666-673
- Mason, C. (1999). Guide to practice or 'load of rubbish'? The influence of care plans on nursing practice in five clinical areas in Northern Ireland. *Journal of Advanced Nursing*, 29(2), 380-387.
- O'Connell, B. (1998). The clinical application of the nursing process in selected acute care setting: A profession mirage. *Australian Journal of Advanced Nursing*, 15(4), 22-31.
- Ojo, A. A., & Innoye, O. O. (2002). Nurses' knowledge and attitudes towards implementation of nursing process in Obafemi Awolowo University Teaching Hospitals Complex. *West African Journal of Nursing*, 13(2), 102-109.
- Seaback, W. (2001). *Nursing Process: Concepts and applications*. New York: Thomson Learning.
- Tabachnick, B.G., & Fidell, L.S. (1996). *Using multivariate statistics*. (3rd ed.). New York: Harper Collin College Publishers.

- Takemura, Y. & Kanda, K. (2003). How Japanese nurses provide care: a practice based on continuously knowing the patient. *Journal of Advanced Nursing*, 42(3), 252-259.
- Taylor, C. (2000). Clinical problem – solving in nursing: Insights from the literature. *Journal of Advanced Nursing*, 31(4), 842 - 849.
- Varcoe, C. (1996). Disparagement of the nursing process: The new dogma. *Journal of Advanced Nursing*, 23, 120 – 125.
- Waters, K. R., & Easton, N. (1999). Individualized care: Is it possible to plan and carry out? *Journal of Advanced Nursing*, 29(1), 79-87.
- White, L. (2003). *Documentation & the nursing process*. Clifton Park: Delmar Learning.
- Whitley, G. G. & Gulanick, M. (1996). Barriers to use of nursing diagnosis language in clinical settings. *Nursing Diagnosis*. 7(1), 25-32.
- Wilkinson, J.M. (1996). *Nursing process: A critical thinking approach* (2nd ed.). California: Addison-Wesley Nursing.
- Wong, D. L., Hockenberry-Eaton, M., Wilson, D., Winkelstein, M. L., & Schwartz, P. (2001). *Essentials of Pediatric Nursing* (6th ed.). USA: Mosby.
- กองการพยาบาล สำนักงานปลัดกระทรวงสาธารณสุข. (2539). บทบาทหน้าที่ความรับผิดชอบของเจ้าหน้าที่ทางการพยาบาลที่ปฏิบัติการพยาบาลในโรงพยาบาล. กรุงเทพฯ: มหาวิทยาลัยธรรมศาสตร์.
- กิตติพร เอื้อยะสมบูรณ์. (2537). (Oeasomboon, K., 1994). การศึกษาปัจจัยสนับสนุนการใช้กระบวนการพยาบาลของพยาบาลประจำการโรงพยาบาลสังกัดกรุงเทพมหานคร. วิทยานิพนธ์รัฐศาสตรมหาบัณฑิต สาขาวิชาการบริหารการพยาบาล, บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย.
- กลุ่มงานการพยาบาล สถาบันสุขภาพเด็กแห่งชาติมหาราชินี. (2547). รายงานผลการตรวจสอบบันทึกทางการพยาบาล ตุลาคม 2547.
- จันทร์เพ็ญ สันตวาจา. (2548). (Suntawaja, J., 2005). แนวคิดพื้นฐานทฤษฎีและกระบวนการพยาบาล. กรุงเทพฯ: ธนาเพรส, 5.

- จินนะรัตน์ ศรีภัทรภิญโญ และ อัมภา สรารัษต์. (2546). (Sripattarapinyo, J., & Sraruch, A., 2003). การศึกษารูปแบบหน่วยงานสาธิตทางการพยาบาลโดยใช้กระบวนการพยาบาล: งานผู้ป่วยใน. *กระทรวงสาธารณสุข: โรงพิมพ์องค์การรับส่งสินค้าและพัสดุภัณฑ์.*
- ดวงใจ รัตนธัญญา. (2533). (Rattanatanya, D., 1990). ความสัมพันธ์ระหว่างปัจจัยบางประการกับการใช้กระบวนการพยาบาลในการปฏิบัติการพยาบาลของพยาบาลวิชาชีพ โรงพยาบาลมหาวิทยาลัยราชภัฏเชียงใหม่. *วิทยานิพนธ์พยาบาลศาสตรมหาบัณฑิต สาขาพยาบาลสาธารณสุข, บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล.*
- ดวงเดือน ไชยน้อย. (2544). (Chainoy, D., 2001). การใช้กระบวนการพยาบาลในการปฏิบัติการพยาบาลของพยาบาลวิชาชีพ โรงพยาบาลจิตเวช. *วิทยานิพนธ์พยาบาลศาสตรมหาบัณฑิต สาขาวิชาการบริหารการพยาบาล, บัณฑิตวิทยาลัย มหาวิทยาลัยเชียงใหม่.*
- ดวงตา วัฒนะเสน. (2541). (Watanasen, D., 1998). การนำกระบวนการพยาบาลไปใช้ในหอผู้ป่วยศัลยกรรมชาย 2 โรงพยาบาลศูนย์ลำปาง. *วิทยานิพนธ์พยาบาลศาสตรมหาบัณฑิต สาขาวิชาการบริหารการพยาบาล, บัณฑิตวิทยาลัย มหาวิทยาลัยเชียงใหม่.*
- ทัศนีย์ ตั้งตรงจิตต์, สุทธิรัตน์ พิมพ์พงศ์, ทัศนีย์ โมฬีชาติ, และจิตรา กำพลเชษฐ์. (2536). (Tungtrongjitt, T., Pimpong, S., Moleechati, T., & Kampolched, J. 1993). ความสัมพันธ์ระหว่างความรู้ เจตคติ ต่อการปฏิบัติทีมการพยาบาล และต่อการปฏิบัติกระบวนการพยาบาลในโรงพยาบาลศิริราช. *วารสารพยาบาลศาสตร์ ศิริราชพยาบาล, 11(3), 167 – 178.*
- ทัศนีย์ ทองประทีป และ เบ็ญจา เตากกล้า. (2543). (Tongprateep, T., & Taokam, B., 2000). บันทึกทางการพยาบาลกับการประกันคุณภาพการพยาบาล. *วารสารสภาการพยาบาล. 15(2), 1-11.*
- ทัศนีย์ โมฬีชาติ. (2533). (Moleechati, T., 1990). การศึกษาเปรียบเทียบการใช้ทีมการพยาบาลและกระบวนการพยาบาลในโรงพยาบาลศิริราชที่มีความรู้และเจตคติต่างกัน. *วิทยานิพนธ์พยาบาลศาสตรมหาบัณฑิต สาขาพยาบาลศาสตร์, บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล.*
- นิยฉิลา ลีนะชุนางกูร. (2530). (Leentchunankul, N., 1987). การวิเคราะห์การใช้กระบวนการพยาบาลของพยาบาลวิชาชีพ: การศึกษาเฉพาะกรณี โรงพยาบาลราชวิถี. *วิทยานิพนธ์ปริญญาครุศาสตรมหาบัณฑิต, สาขาพยาบาลศึกษา บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย*

- บุญนาค พนาสันติภาพ, ประณีต บุษปวรรณนะ และ จันทิมา ไตรทาน. (2543). (Panasantipap, B., Buspawattana, P., & Tritan, J., 2000). *ปัจจัยที่มีความสัมพันธ์กับการใช้กระบวนการพยาบาลในการปฏิบัติการของพยาบาลวิชาชีพ*. งานวิจัยโรงพยาบาลเจ้าพระยาอภัยภูธรณบุรี สำนักงานสาธารณสุขจังหวัดสุพรรณบุรี.
- ประภาเพ็ญ สุวรรณ. (2526). (Suwan, P., 1983). *การวัดการเปลี่ยนแปลงและพฤติกรรมอนามัยพิมพ์ครั้งที่ 2*. กรุงเทพฯ. พีระพัทธนา.
- พวงรัตน์ บุญญานุรักษ์. (2534). (Boonyanurak, 1991). *สาระสำคัญของกระบวนการพยาบาล*. *วารสารพยาบาลศาสตร์*, 3(3), 12-28.
- รัชณี สีดา. (2545). (Seeda, R., 2002). *การพยาบาลคุณภาพเพื่อสุขภาพเด็กและครอบครัว*. เอกสารประกอบการประชุมวิชาการ การพยาบาลกุมารเวชศาสตร์ ครั้งที่ 12. วันที่ 16-17 พฤษภาคม 2545. ณ โรงแรมรอยัลริเวอร์.ชมรมพยาบาลกุมารเวชศาสตร์แห่งประเทศไทย.
- เรณู พุกบุญมี สุปาณี เสนาคิสัย จันท์ทิพย์ วงศ์วิวัฒน์ และจตุพร แดงฉาย. (2544). (Pukboonmee, R., Senadisai, S., Wongwiwat, J., & Dangsai, j., 2001). *ผลของการใช้ระบบการมอบหมายงานแบบพยาบาลเจ้าของใช้ต่อความสามารถและความเป็นอิสระในการปฏิบัติกิจกรรมการพยาบาล และความพึงพอใจของผู้ป่วยต่อบริการพยาบาลที่ได้รับ*. *รามาศิบัติพยาบาลสาร*, 7 (1), 28 – 30.
- วิพร เสนารักษ์ (2532). (Sanaruk, W., 1989). *การวินิจฉัยการพยาบาล: มโนทัศน์และกระบวนการพยาบาล*. *วารสารคณะพยาบาลศาสตร์*, 12(2), 23 - 36.
- วิพร เสนารักษ์ (2546). (Sanaruk, W., 2003). *การวินิจฉัยการพยาบาล* (พิมพ์ครั้งที่ 7).
ขอนแก่น: ขอนแก่นการพิมพ์.
- วัลย์พร นันท์ศุภวัฒน์, วิณา นานาสิลป์, เจียมจิต แสงสุวรรณ และชิตชม สุวรรณน้อย. (2538). (Nunsupawat, W., Nanasil, J., Sangsuwan, J., & Suwannoy, C., 1995). *ทัศนคติต่อกระบวนการพยาบาลและปัญหาและอุปสรรคในการใช้กระบวนการพยาบาลของนักศึกษาพยาบาลในประเทศไทย*. *วารสารคณะพยาบาลศาสตร์*, 17(1-4), 31 - 39.
- ศิริพร ชัมภลิจิต. (2532). (Kumpalikit, S., 1989). *กระบวนการพยาบาล: มิติใหม่ทางการพยาบาล*. *วิทยาลัยพยาบาลสงขลานครินทร์* 9(1)ม 1-12.
- สุจิตรา เหลืองอมรเลิศ, สุจิตรา ลิมอำนวยลาภ, และวิพร เสนารักษ์. (2540). (Luangamornlert, S., Limamnoeylap, S., & Senarak, W., 1997). *กระบวนการพยาบาล: ทฤษฎีและการนำไปใช้* (พิมพ์ครั้งที่ 10). ขอนแก่น: ขอนแก่นการพิมพ์.

- สุภา สุทัศนจินดา. (2535). (Suthasanajinda, S., 1992). การนำกระบวนการพยาบาลมาใช้ใน
คลินิก. *วารสารคณะพยาบาลศาสตร์*, 15(3), 22-28
- สุระพรรณ พนมฤทธิ์ และสุภาภรณ์ อุดมลักษณ์. (2541). (Panomlit, S., & Udomluk, S.,
1998). *กระบวนการพยาบาล* (พิมพ์ครั้งที่ 1). กรุงเทพฯ: ประชุมช่าง.
- สาตี เฉลิมวรรณพงศ์. (2544). (Chalermwannapong, S., 2001). *กระบวนการพยาบาล: หลักการ
และการประยุกต์ใช้* (พิมพ์ครั้งที่ 1). สงขลา: อัสลาอีเพรส.
- สาตี เฉลิมวรรณพงศ์ และเพชรน้อย สิงห์ช่างชัย. (2542). (Chalermwannapong, S., &
Singchanchai, P., 1999). *ปัจจัยที่มีอิทธิพลต่อการใช้กระบวนการพยาบาลของพยาบาล
ในโรงพยาบาลมหาวิทยาลัย*. รายงานการวิจัย คณะพยาบาลศาสตร์
มหาวิทยาลัยสงขลานครินทร์.
- อวยพร ตันมุกขกุล และบุญทิพย์ สิริรังศรี. (2537). (Tunmookayakul, A., & Siritarungsri,
B., 1994). *กระบวนการพยาบาลกับการปฏิบัติการพยาบาล*. ในพรทิพย์ เกตุรานนท์
(บรรณาธิการ), *เอกสารการสอนชุดวิชาประเด็นและแนวโน้มทางการพยาบาล หน่วยที่
8 -15* (พิมพ์ครั้งที่ 7). กรุงเทพฯ: มหาวิทยาลัยสุโขทัยธรรมาธิราช.
- อวยพร ตันมุกขกุล และบุญทิพย์ สิริรังศรี. (2538). (Tunmookayagkul, A., & Siritarungsri,
B., 1995). *กระบวนการพยาบาลกับการปฏิบัติการพยาบาล*. ใน พรจันทร์ สุวรรณชาติ
(บรรณาธิการ), *เอกสารการสอนชุดวิชาประเด็นและแนวโน้มทางการพยาบาล หน่วยที่
8 – 15* (พิมพ์ครั้งที่ 9). กรุงเทพฯ: อรุณการพิมพ์.



APPENDIX A DATA COLLECTION INSTRUMENTS

การวิจัยเรื่อง ปัจจัยที่มีอิทธิพลต่อการนำกระบวนการพยาบาล มาใช้ในการปฏิบัติการพยาบาล

แบบสอบถามทั้งหมดประกอบด้วยแบบสอบถามย่อยจำนวน 4 ชุด คือ

ชุดที่ 1. แบบสอบถามข้อมูลส่วนบุคคล

ชุดที่ 2. แบบสอบถามเกี่ยวกับระบบสนับสนุนขององค์กรในการนำ กระบวนการพยาบาลมาใช้ในการ
การปฏิบัติการพยาบาล

ชุดที่ 3. แบบวัดเจตคติต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติ การพยาบาล

ชุดที่ 4. แบบสอบถามการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล

ชุดที่ 1

แบบสอบถามข้อมูลส่วนบุคคล

คำชี้แจง โปรดเขียนข้อความลงในช่องว่าง หรือเขียนเครื่องหมาย ✓ ลงใน หน้าข้อความเกี่ยวกับ
ตัวท่านตามความเป็นจริง

1. ปัจจุบันท่านอายุ ปี
2. ท่านมีวุฒิการศึกษาสูงสุด
 - ปริญญาตรี / เทียบเท่า
 - ปริญญาโท ระบุสาขา
3. ท่านปฏิบัติงานด้านการพยาบาลมาแล้ว ปี
4. ตั้งแต่เริ่มปฏิบัติงานจนถึงปัจจุบัน ท่านเคยเข้ารับการอบรม / ประชุมเกี่ยวกับกระบวนการ
พยาบาล
หรือไม่
 - เคย โดยเป็นส่วนหนึ่งของการอบรมในเรื่องอื่นๆ
 - เคย โดยเป็นการอบรมเฉพาะเรื่องกระบวนการพยาบาล
 - ไม่เคยได้รับการอบรม

ชุดที่ 2

แบบสอบถามการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล

คำชี้แจง แบบสอบถามชุดนี้ ต้องการทราบถึงการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล ขอให้ท่านอ่านข้อความด้านซ้ายมือ แล้วเขียนเครื่องหมาย ✓ ลงในช่องระดับการปฏิบัติ ด้านขวามือ โดยมีเกณฑ์ในการตอบแบบสอบถามดังนี้

- มาก หมายถึง ในการปฏิบัติการพยาบาลท่านได้ปฏิบัติตามกิจกรรมตามข้อความนั้นเป็นประจำทุกครั้งที่
- ปานกลาง หมายถึง ในการปฏิบัติการพยาบาล ท่านได้ปฏิบัติตามกิจกรรมตามข้อความนั้นเป็นบางครั้ง
- น้อย หมายถึง ในการปฏิบัติการพยาบาล ท่านได้ปฏิบัติตามกิจกรรมตามข้อความนั้นนานๆครั้ง
- ไม่ได้ปฏิบัติ หมายถึง ในการปฏิบัติการพยาบาล ท่านไม่เคยปฏิบัติตามกิจกรรมตามข้อความนั้นเลย

ข้อความ	ระดับการปฏิบัติ			
	มาก	ปานกลาง	น้อย	ไม่ได้ปฏิบัติ
การประเมินทางการพยาบาล ท่านซักประวัติผู้ป่วยตามข้อ 1 - 6 มากน้อยเพียงใด 1. ข้อมูลส่วนบุคคลของผู้ป่วย เช่น อายุ เพศ ศาสนา ที่อยู่ ฯลฯ 2. อาการสำคัญ . . 11. ในการประเมินทางการพยาบาล ท่านศึกษาบันทึกรายงาน.....				
การวินิจฉัยทางการพยาบาล ท่านนำข้อมูลของผู้ป่วยในข้อ 12 - 16 มาประกอบการวิเคราะห์ภาวะ... 12. ข้อมูลทางกายและพัฒนาการ 13. ข้อมูลทางด้านจิตใจ . . 18. ท่านเขียนข้อวินิจฉัยทางการพยาบาล โดยมีข้อมูลสนับสนุน				
การวางแผนการพยาบาล 19. ท่านเขียนแผนการพยาบาลครอบคลุมข้อวินิจฉัยทางการพยาบาล..... 20. ท่านกำหนดกิจกรรมการพยาบาลในแผนการพยาบาลให้ . . 23. ท่านเปิดโอกาสให้ผู้ป่วยและครอบครัวมีส่วนร่วมในการวางแผน.....				

ข้อความ	ระดับการปฏิบัติ			
	มาก	ปานกลาง	น้อย	ไม่ได้ปฏิบัติ
การปฏิบัติการพยาบาล 24. ท่านทบทวนแผนการพยาบาลก่อนเริ่มให้การพยาบาลกับผู้ป่วย 25. ท่านให้การพยาบาลผู้ป่วยตามแผนการพยาบาลที่กำหนดไว้ . . 29. ท่านเตรียมผู้ป่วยและครอบครัวให้พร้อมในการกลับไปดูแลต่อ....				
การประเมินผลการพยาบาล 30. ท่านประเมินผลกิจกรรมการพยาบาลทันทีภายหลังให้การพยาบาล. 31. ท่านใช้เกณฑ์ประเมินผลที่กำหนดไว้ในแผนการพยาบาลเป็น..... . . 33. ท่านนำข้อมูลที่ได้จากการประเมินผลมาวิเคราะห์ เพื่อปรับปรุง....				
การบันทึกทางการพยาบาล 34. ท่านบันทึกข้อมูลเกี่ยวกับการซักประวัติและการตรวจร่างกาย..... 35. ท่านบันทึกกิจกรรมการพยาบาลที่ให้ไว้ในบันทึกทางการ..... . . 37. ท่านเขียนรายงานไว้ในบันทึกทางการพยาบาล เมื่อผู้ป่วยมีอาการเปลี่ยนแปลง				

ชุดที่ 3

แบบสอบถามเกี่ยวกับระบบสนับสนุนขององค์กร ในการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล

คำชี้แจง แบบสอบถามนี้มีวัตถุประสงค์ เพื่อทราบข้อมูลเกี่ยวกับการได้รับการสนับสนุนด้านนโยบาย โครงสร้างและระบบการบริหารงานขององค์กรที่เอื้อและสนับสนุนให้เกิดการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติงาน ขอให้ท่านอ่านข้อความทางซ้ายมือโดยละเอียดและประเมินความคิดเห็นของท่านต่อข้อความดังกล่าวแล้วเขียนเครื่องหมาย ✓ ลงในช่องระดับการสนับสนุนด้านขวามือ โดยมีเกณฑ์ในการตอบดังนี้

มากที่สุด หมายถึง บุคคลในองค์กรหรือหน่วยงานของท่านให้การสนับสนุนกิจกรรม เพื่อให้เกิดการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลมากที่สุด

มาก หมายถึง บุคคลในองค์กรหรือหน่วยงานของท่านให้การสนับสนุนกิจกรรม เพื่อให้เกิดการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลมาก

ปานกลาง หมายถึง บุคคลในองค์กรหรือหน่วยงานของท่านให้การสนับสนุนกิจกรรม เพื่อให้เกิดการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลปานกลาง

น้อย หมายถึง บุคคลในองค์กรหรือหน่วยงานของท่านให้การสนับสนุนกิจกรรม เพื่อให้เกิดการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลน้อย

น้อยที่สุด หมายถึง บุคคลในองค์กรหรือหน่วยงานของท่านให้การสนับสนุนกิจกรรม เพื่อให้เกิดการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลน้อยที่สุด

ตัวอย่าง

ข้อความ	การสนับสนุน				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
ก. องค์กรของท่านมีนโยบายเกี่ยวกับการนำกระบวนการพยาบาลเสนอในการประชุมผลงานวิชาการประจำปี	✓				

จากตัวอย่าง แสดงว่า ท่านเห็นว่าองค์กรของท่านมีการสนับสนุนเกี่ยวกับการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลมากที่สุด

ข้อความ	การสนับสนุน				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
<p>ในองค์กรของท่านมีการปฏิบัติกิจกรรมในการสนับสนุนการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาลเพียงใด</p> <p>1. การประกาศนโยบายเกี่ยวกับการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติ การพยาบาลอย่างชัดเจนเป็นลายลักษณ์อักษร</p> <p>2. โครงสร้างการบริหารงานที่ชัดเจน คล่องตัวในการติดต่อประสานงาน การดำเนินงาน การประเมินประสิทธิภาพในการปฏิบัติการพยาบาล และกรณีเทศงาน</p> <p>3. การกำหนดขอบเขตหน้าที่ความรับผิดชอบของบุคลากรในฝ่ายการพยาบาลอย่างชัดเจน และเป็นลายลักษณ์อักษร</p> <p>.</p> <p>18. หัวหน้าหอผู้ป่วยสามารถให้การช่วยเหลือและให้คำแนะนำแก่ท่าน เกี่ยวกับการใช้กระบวนการพยาบาลในการปฏิบัติการพยาบาล</p> <p>19. พยาบาลผู้ร่วมงาน สามารถให้การช่วยเหลือและให้คำแนะนำแก่ท่าน เกี่ยวกับการใช้กระบวนการพยาบาลในการปฏิบัติการพยาบาล</p> <p>20. หัวหน้าหอผู้ป่วยเป็นผู้นำในการใช้กระบวนการพยาบาลในการปฏิบัติงาน</p>					

ชุดที่ 4

แบบวัดเจตคติต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล

คำชี้แจง แบบวัดนี้ ต้องการทราบถึงความรู้สึกหรือความคิดเห็นของท่านต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล ในการตอบแบบสอบถามชุดนี้ไม่มีข้อใดถูกหรือผิด ขอให้ท่านอ่านข้อความด้านซ้ายมือโดยละเอียด แล้วประเมินความรู้สึกหรือความคิดเห็นที่แท้จริงของท่านต่อข้อความดังกล่าว แล้วเขียนเครื่องหมาย ✓ ลงในช่องระดับความรู้สึกหรือความคิดเห็นด้านขวามือ โดยมีเกณฑ์ในการประเมินความรู้สึกหรือความคิดเห็นดังนี้

เห็นด้วยอย่างยิ่ง หมายถึง เมื่อท่านเห็นว่าข้อความนั้นตรงกับความรู้สึกหรือความคิดเห็นของท่านมากที่สุด

เห็นด้วย หมายถึง เมื่อท่านเห็นว่าข้อความนั้นตรงกับความรู้สึกหรือความคิดเห็นของท่านเป็นส่วนใหญ่

ไม่แน่ใจ หมายถึง เมื่อท่านรู้สึกเฉย ๆ หรือไม่แน่ใจว่าจะมีความรู้สึกหรือความคิดเห็นตรงกับข้อความนั้น

ไม่เห็นด้วย หมายถึง เมื่อท่านเห็นว่าข้อความนั้นไม่ตรงกับความรู้สึกหรือความคิดเห็นของท่านเป็นส่วนใหญ่

ไม่เห็นด้วยอย่างยิ่ง หมายถึง เมื่อผู้ตอบเห็นว่าข้อความนั้นไม่ตรงกับความรู้สึกหรือความคิดเห็นของท่านเลย

ตัวอย่าง

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1. การปฏิบัติงานโดยใช้กระบวนการพยาบาลทำให้ครอบครัวของผู้ป่วยเด็กพึงพอใจมาก	✓				

จากตัวอย่าง แสดงว่า ท่านเห็นว่า การปฏิบัติงานโดยใช้กระบวนการพยาบาลทำให้ครอบครัวของผู้ป่วยเด็กพึงพอใจมากที่สุด

ข้อความ	เห็นด้วย อย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วย อย่างยิ่ง
1. กระบวนการพยาบาลทำให้มีความคิดริเริ่มสร้างสรรค์ ในการแก้ปัญหาให้แก่ผู้ป่วย					
2. การนำกระบวนการพยาบาลมาใช้จะช่วยพัฒนาคุณภาพการพยาบาล					
3. กระบวนการพยาบาลเป็นเรื่องน่าเบื่อ					
4. กระบวนการพยาบาลมีขั้นตอนมากยุ่งยากในการนำมาใช้					
.					
.					
.					
.					
.					
.					
17.การใช้กระบวนการพยาบาล ต้องเสียเวลาในการเขียนบันทึกรายงาน ทำให้ไม่มีเวลาดูแลผู้ป่วยอย่างใกล้ชิด					
18.การใช้กระบวนการพยาบาล ทำให้มองเห็นแนวทางการปฏิบัติ เพื่อแก้ปัญหาของผู้ป่วยได้ชัดเจนขึ้น					
19. การนำกระบวนการพยาบาลมาใช้ทำให้รู้สึกภาคภูมิใจในวิชาชีพ					
20. การใช้กระบวนการพยาบาลทำให้ไม่มีอิสระในการทำงาน					

APPENDIX B


List of Validators

The content validity of the questionnaires used in this study was assured by three validators. Name list of the validators was as follow:

1. Assoc .Prof. Sasithorn Wannapong, M.S. (Physiology)
Faculty of Nursing,
Srinakharinwirot University
2. Assoc .Prof. Dr. Aurawamon Sriyuktasuth, D.S.N. (Educator of Nursing)
Department of Medical Nursing,
Faculty of Nursing, Mahidol University
3. Miss Jittima Udomsathaphan
Vice Director of Academic Service Division
Queen Sirikit National Institute of Child Health

APPENDIX C

Documentary Proof of Ethical Clearance from the Committee of Queen Sirikit National Institute of Child Health (Children' Hospital) on Human Rights Related to Human Experimentation


 ที่ สร 0319/.....^{Ag 23}
สถาบันสุขภาพเด็กแห่งชาติมหาราชินี
420/8 ถนนราชวิถี เขตราชเทวี
กรุงเทพฯ 10400

ธันวาคม 2549

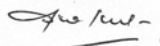
เรื่อง อนุมัติให้ดำเนินการวิจัยได้
 เรียน นางสาวเดือนใจ ศิละสนา
 เอกสารที่แนบ 1. หนังสืออนุมัติ ฉบับภาษาไทย จำนวน 1 ฉบับ

คามที่ ท่านซึ่งเป็นหัวหน้าโครงการวิจัยเรื่อง ปัจจัยที่มีอิทธิพลต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติกรพยาบาล ได้เสนอโครงการวิจัยดังกล่าวให้คณะกรรมการพิจารณาการศึกษาวิจัยในมนุษย์ของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี พิจารณาอนุมัติ นั้น

ในกรณี สถาบันสุขภาพเด็กแห่งชาติมหาราชินี โดย คณะกรรมการพิจารณาการศึกษาวิจัยในมนุษย์ของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี อนุมัติให้ดำเนินการตามโครงการดังกล่าวได้ อนึ่งคณะกรรมการ ฯ ขอแจ้งเกี่ยวกับหน้าที่และความรับผิดชอบ ของผู้วิจัยภายหลังได้รับการอนุมัติ คือ ต้องแจ้ง หรือ รายงานสถานะ(Status) ให้คณะกรรมการ ฯ ทราบทุก 3 เดือน หรือ 6 เดือน โดยให้เป็นไปตามระเบียบสถาบันสุขภาพเด็กแห่งชาติมหาราชินี ว่าด้วยการดำเนินการวิจัยในสถาบันสุขภาพเด็กแห่งชาติมหาราชินี พ.ศ. 2549 และ เมื่อเกิดเหตุการณ์ต่อไปนี้ทุกครั้ง ได้แก่

1. เมื่อโครงการวิจัยยุติลง ซึ่งอาจจะเป็นการดำเนินการวิจัยเสร็จสิ้นสมบูรณ์ หรือ อาจจะไม่สามารถดำเนินการวิจัยต่อไปได้ พร้อมทั้งแจ้งสาเหตุของการยุติโครงการวิจัยให้ทราบด้วย
2. เมื่อมีการเปลี่ยนแปลงโครงการวิจัยต้องระบุให้ชัดเจนว่ามีการเปลี่ยนแปลงอะไรอย่างไร พร้อมทั้งเหตุผลที่ต้องเปลี่ยนแปลง
3. เมื่อมีการเปลี่ยนแปลงหัวหน้าโครงการวิจัย หรือ เพิ่มเดิมคณะผู้วิจัยต้องส่งประวัติของคนที่เปลี่ยนแปลงพร้อมทั้ง เหตุผลให้คณะกรรมการ ฯ ทราบด้วย
4. เมื่อมีอาการไม่พึงประสงค์เกิดขึ้นในโครงการวิจัย ขอให้ผู้วิจัยวิเคราะห์สถานการณ์การเกิดอาการไม่พึงประสงค์ที่ร้ายแรง relate, possible/likely, probably, fatal กับโครงการวิจัยที่ท่านรับผิดชอบอย่างไร รวมทั้งขอทราบมาตรการในการดูแลป้องกันอาสาศมึครในประเทศไทยด้วย ภายใน 10 วันหลังจากท่านรับทราบข้อมูล
5. เมื่อเสร็จสิ้นการวิจัยโปรดมอบผลงานวิจัยฉบับสมบูรณ์ ให้แก่สถาบันสุขภาพเด็กแห่งชาติมหาราชินี จำนวน 2 ชุด พร้อม Electronic file 1 ชุด โดยส่งที่ศูนย์วิจัยและพัฒนา ชั้น 12 อาคารสถาบันสุขภาพเด็กแห่งชาติมหาราชินี เพื่อประโยชน์ในการศึกษาวิจัยในอนาคตต่อไป

จึงเรียนมาเพื่อทราบและแจ้งผู้เกี่ยวข้องทราบต่อไปด้วย จักเป็นพระคุณ

ขอแสดงความนับถือ

 (นางสุรกรีย์ เรืองสุวรรณ)
 ผู้อำนวยการสถาบันสุขภาพเด็กแห่งชาติมหาราชินี

ศูนย์วิจัยและพัฒนา
 โทร.02-354-8333 ต่อ5211
 โทรสาร 02-644-8983



ที่ EC005 /2550

EC 07
Document 50-006

คณะกรรมการพิจารณาการศึกษาวิจัยในมนุษย์
ของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี

ธันวาคม 2549

โครงการวิจัย : ไปถึงที่มีอิทธิพลต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล

ผู้ดำเนินการวิจัย : นางสาวเตือนใจ ศีละเสนา

สถานที่ดำเนินการวิจัย : สถาบันสุขภาพเด็กแห่งชาติมหาราชินี

เอกสารที่พิจารณา :

1. แบบเสนอโครงการวิจัยเพื่อขอรับการพิจารณาจากคณะกรรมการพิจารณาการศึกษาวิจัยในมนุษย์ของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี
2. แบบสอบถาม
3. เอกสารแนะนำโครงการวิจัยสำหรับอาสาสมัครและหนังสือยินยอม

คณะกรรมการพิจารณาการศึกษาวิจัยในมนุษย์ของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี ได้พิจารณาโครงการฉบับภาษาไทยแล้ว คณะกรรมการฯ พิจารณานุมัติในแจ้งจริยธรรมให้ดำเนินการศึกษาวิจัยเรื่องข้างต้นได้ อนึ่ง ท่านต้องรายงานสถานะของโครงการให้คณะกรรมการทราบทุกปี เพื่ออนุมัติดำเนินโครงการต่อจนกว่าจะหมดอายุโครงการ

(รศ.พิเศษ นายแพทย์ทวี โชติพิทยสุนนท์)

ประธานคณะกรรมการพิจารณาการศึกษาวิจัยในมนุษย์
ของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี

(นางสาวศศิธร คำเพราะ)

กรรมการและเลขานุการคณะกรรมการพิจารณาการศึกษาวิจัยในมนุษย์
ของสถาบันสุขภาพเด็กแห่งชาติมหาราชินี

ศูนย์วิจัยและพัฒนา
โทร.02-354-8333 ต่อ5211
หรือ โทรสาร 02-644-8983

วันประชุมครั้งแรก 12 ธันวาคม 2549

รับรองตั้งแต่วันที่ 12 ธันวาคม 2549 ถึง วันที่ 11 ธันวาคม 2550

ใบยินยอมด้วยความสมัครใจ

การวิจัย บัณฑิตที่มีสิทธิ์พลต่อการนำกระบวนการพยาบาลมาใช้ในการปฏิบัติการพยาบาล
 วันให้คำยินยอม วันที่..... เดือน..... พ.ศ.

ก่อนที่จะลงนามในใบยินยอมให้ทำการวิจัยครั้งนี้ ข้าพเจ้าได้รับการอธิบายจากผู้วิจัยถึงวัตถุประสงค์ของการวิจัย วิธีการวิจัยรวมทั้งประโยชน์ที่จะเกิดขึ้น จากการวิจัยอย่างละเอียด และมีความเข้าใจดีแล้ว

ผู้วิจัยรับรองว่าจะตอบคำถาม ต่างๆที่ข้าพเจ้าสงสัยด้วยความเต็มใจ ไม่ปิดบังซ่อนเร้นจนข้าพเจ้าพอใจ

ข้าพเจ้ามีสิทธิที่จะบอกเลิกการเข้าร่วมในโครงการวิจัยนี้เมื่อใดก็ได้ และเข้าร่วมโครงการวิจัยนี้โดยสมัครใจและการบอกเลิกการเข้าร่วมวิจัยนี้ จะไม่มีผลต่อการปฏิบัติงานของข้าพเจ้า

ผู้วิจัยรับรองว่าจะเก็บข้อมูลเฉพาะเกี่ยวกับตัวข้าพเจ้าเป็นความลับ และจะเปิดเผยได้เฉพาะในรูปที่เป็นผลสรุปการวิจัย

ผู้วิจัยรับรองว่าหากมีข้อมูลเพิ่มเติมที่ส่งผลกระทบต่อการศึกษา ข้าพเจ้าจะได้รับการแจ้งให้ทราบโดยไม่ปิดบังซ่อนเร้น

ข้าพเจ้าได้อ่านข้อความข้างต้น และมีความเข้าใจดีทุกประการ และได้ลงนามในใบยินยอมนี้ด้วยความสมัครใจ

ลงนาม.....ผู้ยินยอม

APPENDIX D

Testing Assumptions of Multiple Regression Analysis

The assumptions were tested before using multiple regression analysis as follows:

1. Normal Distribution

Using a histogram of standardized residuals, assessed the relationships are linear and the dependent variable is normally distributed for each value of the independent variable, then the distribution of the residuals should be approximately normal. If the distribution of the residual was normal; with one peak of 0.25 of a standard deviation above the mean; it meant the relationship is linear. Besides, the dependent variable is normally distributed for each value of the independent variable (Norusis, 1996 cited by Munro, 2001: 273). It has been show that a histogram of the standardized residuals was approximately normal and presented as follow:

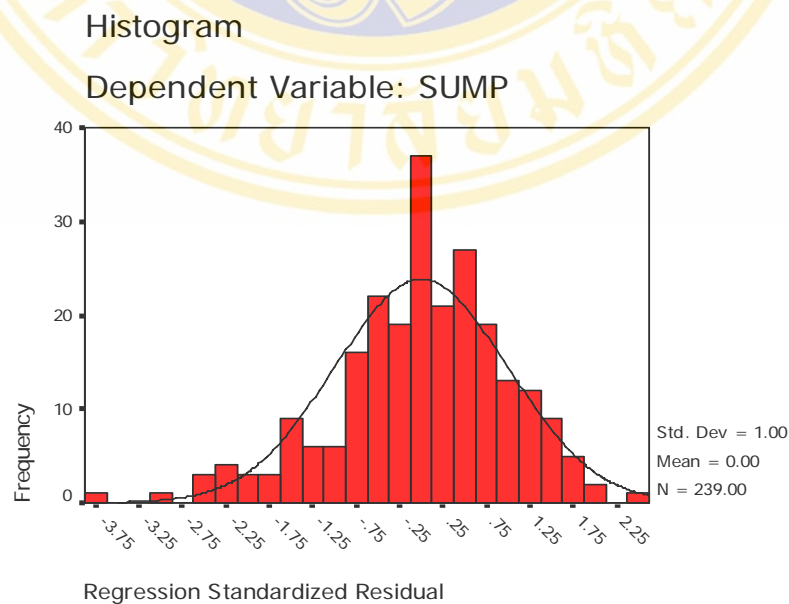


Figure 2. Histogram of Residuals

2. Homoscedasticity

To check this assumption, the residuals can be plotted against the predicted values and against the independent variables. When standardized predicted values are plotted against observed values, the data would form a straight line from the lower-left corner to upper right corner, if the model fit the data exactly. The result showed that they cluster fairly close to line (Figure 3).

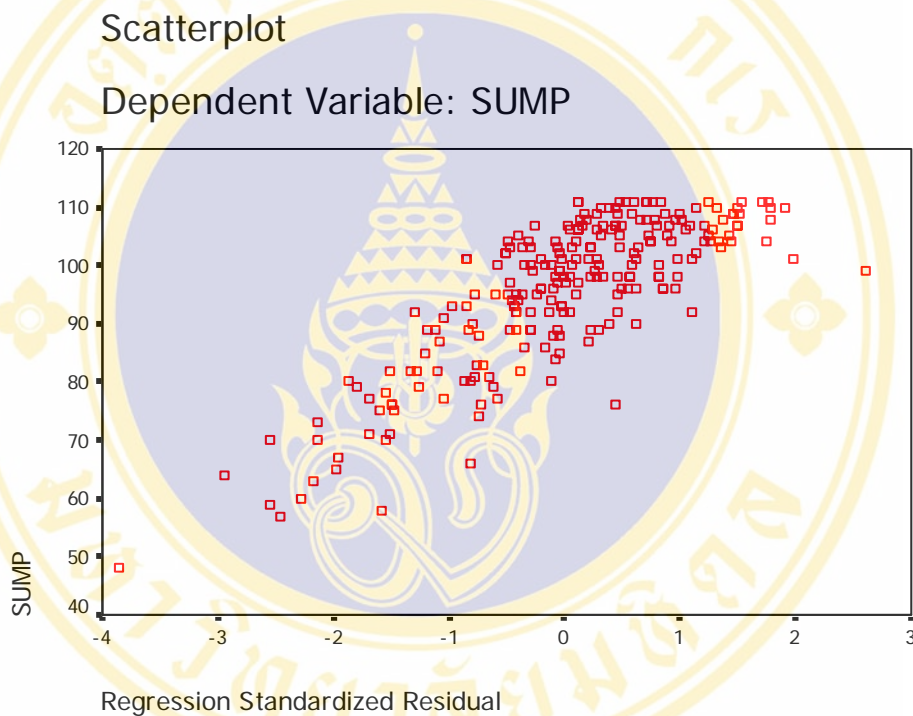
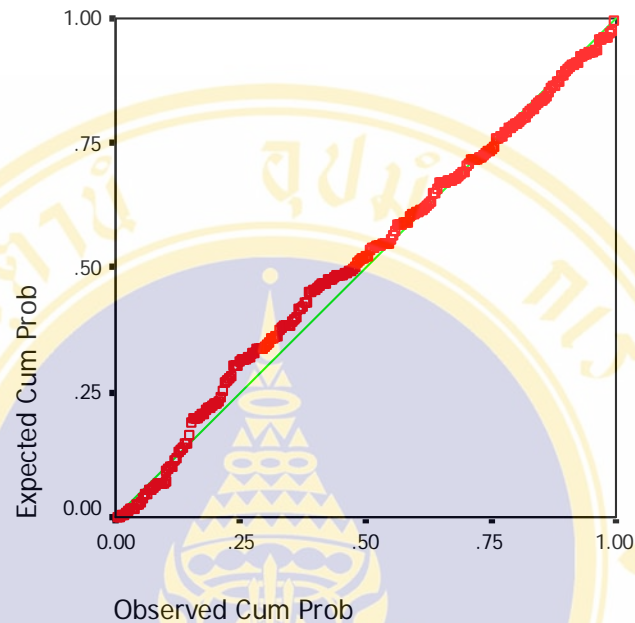


Figure 3. Plot of Residuals Against the Predicted Values of Nursing Process Utilization

When the residuals are from a normal distribution, the plotted values fall close to the line in the normal probability plot. Thus, the probability was selected to check this assumption. The result showed that the plotted values fall close to the line in the normal probability paper plot as expected in a normal distribution (Figure 4).

Normal P-P Plot of Regression Standard

Dependent Variable: SUMP

**Figure 4 Normal P-P Plot of Regression Standardized Residual****3. Multicollinearity**

The Pearson's Product Moment Correlation was performed to examine the relation between independent variables. The result of this analysis revealed that the highest correlation coefficient among the study variables was 0.586 (Table 6). The correlation coefficient among the variable was not higher than 0.90. That is an issue of multicollinearity was not in concern.

In summary, multiple regression analysis was employed in this study because they have met all the assumptions required by this method.

BIOGRAPHY

NAME	Miss Thuanchai Seelasana
DATE OF BIRTH	18 December 1962
PLACE OF BIRTH	Bangkok, Thailand
INSTITUTIONS ATTENDED	Boromrajchonnee College of Nursing, Bangkok, 1985: Equivalent to the degree of Bachelor of Science (Nursing and Midwifery) Mahidol University, 2007: Master of Nursing Science (Pediatric Nursing)
POSITION & OFFICE	Queen Sirikit National Institute of Child Health, Bangkok Position: Registered Nurse Tel. 02 – 354-8333
HOME ADDRESS	34/54 Petchakasem Road, Bangduan, Phaseecharoen, Bangkok 10160 Thailand Tel. 087-516-5919