Organizational Climate and Patient Safety Competencies of Nurses in Aceh Province, Indonesia

Rahmad Julianto

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Thesis Title	Organizational Climate and Patient Safety Competencies of Nurses in Aceh Province, Indonesia
Author	Mr.Rahmad Julianto
Major Program	Nursing Science (International Program)

Major Advisor:

……
(Dr.Pratyanan Thiangchanya)

Co-advisor:

……
(Assoc.Prof.Dr.Nongnut Boonyoung)

Examining Committee:

…...……Chairperson
(Asst.Prof.Dr.Wongchan Petpichetchian)

……..……..
(Dr.Pratyanan Thiangchanya)

……..……..
(Assoc.Prof.Dr.Nongnut Boonyoung)

……..……..
(Asst.Prof.Dr.Jom Suwanno)

……..……..
(Asst.Prof.Dr.Tasanee Nasae)

The Graduate School, Prince of Songkla University, has approved this thesis as fulfillment of the requirements for the Master of Nursing Science (International Program).

..…….
(Assoc.Prof.Dr.Teerapol Srichana)
Dean of Graduate School

This is to certify that the work here submitted is the result of the candidate's own investigations. Due acknowledgement has been made of any assistance received.

……Signature
(Dr.Pratyanan Thiangchanya)
Major Advisor

……Signature
(Mr.Rahmad Julianto)
Candidate

I hereby certify that this work has not been accepted in substance for any degree, and is not being currently submitted in candidature for any degree.

…….Signature

(Mr.Rahmad Julianto)

Candidate

Thesis Title Organizational Climate and Patient Safety Competencies of Nurses in Aceh Province, Indonesia

Author Mr.Rahmad Julianto

Major Program Nursing Science (International Program)

Academic Year 2013

ABSTRACT

This descriptive correlational study aimed to determine the organizational climate level and competencies of nurses with regard to patient safety and also investigate the relationship between the two. The sample (207 nurses) was drawn from selected in-patient units by using a proportional random sampling technique. Data were collected by using questionnaires including a demographic data form, an organizational climate questionnaire (OCQ) and a patient safety competencies of nurses' questionnaire (PSCNQ).

Both questionnaires were assessed for content validity by three experts yielding a content validity index value of .96 and .95, respectively. The reliability was examined using Cronbach's alpha coefficient giving values of .83 and .91, respectively. Data were analyzed using frequency, percentage, mean, standard deviation and Pearson's product moment correlation.

The results showed that the level of the organizational climate and patient safety competencies of nurses were at a high level. In addition, there was a significantly positive correlation between the two ($r = .49$, $p < .01$).

This study showed that the stability of an organizational climate can encourage the competency of nurses, particularly in promoting patient safety and improve the quality of healthcare services as well as nurse administrators can use these results to maintain the organizational climate and improve nurses' safety competencies.

Keywords: organizational climate, patient safety competency, nurse.

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CHAPTER 1

INTRODUCTION

Background and Significance of the Problem

Patient safety is an important issue in the health care services to prevent threats on a patient's health and life (Ballard, 2003). Healthcare providers and administrators have a responsibility to handle safety risks and to minimize errors (Ramanujam, Abrahamson, & Anderson, 2008; WHO, 2006). The Institute of Medicine (IOM) reported that there were a lack of transparency and no public report to obtain evidence related an error or harm of infection that occurred (IOM, as cited in Jewel & McGiffert, 2009). Thus, the healthcare providers and administrators will have obstacles in order to reduce harm of infection and perform prevention injuries as well as improving handle safety risks effectively.

The World Health Organization (WHO) has reported that one out of every ten hospitalized patients face an adverse event of induced errors leading to the risk of infections or injuries and even death (WHO, 2008). The Institute of Medicine (IOM) has mentioned in a report that over 90,000 deaths within the last decade was because of errors that caused injuries and infection (IOM, as cited in Jewel & McGiffert, 2009). Therefore, healthcare providers and health professionals should pay attention regarding patient safety in order to ensure competent and safe care (Jewel & McGiffert, 2009; WHO, 2009).

Nurses are one of the most important healthcare professionals who provide healthcare services and they frequently encounter problems in the hospital when managing safety care for the patients by following the existing clinical procedures (Ahmed, Adam, & Abd Al Moniem, 2011). Although to err is human and that is unavoidable (Jewel & McGiffert, 2009), nurses should put an effort into avoiding error by noting and being aware of the sources of such errors or hazards which include medication errors due to neglect, insufficient training and many other factors (Tang, Sheu, Yu, Wei, & Chen, 2007).

The incidence of frequent occurrences of errors in different countries such as France and Taiwan has encouraged all healthcare providers and researchers to investigate the potential sources of errors that occurred in hospitals (Tang et al., 2007; Saillour-Glenisson et al., 2002). Generally, the types of errors by nurses include errors related to medication such as errors while monitoring patients' conditions however, administration errors also resulted in the wrong medication being given to a patient (Mayo & Duncan, 2004).

Indonesia is one of the developing countries where the incidence of errors are being observed (Prayetni, 2005). Local studies have indicated that some of these cases were related to incorrect medicine administration and nosocomial infections in several hospitals (Razi, 2011; Fitri, 2010; Yusran, 2008). The WHO (2006) has reported that several hospitals in Jakarta showed nosocomial infection in 9.2 % of patients. Thus, in order to prevent the spread of infections in a hospital in Indonesia, healthcare providers should focus on providing protection for the healthcare professionals including nurses

through using personal protective equipment in compliance with the standard precautions (Duerink et al., 2006).

A recent study in Indonesia showed that there are obstacles, namely, most nurses only have a nursing diploma and therefore lack adequate skills and also still require support to enhance their performance (Lock, 2011). In addition, some studies in Indonesia indicated that nurses could not perform standard precautions due to a lack of awareness and a limitation of equipment (Marjadi & McLaws, 2010; Shield & Hartati, 2003).

At present, the hospitals in Indonesia have started to promote the standard of patient safety based on the criteria of the Joint Commission International (JCI) in order to improve the quality of patient safety care (Ministry of Health of Indonesia., 2012; Mugrditchian, 2009). Additionally, the Ministry of Health of Indonesia has set a standard criteria to classify the hospitals by considering the appropriate facilities, resources and capabilities of the health services (Ministry of Health of Indonesia., 2010). Moreover, the Ministry of Health of Indonesia has introduced and set the standard, and competencies of nurses to improve the quality of health care and patient safety in the hospitals (Lock, 2011; Ministry of Health of Indonesia., 2006). However, there is no current research findings available in Indonesia related to patient safety competencies by nurses.

Patient safety competencies are important and essential to nurses and reflect the standard rules to maintain and practice quality care (Cronenwett et al., 2007). In addition, nurses should also dedicate themselves to maintain their competency through

the utilization of existing resources, such as the efficient use of medical equipment, and adhering to the appropriate standard of care (Stanton, 2004).

Several studies mentioned that the components of patient safety competencies for health professionals that can influence their knowledge, skills and attitudes include understanding the general concepts of patient safety, communicating and collaborating within a team, being aware of each safety condition in the work environment and anticipating the safe care of the patient, recognizing the culture of the workplace, using guidelines and existing standards and proper performance (Ginsburg, Castel, Tregunno, & Norton, 2012; Reed, Kim, Farquharson, & Astion, 2008; Ramritu & Barnard, 2001). The WHO (2010) stated that many of the essential components of nurses' competencies required to improve their knowledge, attitudes and skills include communicating and collaborating among professional healthcare workers, the handling of patient safety care, and encouraging the use of the guidelines or existing standards. Thus, these competencies can be applied to research and are expected to promote the level of patient safety in the hospital.

Generally, competency is an important factor within an organization, particularly the development of human resources which fosters a conducive working environment in the hospital (Ying, Kunaviktikul, & Tonmukayakal, 2007; Zhang, Luk, Arthur, & Wong, 2001). Among various existing organizational factors, organizational climate was one of the most important contributors within an organization that affects the performance of an employee and their commitment to provide safe care to the patient in the hospital (Spruill, 2008; Stone. et al., 2005). In addition, other organizational factors

included the organizational culture, participation and support of a nurse's leader. These are also considered to influence the performance of a nursing team to improve competency and promote patient safety (Stewart & Usher, 2010; Chiu, Pan, & Wei, 2008; Ying et al., 2007).

Organizational climate has been widely discussed in various studies that illustrate its relation to the scope of work satisfaction, staff empowerment, individual performance and quality of health services (Garcia-Garcia, Ramos, Serrano, Ramos Cobos, & Souza, 2011; Spruill, 2008; Mok & Au-Yeung, 2002). Organizational climate is the emotional perceptions or feelings held by employees within an organization while performing their duties (Swansburg & Swansburg, 2002). In addition, organizational climate reflects capabilities of employees to perform their duties according to the appropriate policies and existing procedures to provide safe care in their work environment (Garcia-Garcia et al., 2011; Winkler, 2004). Therefore, a positive organizational climate in a hospital should establish comfort and ease in working to provide satisfaction to the employees (Winkler, 2004).

Furthermore, the role of nurse administrators is essential to promote an organizational climate conducive to the working environment so that employees can ensure the safe provision of care while recognizing existing guidelines and realizing each working condition that supports patient safety (Ying et al., 2007; Stone et al., 2005; Winkler, 2004).

The stability of an organizational climate can encourage the competency of nurses, particularly in promoting patient safety and improve the quality of services in

the hospital (Ying et al., 2007; Winkler, 2004). A favourable organizational climate can influence the healthcare professional to perform action of care in the right manner (Glisson, 2009; Rowe, de Savigny, Lanata, & Victora, 2005). Thus, organizational climate is necessary to ensure quality of care and maintain productivity of work as well as improve their competency in the work environment (Snow, 2002).

Based on the review above, it was assumed that the favorable climate might be the major concern in Indonesia healthcare context which can influence improving patient safety and safe care in the workplace. Studies related to the organizational climate and patient safety competencies were conducted mostly in western countries but no published studies have been located in Indonesia. In addition, it is necessary to conduct the study in Indonesia particularly in Aceh due to the progress of development of healthcare services after event the earthquake and tsunami which occurred almost a decade ago.

Therefore, a study is imperative to investigate the relationship between the organizational climate and patient safety competencies of nurses in the context of the healthcare organization in Aceh province. The present study was aimed at examining the level of organizational climate, the level of patient safety competencies of nurses and exploring the relationship between organizational climate and patient safety competencies so far as perceived among nurses in Aceh province, Indonesia.

Objectives

The objectives of this study were:

a. To estimate the level of organizational climate as perceived by nurses in Aceh, Indonesia.
b. To determine the level of patient safety competencies as perceived by nurses in Aceh, Indonesia.
c. To investigate the relationship between the organizational climate and patient safety competencies of nurses in Aceh, Indonesia.

Research Questions

The research questions of this study were:

a. What is the level of organizational climate as perceived by nurses in Aceh, Indonesia?
b. What is the level of patient safety competencies as perceived by nurses in Aceh, Indonesia?
c. Is there a relationship between the organizational climate and patient safety competencies of nurses in Aceh, Indonesia?

Conceptual Framework

In this study, the conceptual framework was constructed to determine the nurses' perception regarding the organizational climate and patient safety competencies

based on reviews of the organizational climate and safety competencies. Thus, there were two constructs which were used in this study: organizational climate and patient safety competencies of nurses.

The first construct is organizational climate. Organizational climate is the perception of employee related to atmosphere of the workplace (Snow, 2002). Many studies used Litwin and Stringer's conceptualization to measure the organizational climate (Latif, 2010; Hwang & Chang, 2009; Ying et al., 2007; Mok & Au-Yeung, 2002; Snow, 2002). A framework of organizational climate was constructed in this study based on a review of Snow (2002). Snow (2002) stated that the organizational climate is one of the critical components and determinants of the individual performance that provides the primary dimensions of organizational climate which is useful and easy to measure climate work and performance of nurses in the work environment.

Snow (2002) identified the domains of the organizational climate based on the research conducted by Litwin and Stringer in 1968. It was then validated by the Hay Group to obtain the six domains that can affect nurses' performance and their organization. Snow (2002) also stated that the six main domains of the organizational climate are considered as one of the important domains which can enhance the work climate and the performance of nurses in the work environment, thus enabling nurses to perform better and meet requirements in the work environment. These domains are composed of flexibility, responsibility, standards, rewards, clarity and team commitment.

The second construct of this study is the patient safety competencies designed by the Canadian Patient Safety Institute (CPSI). The CPSI has established a

framework to assess the perception of healthcare professionals regarding patient safety competencies in the work environment (Frank & Brien, 2008). Even though, many frameworks of studies regarding patient safety competencies for healthcare professionals have been established (Lock, 2011; Smith, 2011; Reed et al., 2008), the CPSI framework provides information in depth, regarding the core competency of patient safety, and serves as an appropriate instrument to improve the level of perception required by healthcare professional including nurses (Ginsburg et al., 2012; Okuyama, Martowirono, & Bijnen, 2011).

The CPSI framework provides six domains of perceived patient safety competencies including; 1) contribution to a culture of patient safety, 2) working in teams for patient safety, 3) communicating effectively for the patient's safety, 4) management of risk, 5) optimizing human and environmental factors and, 6) recognizing, responding to and disclosing adverse events (Frank & Brien, 2008).

Even though no previous study explained the relationship between both of them, several studies revealed that a good climate in the organization tends to induce the healthcare professionals to perform better (Glisson, 2009; Rowe et al., 2005) thereby it can also influence their competency including patient safety. Therefore, it is imperative to examine the extent of the nurses' perception regarding the organizational climate and patient safety competencies in their working environment as well as investigating if these two are related.

The outline of the conceptual framework of this study was presented in Figure 1.

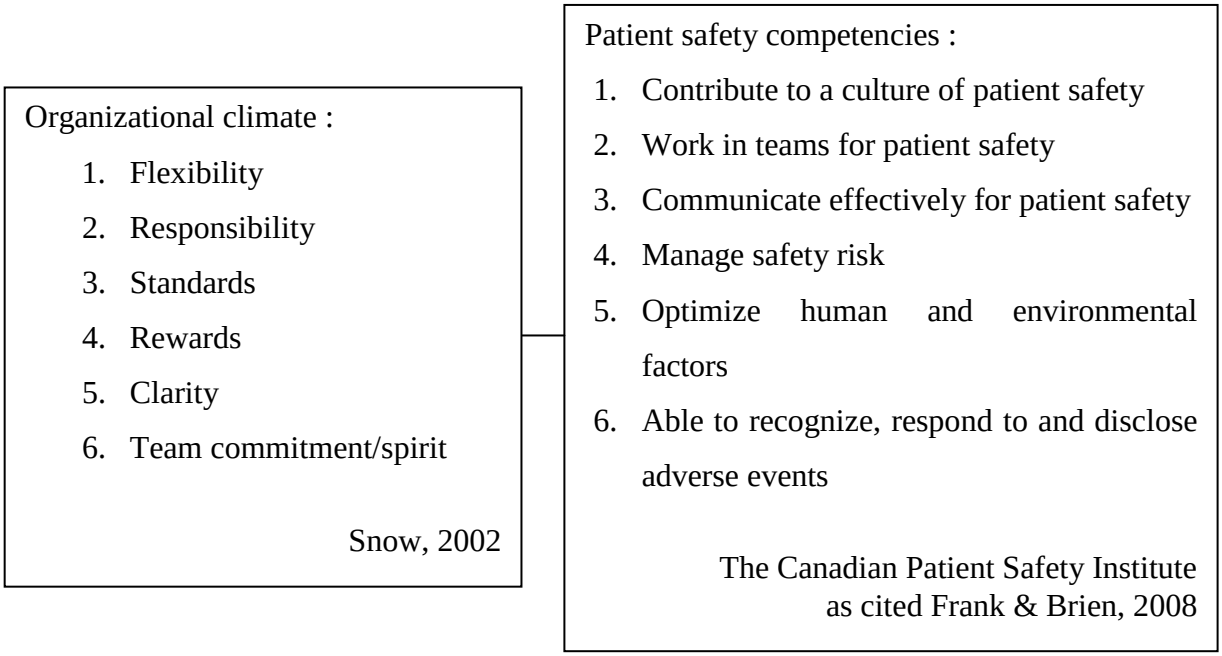

Figure 1. Conceptual framework of organizational climate and patient safety competencies of nurses.

Hypothesis

There was a relationship between the organizational climate and patient safety competencies of nurses in Aceh, Indonesia.

Definition of Terms

Patient safety competencies of nurses refers to the perception of nurses which involve their performance and skills related to patient safety including contributing

to a culture of patient safety, teamwork, communicating effectively, managing safety risks, optimizing human and environmental factors and being able to recognize, respond to and disclose adverse events while working in the hospital. This was measured by using the Patient Safety Competencies of Nurses Questionnaire (PSCNQ) which was developed by the researcher based on the framework of the Canadian Patient Safety Institute as cited in Frank and Brien (2008).

The definitions of each domain of patient safety competencies were as follows:

Contribute to a culture of patient safety refers to nurses' perceptions regarding their knowledge of patient safety, their skills and attitude to their daily work and in every task.

Work in teams for patient safety refers to nurses' perceptions regarding working, sharing, participating and supporting patient safety in terms of hand hygiene, fall prevention, medication error prevention and patient identification interprofessionally.

Communicate effectively for patient safety refers to nurses' perceptions regarding communication, including verbal and non verbal communication related to hand hygiene, fall prevention, medication error prevention and patient identification to optimize patient safety.

Manage safety risk refers to nurses' perceptions regarding the act of anticipating, recognizing and managing situational safety risks including hand hygiene, falls, medication error and patient identification in the workplace.

Optimize human and environmental factors refers to nurses' perceptions regarding their performance in utilizing existing facilities and equipment to improve patient safety in terms of hand hygiene, fall prevention, medication error prevention and patient identification in the workplace.

Recognize, respond to and disclose adverse events refers to nurses' perceptions regarding their activities which are related to the effort made during the occurrences of an incident of error or adverse events including reporting adverse events, disclosing adverse events and resolving the problem of error in the workplace.

Organizational climate refers to the perception of nurses about feelings which affect their performance within the organization related to flexibility, responsibility, standards, rewards, clarity and team commitment. It was measured by using the Organizational Climate Questionnaire and developed by the researcher based on the framework of Snow (2002).

The definitions of each domain of the organizational climate were as follows:

Flexibility refers to nurses' perceptions about the capability to finish a task, adapt to rules, procedures, policies and practices to complete a job well.

Responsibility refers to nurses' perceptions about the degree to which level authority and responsibility has been delegated.

Standards refer to nurses' perceptions about the degree to which their unit management team emphasizes and is concerned with the best level of care and performance.

Rewards refers to nurses' perceptions about the degree to which nurses feel that they are being recognized and rewarded for the good work and that such recognition is directly related to levels of performance.

Clarity refers to nurses' perceptions regarding the understanding of their duties and the expected outcomes in line with the goals and objectives of the organization.

Team commitment refers to nurses' perceptions about loyalty within the organization and reflects the pride of nurses as being a part of the organization and making an extra effort when needed.

Scope of the Study

The study was conducted in Zainoel Abidin Hospital in Banda Aceh, Aceh Province which is a general hospital categorized as type A indicating a similarity with a tertiary level hospital. This hospital is also the biggest hospital in Aceh Province. The nurses employed there were recruited to participate in this study. The study was conducted in March, 2013.

Significance of the Study

The results of this study will contribute to the development of nursing practice and nursing education, enhancing organizational climate and increasing patient safety competencies.

CHAPTER 2

LITERATURE REVIEW

The literature review for this study is as follow:

1. Overview of patient safety competencies
    - 1.1 Concept of patient safety
    - 1.2 Definition of patient safety competencies
    - 1.3 Importance of patient safety competencies
    - 1.4 Patient safety competencies of nurses in Indonesia
    - 1.5 Domains of patient safety competencies
        - 1.5.1 Contribute to a culture of patient safety
        - 1.5.2 Work in teams for patient safety
        - 1.5.3 Communicate effectively for patient safety
        - 1.5.4 Manage safety risk
        - 1.5.5 Optimize of human and environmental factors
        - 1.5.6 Ability to recognize, respond to and disclose adverse events
    - 1.6 Measurements of patient safety competencies
    - 1.7 Factors related to patient safety competencies of nurses
2. Organizational climate
    - 2.1 Definition of organizational climate
    - 2.2 Importance of organizational climate

Overview of Patient Safety Competencies

In many cases, errors made by healthcare workers and unsafe care provided by them are attributed to their lack of competency and their inability to provide quality health care services especially in improving patient safety (Aranaz-Andres et al., 2011; Marjadi & McLaws, 2010).

Patient safety is a challenge for healthcare providers while issues related to human errors, medication errors and adverse events is on the increase in most countries around the world (Wachter, 2012). In fact, patient safety has been applied in various

sciences and particularly in the healthcare industry (Emanuel et al., 2008). The advent of IOM report has stated that more than 90, 000 people die each year due to minimal control of infection and wrong medication, prompting the attention of all health care providers to monitor patient safety effectively (Jewel & McGiffert, 2009).

Currently, the development of patient safety competencies is considered as a potential area to improve the professional skills of healthcare workers, especially for nurses in terms of advanced knowledge, attitudes and practices that will be helpful in reducing errors and thereby maintaining and improving the quality of health care services (Okuyama et al., 2011; Smith, 2011). The government and healthcare providers have started to pay attention to patient safety by facilitating a safer environment and giving support so the healthcare system may provide appropriate quality and safety (Smith, 2011; Hall, Moore, & Barnsteiner, 2008). Thus, the government and healthcare providers can investigate and evaluate capabilities on an individual level and gauge if they are suited to existing guidelines applied in nursing practice (Axley, 2008).

Concept of Patient Safety

Patient safety is part of action which used by healthcare professionals to prevent adverse events through the method and salvation approach in healthcare (Emanuel et al., 2008). Patient safety also has an important role to improve the quality of health care (WHO, 2006). The IOM also mentioned that patient safety is a pattern of action that, while being a learning process, concentrates on the prevention of harm,

anticipation of errors and active involvement in the culture of patient safety (IOM, as cited in Mitchell, 2008).

There are many activities that can be applied to enhance patient safety in the healthcare service including the effort of preventing harm or injuries while on duty, handling solutions and early evaluation of problems, errors or adverse events as well as increasing the awareness and involvement of healthcare professionals, organization and patients in order to disseminate patient safety in the work environment (Liao, 2011; Mitchell, 2008; Woolf, 2004).

Patient safety in Indonesia has started to promote by the hospitals or providers with applying the standard of patient safety based on the criteria of the Joint Commission International (JCI), so that it can improve the quality of care and healthcare professionals including nurses expected to increase their professional competencies in healthcare services (Ministry of Health of Indonesia., 2012).

Therefore, the role of nurses is imperative in regard to safety and quality improvement of healthcare (Mitchell, 2008; Ramanujam et al., 2008). The health care provider should apply effective strategies to build a culture of safety and safety awareness in the work environment as well as develop competency, education and training for healthcare professionals (Liao, 2011).

Definition of Patient Safety Competencies

Competence is the ability of each healthcare professional to meet the expectations of working in a position of responsibility; it includes knowledge, skills and

other capabilities (Axley, 2008). Competency for nurses is required to improve productivity of work and to ensure the quality of healthcare services (Zhang et al., 2001).

Patient safety competency is one clinical competency required to encourage the awareness of healthcare professionals, in particular the nurses, in order to improve the quality of performance and safety in the working environment (Smith, 2011). Additionally, patient safety competency focuses on the essential capabilities of healthcare professionals with reference to knowledge, skills or behavior and is essential to improve safe care (Okuyama et al., 2011). In conclusion, patient safety competencies are the capabilities of knowledge, skills and attitude that reflect the performance of healthcare professionals toward patient safety in the work environment.

Importance of Patient Safety Competencies

For more than ten years, the Institute of Medicine has stated that approximately one hundred thousand people have died each year due to a lack of prevention with regard to medical error or infections (Jewel & McGiffert, 2009), thereby many countries have started highlighting the importance of patient safety to maintain and improve health care services by developing a standard quality of safe patient care (Mugrditchian, 2009). Moreover, many incidences of error and harm to patients have occurred because nurses were incompetent and disregarded procedures, use of equipment and safety measures in the working environment (Norris, 2009; Kerm Henriksen, Elizabeth Dayton, Margaret A. Keyes, Pascale Carayon, & Hughes, 2008).

Nurses' competencies in patient safety are essential and the roles played by nurses in healthcare services are prominent because they are in close proximity to the patients (Vaismoradi, Salsali, & Marck, 2011). In addition, patient safety competencies are required by nurses as part of their core performance to enhance professionalism their work through minimizing risks and reducing harm in patient care (Myers, 2012).

Therefore, the benefit of patient safety competencies is important to ensure patient safety, encourage professionalism of nurses and improve their knowledge and skills.

Patient Safety Competencies of Nurses in Indonesia

Issues of patient safety in Indonesia are still new and thus necessary steps still have not been taken in the healthcare service especially in the hospitals on an emergency basis, as several studies in 2004 have shown that due to a lack of nurses' competency, more than 9 percent of patients were infected in 11 hospitals of Jakarta (WHO, 2006).

In the first regional workshop on patient safety which was held in New Delhi, India in 2006, one representative from the Ministry of Health of Indonesia reported that the implementation of hospital patient safety standards started in Indonesia in 2004 (WHO, 2006). Therefore, the hospitals in Indonesia that have been accredited by the Ministry of Health and using the standard assessment by the Joint Commission International (JCI) (Ministry of Health of Indonesia., 2012).

Currently, no published data are available regarding competency of patient safety by nurses in Indonesia. However, one study has analyzed several competencies for Indonesian nurses as a part of essential competencies, so that nurses can contribute appropriately according to their capabilities, such as general competency and specific competency as interpersonal communication, ethics, nosocomial infections control, precaution, measure of vital signs, facilitate oxygen demands, electrolytes and liquid balance, wound treatment, safe patient care and management of blood transfusion (Lock, 2011).

Moreover, several studies reported that nurses faced many challenges in the course of improving their competency such as a lack of human resources to support implementation of patient safety, a high incidence of occurrences of errors and adverse events that could influence the achievement of quality healthcare services and increase patient risk (UGM, 2011; Anugrahini, 2010; Waluyo, 2010). In fact, the studies show that most nurses in Indonesia had a diploma and still required support and training (Lock, 2011; Shield & Hartati, 2003).

With regard to available resources, several studies also reported that there were many factors related to a lack of awareness on the nurses' part in contributing to patient safety, also the minimum clinical equipment such as gloves and masks was lacking (Marjadi & McLaws, 2010; Shield & Hartati, 2003). Shield and Hartati (2003) state that providers have problems caused by minimal financial support and the high cost of required clinical equipment to maintain quality care.

Therefore, thorough attention there was required by the government, providers and healthcare professionals, particularly nurses, to identify and analyze regarding patient safety competencies in the healthcare services.

Domains of Patient Safety Competencies

Several studies have mentioned the domains of patient safety competency (Ginsburg et al., 2012; Okuyama et al., 2011; Reed et al., 2008). The researcher found that there was one study conducted to identify patient safety competencies for healthcare professional, particularly for nurses (Ginsburg et al., 2012). In addition, a systematic study has explained several domains that can assess safety competencies based on the Canadian Patient Safety Institute (CPSI) framework (Okuyama et al., 2011).

Patient safety competency has been designed by the CPSI for healthcare professionals to measure the competence and capacity of healthcare providers including physicians, nurses and other healthcare professionals (Frank & Brien, 2008). The CPSI framework which is composed of the six of domains: 1) contribute to a culture of patient safety; 2) work in teams for patient safety; 3) communicate effectively for patient safety; 4) manage safety risk; 5) optimize of human and environmental factors; 6) recognize, respond to, and disclose adverse events (Okuyama et al., 2011). The details of these six domains are described below:

Contribute to a culture of patient safety. Contribute to a culture of patient safety is one of the domains and it describes the commitment of applying core

patient safety, involving knowledge, skills and attitudes of the healthcare professionals, especially the nurses who use the existing standards routinely (Okuyama et al., 2011; Frank & Brien, 2008).

Generally, health care workers including nurses, face difficulty because errors occur due to unpredictable and unavoidable factors. Healthcare professionals should be committed to maintaining patient safety by reducing the harm caused by human errors or the influence of infectious diseases (Raso & Gulinello, 2010). The effort to maintain a culture of safety is an essential component that reflects the personal capabilities of workers during the action of care in support of the prevention and reduction of chance errors (Myers, 2012; WHO, 2009). Therefore, the contribution to a culture of patient safety suggests that nurses' competency may establish a pattern of behavior based on their ability to avoid errors or adverse events during routine tasks in the workplace by being fully aware of the nursing actions performed and fixing possible errors that occur as a part of the learning process (Feng, Bobay, & Weiss, 2008).

Several studies explained that the culture of patient safety can contribute to create a safe working environment as well as form part of the competencies that are measured individually, or as a group, to determine the perceptions, commitment, the proficiency style and of the organizations, and the management of safety in the hospitals (Ahmed et al., 2011; Feng et al., 2008; Itoh, Abe, & Andersen, 2002).

One example showed the contribution of patient safety as nurses' commitment in using personal protective equipment (PPE) in order to protect themselves and other patients in the workplace (Neves et al., 2011). PPE is an important set of

equipment and is a part of standard precautions used by healthcare professionals while working to avoid the spread of infection (Ganczak & Szych, 2007). Generally, the kinds of PPE that are used by nurses in the hospital include gloves, mask, and gowns (Neves et al., 2011; Mukwato, Ngoma, & Maimbolwa, 2008; Ganczak & Szych, 2007). The relevant studies found that the compliance of nurses, regarding the use of personal protective equipment, can influence the performance of nurses which then promotes patient safety and prevents the risk of infection (Mukwato et al., 2008; Ganczak & Szych, 2007).

Indonesian hospitals have started to use standard accreditation procedures adopted from the JCI (Joint of Commission International) since 2006 (Ministry of Health of Indonesia., 2006). This standard is one of the ways to contribute to the culture of patient safety through a standard approach of healthcare service that focus on the patient, the standard of hospital management and the goals of hospital patient safety (Ministry of Health of Indonesia., 2011). Certainly, Indonesian hospital staff is required to involve all components in order to apply the standard of patient safety in the hospital and maximize healthcare services effectively.

Many healthcare organizations stated that patient safety culture is a relatively new concept (Ahmed et al., 2011), thereby it provides challenges and opportunity for all of the stakeholders, the healthcare professionals and the people who are engaged in assessing the current situation, including the competence level that is required for each individual nurse in the context of cultural patient safety to improve health care quality (Myers, 2012; WHO, 2009).

Work in teams for patient safety. Teamwork in healthcare services is the feature of an organization that provides different characteristics of the structural and functional processes that are dynamically involved with various healthcare professionals who have expertise and should be responsible to cooperate and coordinate in functioning to maintain and enhance the quality of care and patient safety (WHO, 2009; Rosemarie Fernandez, Steve W. J. Kozlowski, Marc J. Shapiro, & Salas, 2008). Working in a team needs both individual and team performance, based on the criteria of knowledge, skills and attitude of the team members to foster safe care through proactive performance, consultation, delegation of tasks and support from others (Frank & Brien, 2008).

In addition, effective teamwork is expected to improve self confidence and encourage good cooperation in building relationships and collaboration with other healthcare workers (Manser, 2009; Baker, Gustafson, Beaubien, Salas, & Barach, 2005). Thus, when we examine the ability of healthcare professionals, in particular the nurses, this is one of the essential domains (Okuyama et al., 2011).

Communicate effectively for patient safety. Communication is a domain concerned with the receiving and distributing of required information to minimize the errors caused by miss-information of health professionals who play different roles and can enhance effective performance, and can establish friendly working relationships between individuals and organizations (Okuyama et al., 2011; WHO, 2009). Even though every nurse has been educated on communication from their study program, this

attribute only comes into play when knowledge is put into practice (Myers, 2012; Seago, 2008).

Nurses who communicate effectively can avoid the various risks in patient safety such as the misinterpretation of, and, lack of information, unclear orders with regard to using electronic communication or tools and various situations where other unexpected communication causes errors and consequently injury or death of a patient (Frank & Brien, 2008; O'Daniel & Rosenstein, 2008).

Manage safety risk. The hospital is a vast area that requires support systems that facilitate and provide safe care to the patients through mechanism of work, policy and decision making, thereby contributing to the patient safety effort (Myers, 2012). Actually, managing risks to safety is not only limited to the role of the hospital and healthcare provider, but also extends to the nurses and other healthcare professionals who are responsible for the anticipated and recognizable safety risks based on their competency by following safety practices such as infection control, proper handling care and the maintenance of equipment as well as the prevention of hazards of injury (Raso & Gulinello, 2010).

Frank and Brien (2008) explained that management of safety risks is a competency required by healthcare professionals to anticipate, recognize and understand the situation in the workplace based on their abilities, such as always washing hands before and after taking care of the patient, using protective personal equipment and the procedure of aseptic techniques. Therefore, this domain can identify the ability of

healthcare professionals to perform m safety risk management in their clinical setting (Okuyama et al., 2011).

Optimize human and environmental factors. Human and environmental factors are required to ensure safety management in many health care industries, including usability of medical devices, health care facilities as well as the performance of healthcare workers (Norris, 2009; WHO, 2009). These factors cover the potential ability of healthcare professionals particularly nurses in order to utilize resources and existing health facilities, equipment and various procedures of actions (Okuyama et al., 2011; Frank & Brien, 2008).

Therefore, nurses should understand the working conditions related to the human and the environmental factors in the units so that they can identify and recognize each situation in the work environment, such as availability of equipment, information systems, tasks and jobs and the scope of the workplace as well as the workspace to support for safety (Norris, 2009). Thus, this domain is required to assess the capacity and competence of healthcare professionals regarding an effort to optimize human and environmental factors in the workplace (Okuyama et al., 2011).

Ability to recognize, respond to and disclose adverse events. Adverse events become threats in health care when they cannot be avoided and become challenges to the nurses as much as identifying each situation that could bring harm to the patient (Aranaz-Andres et al., 2011). In fact, nurses require adequate knowledge and correct

attitudes, including the ability to recognize an adverse event, provide the clinical needs of the patient immediately, respond to the appropriate need of the patient as well as provide emotional support to the patient (Frank & Brien, 2008). If an adverse event occurs and threatens patient safety, then nurses have to show moral responsibility and the ethical obligation to report and disclose an adverse event. Therefore, recognizing an adverse event and responding effectively is essential (Moumtzoglou, 2010).

Measurements of Patient Safety Competencies

According to the existing literature review, patient safety competencies can measured with several methods, including observation or survey (Okuyama et al., 2011; Smith, 2011; Reed et al., 2008; Cronenwett et al., 2007). Several studies were focused on healthcare professionals particularly nurses to measure their patient safety competencies (Ginsburg et al., 2012; Smith, 2011) whereas another study was conducted to assess competency of patient safety particularly employee of clinical laboratories (Reed et al., 2008).

Okuyama et al. (2011) mentioned that among instruments identified from more than 45 studies to assess the patient safety competencies, only one framework of study could be used for all of healthcare professionals, particularly nurses, that focuses on knowledge, skills and behavior. This framework was established by the CPSI and consists of six core domains including contributing to a culture of patient safety, working in teams for patient safety, communicating effectively for patient safety, managing safety

risk, optimizing human and environmental factors, recognizing, responding to, and disclosing adverse events.

One study has been released using the framework of the CPSI to measure the perceptions of healthcare professionals regarding patient safety competencies in several medicine schools or universities in Ontario province, Canada (Ginsburg et al., 2012).

Factors Related to Patient Safety Competencies of Nurses

Several factors can influence the achievement of patient safety competencies of nurses and are described below:

Individual factors. There were several studies indicate that individual factors as one of crucial to identify the capability of nurses in order to improve patient safety including educational levels and work experience levels (Ahmad et al., 2011; Ramanujam et al., 2008; Khomeiran, Yekta, Kiger, & Ahmadi, 2006) as follows:

*Educational level***.** Education is the most important component which required for the healthcare professionals in the development of competence and capability based on strengthening the knowledge and skills for patient safety (Vaismoradi et al., 2011; Khomeiran et al., 2006). Additionally, competency which is based on the approach to education also provides evidence toward the achievement of the ability of any health professional to encourage performance improvement, environmental safety

and risk management in health care services (Vaismoradi et al., 2011; Chenot & Daniel, 2010). Thus, the level of education for nurses starts from the diploma level to graduation and post-graduation in nursing and recognizes their ability and also provides satisfaction as well as enhances self confidence for nurses to develop their clinical skills (Carlisle, Luker, Davies, Stilwell, & Wilson, 1999).

*Work experience***.** Work experience has a considerable impact on the quality of health services primarily to increase patient safety and the handling of safe care (Ramanujam et al., 2008). In addition, the past experiences of nurses can be used to manage care properly and avoid various errors which are harmful to the patients (Mayo & Duncan, 2004). Studies have reported that nurses with long periods of experience, usually are able to manage their duties and responsibilities to patient care properly (Ahmed et al., 2011; Hallin & Danielson, 2008). Therefore, sharing experiences and knowledge among the nursing staff and in particular between senior nurses and young nurses can encourage good team work to improve quality of care (WHO, 2009).

Organizational factors. Organizational factors contribute to improve the performance of nurses and patient safety by managing the organizational culture, organizational climate and participation and support of the nurse leader (Stewart & Usher, 2010; Singer et al., 2009; Ying et al., 2007). These organizational factors are briefly explained below:

Organizational culture. Organizational culture is a wide concept regarding perception, values, beliefs and attitudes that follow within organizations which involve healthcare providers and health professionals. (Zhou, Bundorf, Chang, Huang, & Xue, 2011). Many studies have been conducted that relate to organizational culture and patient safety. One study showed that organizational culture can influence the performance of patient safety that involves their competency to apply policies, existing norms and procedures in the work environment (Singer et al., 2009). Thus, healthcare organizations should provide policies, rules and create an organizational culture that integrates with patient safety so that healthcare workers, particularly nurses, can apply their skills.

Organizational climate. Organizational climate is one of the important concepts showing greater impact on employees (Snow, 2002) and can affect to work satisfaction, empowerment, individual performance and competency of employees (Latif, 2010; Ying et al., 2007; Mok & Au-Yeung, 2002). The details of organizational climate are discussed, emphasizing the relationship between the organizational climate and patient safety competencies.

Support of the nurse's leader. The support of a nurse's leader is considered as an important component to improve the performance of employees and establish a working relationship within an organization (Stewart & Usher, 2010). Moreover, the support of a nurse leader reflects the desires and expectations of nurses in providing trust and motivation to perform safe care appropriately (Agnew, Flin, & Reid,

2012). Therefore, support of the nurse leader plays an important role in fostering their competency and maintaining safe condition in the work environment.

Organizational Climate

Definition of Organizational Climate

Litwin and Stringer (1968) have released the concept of organizational climate which became basic to the theory the organizational climate to measure the effect of organizational climate on motivation of members. They have developed an organizational climate theory through several important dimensions of organizational climate including structure, responsibility, warmth, support, reward and punishment, conflict, standards, identity and risk. Based on their study, they argued that the organizational climate is a set of an expectations perceived by the person performing their activities in the work environment and it can affect their motivation to work (Litwin & Stringer, 1968).

While, Snow (2002) identified the domains of the organizational climate that initiated by Litwin and Stringer in 1968 and it was then validated by Hay Group to obtain the six of dimensions that can consistently affect the individual particularly nurses and their organizational performance. According to Snow (2002), the organizational climate is considered as one of the critical components and determinants of individual the performance and teamwork within an organization.

Many studies describe definition of the organizational climate in terms of nursing. Ying et al. (2007) mentioned that the organizational climate is an analysis of the perceptions of nurses and the organization regarding impressions of the working environment which can influence their motivation and behavior. While Garcia-Garcia et al. (2011) stated that the organizational climate is a part of nurses' perception regarding their contribution in the work environment which can impact on their support, autonomy and innovation. Thus, an organizational climate is an atmosphere that reflects norms, values, expectations, policies and procedures in the workplace that influence the performance of employees (Snow, 2002).

Based on the review, it can be concluded that the organizational climate describes the perception of nurses and their feelings which affect their performance within the organization related to flexibility, responsibility, standards, rewards, clarity and team commitment.

Importance of Organizational Climate

Nurses can apply the organizational climate in the workplace and improve their performance. Nurses require a good work environment with existing norms, values, policies and procedures which they can adopt (Snow, 2002).

Several studies indicated the role of organizational climate as integrated patterns of relationship and collaboration among the healthcare professionals in the working environment, which can also improve of performance of groups and individuals (Brunetto, Farr-Wharton, & Shacklock, 2011; Snow, 2002). Other studies also found that

the organizational climate can significantly influence a nurse's job satisfaction and give empowerment to nurses within the organization (Latif, 2010; Mok & Au-Yeung, 2002). The hospital is also expected to avoid the possibility of intentional turnover (Hwang & Chang, 2009) and motivate employees to be actively involved with work in the workplace (Stone et al., 2005) thereby, it can encourage productivity of work (Carlucci, Schiuma, Sole, & Linzalone, 2007) and the quality of health services though resources may be limited (Rowe et al, 2005). Thus, the influence of organizational climate is a major strength in controlling the existing problems in the healthcare organization, particularly in the hospital (Carlucci et al., 2007)

In summary, the organizational climate has a significant impact on the outcome of healthcare, especially to increase the performance of nurses and their competency as well as the quality of health care services.

Domains of Organizational Climate

Organizational climate is created to develop emotional perceptions and feeling shared by employees which express various responses or patterns of attitudes and behaviors (Swansburg & Swansburg, 2002). Many studies have been conducted with a variety of approaches and dimensions adapted to the scope of their research thus they can measure any aspects in relation to the nurses and organizational climate (Latif, 2010; Ying et al., 2007; Gershon et al., 2000; Snow, 2002).

One of the studies conducted was to explore the domains of organizational climate of nurses who were working in the intensive care unit. The domains of

organizational climate include professional practice, staffing/ resources adequacy, nurse management, nursing process, nurse/physician collaboration, nurse competence and a positive scheduling climate (Stone et al., 2006).

There were many domains used to examine the organizational climate in nursing studies. Latif (2010) has conducted of study in Bangladesh to identify domains of the organizational climate, including structure, standards, responsibility, reward and recognition, support, commitment and investigate a link with the nurses' job satisfaction while a correlated study in Hong Kong used the six domains, including leadership, working harmony, challenge, recognition, teamwork and decision making ,to investigate a link between the organizational climate and psychological empowerment of nurses (Mok & Au-Yeung, 2002).

In the present study, the selected framework consists of six important organizational climate domains, that is more relevant to nursing context. Snow (2002) has construct the concept of the organizational climate and described the six domains that influence individual performance within an organization particularly to improve the quality of care in the hospital. The six domains of organizational climate are flexibility, responsibility, standards, rewards, clarity and team commitment.

Therefore, it is assumed that organizational climate has a significant interest within the organization for current healthcare issues in Indonesia, especially to improve the competency of nurses and promote patient safety. Certainly, there are a variety of supporting factors that allow an increase in the competency of nurses and support the organizational climate, among others, socio-economic development, public

policy and standards of health care as well as the diversity of culture and religion (Muluk, 2001). This could be considered as an important role in improvement of health care services and this also can effective approach to the development of the organizational climate of a hospital in Indonesia. Therefore a framework constructed in this study based an existing study by Snow (2002) to make it relevant with the study context. The details of these six domains are discussed as follows:

Flexibility. Snow (2002) explained flexibility as the feelings of employees, emphasizing the response and adaptation to a variety of conditions and constraints faced while working in the workplace. Thus, flexibility is one of the important dimensions that provide the opportunity for employees in order to choose an alternative task or action considering the appropriateness with the existing policies and procedures within the organization (Hwang & Chang, 2009). Flexibility is an approach to the initiative and innovation by employees within the organization to increase productivity (Butler, Grzywacz, Ettner, & Liu, 2009). The employees face difficulty in making decisions regarding alternative duties or existing actions when the organization has no support systems for the employees to adopt (Albion & Chee, 2006). Therefore, in an organization flexibility towards work is required to provide an opportunity for the employees to manage the duties and responsibilities properly by applying their knowledge and skills (Metzner, 2010). Thus, the flexibility of nurses in healthcare organizations is expected to increase the capability of performance and autonomy of nurses in providing optimal healthcare, and also prevent conflict among healthcare

professionals and maintain cost effective health care (Butler et al., 2009; Butler & Ewald, 2000).

Responsibility. Responsibility is reflected in the obligation of the employees in order to perform their duties and decision making by considering the urgency of the work and utilizing the scope of flexibility as well as to accept reprimands from supervisors or managers for unsatisfactory performance (Mullins, 2005). Snow (2002) stated that the employees have to carry out the duties in full and take responsibility for their work. According to Mullins (2005), an organization plays a key role in encouraging responsible behavior regarding individual employees. Although, appropriate responsibility requires support from a supervisor as a controlling authority in decision-making, nurse or other subordinates should carry out their responsibilities as a form of appreciation for the performance, competence and commitment expected by the organization (Al-Ahmadi, 2009; Swansburg & Swansburg, 2002).

Standards. Standards are a set of rules or guidelines that are used to achieve the common goals of the organization and to improve performance (Snow, 2002). Standards are an important domain used as evidence in the administration of health services in order to improve the performance of health care professionals that affect the organizational condition and the employees' perceptions within the organization (Stone. et al., 2005). Therefore, hospitals are expected to use the existing standards as a guideline for their employees in order to carry out their work and maintain the quality of health

care, particularly in promoting patient safety in the workplace (Lock, 2011; Stone et al., 2006).

Rewards. Rewards are a form of recognition that given to the employees for the best performance in the workplace (Snow, 2002). It is an important aspect of the organization's behavior in order to provide confidence by appreciating the performance of employees that influences individuals and ultimately increases organizational performance (Mullins, 2005). It is also described by Mullins (2005) that the rewards given by the organization depend on the success or the achievement of the employee. The perception of nurses toward rewards and a recognition system for consistent employees can affect their competence in the work environment (Ying et al., 2007).

Clarity. Clarity is an important domain that has a significant influence on the development of an organizational climate, it is defined by understanding the duties and objectives set by the organization with respect to authority and the existing policies of the working environment (Snow, 2002). Clarity is reflected by the achievement of organizational goals and policies that are supported by the availability of effective information and the participation of employees in the workplace (Swansburg & Swansburg, 2002). According to Brunetto et al. (2011), harmonious relations and reducing levels of conflict are the interaction between a supervisor and the employees when influenced by the clarification of their roles. It can thus build effective relationships, improve perceptions and share commitments within the organization.

Therefore, clarity becomes a measure of productivity, involving nurse competence in order to contribute to the health services in accordance with the organization's expectations and missions (Snow, 2002).

Team commitment. Team commitment is the domain of organizational climate that deals with the employees' loyalty and support in order to achieve organizational goals (Snow, 2002). Team commitment can't be achieved without the involvement and support of employees (Swansburg & Swansburg, 2002). It is possible to maintain the organizational climate as there are commitments and beliefs within the team, employees' pride in their organization and their motivation to work effectively in the workplace (Snow, 2002). The study in China found that the perceptions of nurses regarding team commitment has a great impact on their competency thereby it can encourage performance and improve quality of care through involvement of nurses in order to promote patient safety in the workplace (Ying et al., 2007).

According to Mullins (2005), commitment in a team is established by the belief that employees are part of the organization, and this can manifest when driven by the improvement relationships between supervisor and employees. Another factor is the employee's choice of the job coupled with increased trust and accountability to achieve good results within the organization. Yet another factor considers the confidence of employees in the management of the organization, their dedication to work, and their competency.

Measurements of Organizational Climate

A literature review mentioned that measurement of the organization climate can conducted in three approaches. The first approach began with the observation of employees in daily work and this way is considered the most thorough and accurate in order to measure the organizational climate, however this way is labor intensive and expensive to do. The second approach, the study can be conducted by an interview of key members in the workplace or unit, however this way is also labor intensive and requires highly trained interviewers. The last approach is considered the most efficient way to assess a climate of an organization through a survey or a self-report questionnaire. A well-designed questionnaire can collect a wider scope of information (Snow, 2002).

Several studies in different countries have developed different self-reported questionnaires to measure the organizational climate in nursing context among others a study was conducted in Spain using measurement of Working Environment Scale for all levels of nursing personnel (Garcia-Garcia et al., 2011), while another study in Hong Kong was expressed using measurement of Litwin and Stringer Organizational Climate Questionnaire (LSOCQ) to investigate a correlation between the organizational climate and psychological empowerment (Mok & Au-Yeung, 2002).

In addition, there were several studies constructed to measure the organizational climate of nurses in the hospital using the Organizational Climate Questionnaire (OCQ) with various study approaches and different domains (Latif, 2010; Ying et al., 2007). Snow (2002) has mentioned that the organizational climate can be

measured with a well-designed survey through the key domains of the organizational climate based on study initiated by Litwin and Stringer and validated by the Hay Group.

Even though many instruments for examining the organizational climate were conducted, detailed explanations regarding the questionnaire, reliability and validity of instrument, particularly in the literature of Snow (2002), were not reported. Therefore, the instrument that was used in this study was developed by researcher.

Organizational Climate of Hospital in Indonesia

Indonesia is an agricultural country and has different customs and cultures thus affecting the characteristics and behavior of people in each area including the healthcare professionals in the hospital (Epley, 2010).

Currently the hospital organization in Indonesia is considered as one of the biggest organizations that significantly contribute to improving the quality of public health (Guntur, Haerani, & Hasan, 2012). The Ministry of Health of the Republic of Indonesia has recorded that the total number hospitals up until May 2012 reached 1959, including central hospitals (RSUP), general hospitals, public hospitals and hospital ministries, agencies or private hospitals (Meryana, 2012). Many hospitals in Indonesia, especially in Aceh, are gradually reforming the process in order to improve human resources such as doctors and nurses, and the provision of facilities and the maintenance of equipment to improve the quality of hospital services (Guntur et al., 2012; Meryana, 2012).

Furthermore, the government has issued rules that categorize each type of hospital, based on the scope of the health services provided, the availability of existing facilities and adequate equipment, human resources and hospital management (Ministry of Health of Indonesia., 2010). In addition, the implementation of hospital accreditation has begun in several of the hospitals which refer to the standard of international JCI to improve patient safety and the quality of health services (Ministry of Health of Indonesia., 2012.

However, the perception on dissatisfaction of employees and patients is still widely attributed to unfavorable conditions of hospital services including the limited number of quality health providers, the clinical setting and an inadequate health infrastructure (Barber, Gertler, & Harimurti, 2007) affecting the organizational climate.

There are some indications that show the affect on the organizational healthcare of several hospitals in Indonesia that encourages the change of workers behavior such as employees' perceptions of the work environment, decision-making in healthcare organizations, and reinforcement of rules applied in the organization as well as the working relationship among health care professionals (Budihardjo, 2012; Muluk, 2001).

Moreover, there are several indicators showing that other conditions, including the values of medical treatment, are not fully orientated to patient safety due to a lack of adequate competency by healthcare workers, lack of knowledge and skills, inadequate hospital facilities and minimum health care standards (Lock, 2011; Shield & Hartati, 2003).

Therefore, the role of the organizational climate is important and requires attention on all of the levels, such as healthcare providers and stake holders, including nurses that can increase awareness and improve performance in the workplace, particularly in the hospitals in Indonesia.

Relationship Between Organizational Climate and Patient Safety Competencies of Nurses

Based on several studies the relationship between organizational climate and nursing, the expected outcomes, including quality of care, nurses' job satisfaction, empowerment and commitment of employees are described (Brunetto et al., 2011; Garcia-Garcia et al., 2011; Latif, 2010; Mok & Au-Yeung, 2002). Several studies have contributed to improve the competency of nurses and their involvement to promote patient safety in the workplace (Ying et al., 2007; Winkler, 2004; Snow, 2002). The relationship between organizational climate and nurse's competency are shown by Ying et al. (2007). The results of findings showed that there was a positive relationship between nurses competency and organizational climate ($\gamma s = .41$, $p < .01$).

However, no study was found that emphasizes the direct relationship between organizational climate and patient safety competencies among nurses. It is argued that patient safety competencies are necessary for nurses, having a significant correlation to the working climate within the organization. These conditions have been noted in one of the related studies between safety of climate and performance in the

hospital which indicates a significant influence on performance and perceptions of employees regarding patient safety (Singer, Lin, Falwell, Gaba, & Baker, 2008). In addition, the values and perceptions of organizational climate affected the motivation and participation of employees in order to improve the patient safety care in the hospital (Winkler, 2004).

In conclusion, many studies in various countries have found the outcomes of the organizational climate and patient safety. However, no study found that there was a significant relationship between the organizational climate and patient safety competencies. Therefore, this proposed study is very important in finding the kind of relationship between organizational climate and patient safety competencies of nurses in the hospital that can encourage the efforts and strategies undertaken by providers to create an organizational climate in order promotes patient safety in the workplace.

Summary of Literature Review

Two main concepts are discussed in the proposed study that includes organizational climate and patient safety competencies. The contents of patient safety competencies of nurses are described in terms of the importance of patient safety competencies, domains and available patient safety competencies in Indonesia as well as the related factors. The aspects of organizational climate are discussed and include definition, importance of organizational climate, domains and measurement used as well as describing the organizational climate of Indonesian hospitals.

Patient safety competencies of nurses are described as the skills, knowledge and attitudes that reflect the performance of safety for nurses in the working environment. These competencies are quite important to improve the capabilities and awareness of nurses regarding patient safety while working in the hospital. Patient safety in Indonesia is a newly considered issue in healthcare services and is a major concern to the government since they have issued a set of guidelines that emphasize promoting patient safety in the healthcare services, particularly in the hospital. The domains of patient safety competencies include the contribution to the culture of patient safety, working in teams for patient safety, effective communication for patient safety, management of safety risk, optimization of human and environmental factors as well as recognizing, responding to and disclosing adverse events. In addition, there are many factors that influence the patient safety competencies of individual nurses and organizational factors. For the individual factors such as educational levels and experience and for the organizational factors, the organizational culture, support of the nurse leaders and organizational climate are considered.

In the context of the present study, organizational climate is considered as an important contributor for nurses to patient safety competencies. Organizational climate is the perception of nurses regarding the scope of duties and responsibility as well as the impact on their competency in the workplace. The several domains of organizational climate include flexibility, responsibility, standards, rewards, clarity and team commitment. In the context of Indonesia, the organizational climate has a great impact

towards the commitment and awareness of employees within their organization in order to improve the performance of nurses, particularly in the hospital.

Based on the review, the researcher assumed that there is a correlation between these two main concepts. Therefore, the scope of the study was to investigate the relationship between the organizational climate and patient safety competency of nurses in the hospital.

CHAPTER 3

RESEARCH METHODOLOGY

Research Design

The research was designed by using the descriptive correlational study. It was aimed to: 1) identify the level of organizational climate as perceived by nurses in Aceh, Indonesia, 2) identify the level of patient safety competencies as perceived by nurses in Aceh, Indonesia and 3) investigate the relationship between the organizational climate and patient safety competencies as perceived by nurses in Aceh, Indonesia. The research methodology, settings, population, sample and data collection procedures are briefly described as follows:

Population and Setting

The populations of this study were the nurses who work in Dr. Zainoel Abidin Hospital in Banda Aceh. This hospital is regarded as a grade A category, educational hospital and the largest hospital in Aceh Province (Dinkes Aceh, 2010).

According to the data from the Health Department, Government of Aceh in 2010, there were approximately 434 nurses, most having graduated with a diploma from the nursing school (Dinkes Aceh, 2010). This study was conducted on nurses who had a minimum educational level holding a nursing diploma. There were 392 nurses

diploma (Dinkes Aceh, 2010) with 405 beds in 15 wards that were available to accommodate healthcare services particularly for patients in Dr. Zainoel Abidin Hospital (Berita Sore, 2012). However, the researcher found that there were 19 wards in patient care who occupied by nurses include intensive care wards, medical-surgical wards, general disease wards, special disease wards and private wards.

Sample Size and Sampling

The sample size of this study was determined by using the Yamane's formula in that the number of the population is known (Israel, 1992) and can be computed using the following formula:

$$n = \frac{N}{(1 + Ne^2)}$$

n = sample

N = population = 392

e = error (estimate ± 5 %)

Thus, $n = \frac{392}{1 + [392 \times (.05)^2]}$

n = 197.97 or the sample size is 198.

Ten percent of the total figure of the sample was added to avoid sampling error or any missing data. Thus, for this proposed study a total of 218 nurses were included as the participants.

A proportional random sampling technique was used to select the required number of subjects (n = 218) and to ensure an equal proportion in each ward. The researcher calculated the number of subjects based on the total number of respective wards by using the following formula:

$$\text{n each ward} = \frac{\text{Total number of nurses of ward x 218}}{392}$$

A table of samples shown that there were 19 wards occupied by nurses working in patient care that are calculated as follows:

Table.1

Number of Subjects from Clinical Wards

Clinical wards	Number of wards	Population	Sample
Intensive care	5	108	59
General disease	5	103	56
Medical-surgical	4	107	55
Special disease	4	62	34
Private ward	1	24	14
Total	19	404	218

Furthermore, during the selection of the sample, the subjects were selected to meet the inclusion criteria: (1) having at least a diploma level of nursing and (2) directly involved in clinical practice and patient care. In cases of more than the required number of qualified samples; a lottery was used to select the desired number randomly.

Instrumentation

Instruments

The instruments required in this study were composed of three parts including part I Demographic Data Form (DDF), part II Patient Safety Competencies of Nurses Questionnaire (PSCNQ) and part III Organizational Climate Questionnaire (OCQ). The details of each part were as follows:

Demographic Data Form (DDF). The Demographic Data Form (DDF) consists of eight parameters. It was used to collect the information of the subjects involved including age, gender, marital status, level of educational nursing, working experience, current workplace, and the salary per month, as well as trainings or short course training that attended (Appendix B).

Patient Safety Competencies of Nurses Questionnaire (PSCNQ). The Patient Safety Competencies of Nurses Questionnaire (PSCNQ) composed of 29 items with 6 domains which was constructed by the researcher based on the CPSI (Frank & Brien, 2008). This questionnaire was used to determine the level of nurses' perception toward patient safety competencies. Each item was ranked using a 4-point rating scale, ranging from 1 = strongly disagree to 4 = strongly agree (Appendix B). The mean of each item was calculated for the total scores and the subscale scores and the level as follows: 1.00 – 2.00 = low level, 2.01 – 3.00 = moderate level and 3.01 – 4.00 = high level. A

higher score indicates a higher level of patient safety competencies as perceived by the nurses.

Organizational Climate Questionnaire (OCQ). This questionnaire covered 23 items within 6 domains which was constructed by the researcher based on the framework of Snow (2002). Each item is ranked using a 4-point rating scale, ranging from 1 = strongly disagree to 4 = strongly agree (Appendix B). The mean of each item was calculated for the total scores and subscale scores and the level as follows: 1.00 – 2.00 = low level, 2.01 – 3.00 = moderate level and 3.01 – 4.00 = high level. Thus, a higher score shows a higher level of organizational climate.

Validity and Reliability of the Instruments

Three experts examined the content validity and appropriateness of the prepared instruments. The experts included the two Thai experts in nursing administration from Faculty of Nursing, Prince of Songkla University who expert in instrument development and Chulabhorn Hospital in Bangkok who expert in quality care and safety. Another expert is from the Ministry of Health, School of Nursing, Health Polytechnic, in Semarang, Indonesia with an experience in the clinical practice and administration.

The Content Validity was examined by three experts. The PSCNQ coefficient was .96 whereas the OCQ coefficient was .95. Each item of the instrument was evaluated by the experts for the relevancy, repeated and clarity of the item regarding

patient safety competencies and organizational climate. Based on the experts' suggestions, certain items of the questionnaires were deleted including one of item from the PSCNQ — "identify task while checking medication and allergic reaction symptoms of the patient" and another item from the OCQ, item — "rewards given appropriate to the level of performance". There are two reasons why these items were deleted; the meaning was unclear and too similar in meaning.

With regards to testing the reliability of the OCQ and the PSCNQ, the instruments were analyzed for internal consistency using Cronbach's alpha coefficient. The researcher used 20 subjects who met the inclusion criteria in Dr. Pirngadi General Hospital in Medan, North Sumatera. The results showed that the Cronbach's alpha coefficient of the OCQ and PSCNQ in this study were .83 and .91, respectively.

Translation of the Instruments

In this study, the researcher used the two instruments; the PSCNQ and the OCQ were originally developed in the English version.

To ensure the equivalence of these instruments, the instruments were translated to Indonesian language by a bilingual expert and the translated Indonesian version was back-translated to English by another bilingual expert. The experts bilingual are from the Language Center of Syiah Kuala University and one of the institute of English courses in Aceh. There was no significant discrepancy between the two English versions. The questionnaire was applied the Indonesian version for data collection.

Ethical Consideration

This study was conducted with consideration to the protection of the human rights of all subjects. The approval of the Research Ethic Committee, Faculty of Nursing, Prince of Songkla University was obtained and the permission for data collection was also obtained from the Director of Dr. Zainoel Abidin General Hospital in Aceh. Every subject has the freedom to ask for an explanation and fill in the questionnaires or can withdraw from this study at anytime with no consequences.

In addition, the subjects were reassured that their responses would be kept confidential and their identities were not revealed on research report or publications of the study.

Data Collection

Data were collected from selected nurses in Dr. Zainoel Abidin Hospital in Aceh Province in March 2013. The steps of the data collection were conducted as follows:

Preparation Phase

1. At the beginning, the researcher submitted the final proposal including the questionnaires and it was approved by the Research Ethic Committee of the Faculty of Nursing, Prince of Songkla University, Thailand.

2. The researcher obtained an authorized letter for data collection from the Dean of the Faculty of Nursing, Prince of Songkla University, Thailand.

3. Furthermore, the researcher asked for administrative permission from the hospital director and permission from the nursing superintendents of the hospital.

4. After getting the required permission, the researcher asked for permission to explain this study regarding the objectives and method of data collection to each head nurse in inpatient care.

5. The researcher got the list of the nurses from the hospital based on the inclusion criteria. Furthermore, eligible participants for the study were selected by using a proportionate simple random sampling technique.

Implementation Phase

The implementation phase was conducted as follows:

1. The researcher explained the purpose of the study and provided the informed consent form to the nurses who were selected.

2. Distributed the questionnaires to the selected nurses by researcher with the help of the head nurse.

3. The subjects were requested to send back the filled questionnaire directly to the researcher or head nurse within 9 days of distribution.

4. Finally, the completed questionnaires were collected by the researcher himself with the cooperation of the head nurse.

Data Analysis

Based on number of samples, 218 questionnaires were distributed to eligible subjects and 207 completed questionnaires (95 %) were returned. Therefore, 207 questionnaires were used for data analysis. Data were entered, screened and cleaned using a computer software program. The statistical assumptions of parametric correlation statistics: Pearson's product moment correlation (r) was tested by checking for normality and linearity. The assumptions were met.

The researcher analyzed the data using descriptive and inferential statistics. The frequency, percentage, maximum, minimum, mean and standard deviation were used to analyze the demographic data, the level of organizational climate and the level of patient safety competencies of nurses. Pearson's product moment correlation coefficient (r) was used to test the relationship between the organizational climate and the patient safety competencies of nurses.

CHAPTER 4

RESULTS AND DISCUSSION

This chapter presents the results of the study which was highlighted in the demographic data, the level of organizational climate and the level of patient safety competencies of nurses as well as illustrating the relationship between organizational climate and patient safety competencies of nurses.

Results

Demographic Data

Demographic data were summarized in Table 2. The average age of the subjects was 31 years (M = 31.15, SD = 5.87) and most of them were female (77.8 %) and married (70.0 %). More than two-thirds of the subjects had a diploma degree (68.6 %). In terms of working experience, the majority of them (79.2 %) had 1 – 10 years. In addition, the subjects had recently worked in one of the following wards; medical-surgical wards (26.6 %), intensive care wards (25.6 %), general disease wards (26.1 %), special disease wards (15.4 %) and private ward (6.3 %). Most of the subjects (74.9 %) earned a monthly salary between 1,500,000 – 3,000,000 rupiah (1 US$ = 9,500 rupiah).

With regards to training or short courses in patient safety, more than three-quarters of the subjects (83.1 %) had not yet attended either.

Table 2

Frequency and Percentage of Demographic Data (N = 207)

No	Characteristic	Frequency	Percentage
1	Age (year)		
	21 – 30	115	55.5
	31 – 40	78	37.7
	41 – 50	14	6.8
	(M = 31.15, SD = 5.87, Min – Max = 21 – 49)		
2	Gender		
	Female	161	77.8
	Male	46	22.2
3	Marital Status		
	Married	145	70.0
	Single	61	29.5
	Widowed	1	0.5
4	Level of Nursing Education		
	Diploma	142	68.6
	Bachelor	65	31.4
5	Work Experience (year)		
	1 – 10	164	79.2
	11 – 20	34	16.4
	> 20	9	4.3

Table 2 (continued)

Frequency and Percentage of Demographic Data (N = 207)

No	Characteristic	Frequency	Percentage
6	Current Workplace		
	Medical-surgical Ward	55	26.6
	General Disease Ward	54	26.1
	Intensive Care Ward	53	25.6
	Special Disease Ward	32	15.4
	Private Ward	13	6.3
7	Salary per month		
	Rp. 1,500,000 – 3,000,000	155	74.9
	Less than Rp. 1,500,000	35	16.9
	> Rp. 3,000,000	17	8.2
8	Training and courses in area related to patient safety		
	No	172	83.1
	Yes	35	16.9

Organizational Climate

Table 3 presents the data of the level of organizational climate including the frequency, mean and standard deviation of the subjects. The result showed that the level of organizational climate was at a high level with a mean score of 3.05 (SD = 0.25). The highest mean score for the domain was team commitment (M =3.31, SD = 0.45) and there was at a high level. The lowest score was the domain of responsibility (M = 2.75,

SD = 0.29) and there was at a moderate level. The results of each domain of organizational climate are presented in Appendix C.

Table 3

Mean, Standard Deviation and Level of Organizational Climate (N = 207)

Organizational Climate	M	SD	Level
Total	3.05	0.25	High
Team commitment	3.31	0.45	High
Flexibility	3.28	0.41	High
Standards	3.13	0.41	High
Rewards	2.93	0.58	Moderate
Clarity	2.89	0.30	Moderate
Responsibility	2.75	0.29	Moderate

The overall domains of organizational climate were at a high level (M = 3.05, SD = 0.25). When considering by domain, there were three domains that were at high level including domains of team commitment, flexibility and standards. The rest of them were at moderate level including domains of rewards, clarity and responsibility. For the domain of team commitment, the highest mean score was the statement of "we have a high loyalty in the organization" (M = 3.35, SD = 0.53) and the lowest mean score was the statement of "there is an effort to mutual support between my leader and staff in order to maximize healthcare services effectively" (M = 3.22, SD = 0.54). While, the domain of flexibility indicate that the highest mean score was the statement of "I always obey the existing rules in the workplace" (M = 3.43, SD = 0.50) and the lowest mean score was

the statement of “I can easily to develop creative ideas of working” (M = 2.96, SD = 0.61).

The results of domain of standards showed that the highest mean score was the statements of “our organization has applied standard operating procedures” (M = 3.39, SD = .59) and the lowest mean score was the statement of “standards are only set by the leader or committee within organization” (M = 2.78, SD = 0.78). Whereas, the level of organizational climate was at a moderate level and included the domains of rewards, clarity and responsibility. For the domain of rewards, the highest mean score was the statement of “we have the opportunity to earn the rewards with the fix and avoid mistakes in the unit” (M = 2.98, SD = 0.66) and the lowest mean score was the statement of “our managers usually providing a form of reward such as job promotions, bonus and other recognition of the good performance” (M = 2.88, SD = 0.68).

The results of the domain of clarity showed that the highest mean score was the statement of “I understand the organizational vision, mission, goals and objectives” (M = 3.30, SD = 0.54) and the lowest mean score was the statement of “in this organization, the authority of work is still unclear understood by our nursing personal” (M = 2.14, SD = 0.71). While, the domain of responsibility indicates that the highest mean score was the statement of “I have an authority based on the job description to provide care for patients” (M = 3.24, SD = 0.45) and the lowest mean score was the statement of “one of problems in my unit is that some individuals did not want take responsibility” (M = 2.24, SD = 0.77).

Patient Safety Competencies of Nurses

Table 4 shows the mean, standard deviation and the level of patient safety competencies of nurses. These results indicate that the average level of patient safety competencies was at a high level with a mean score of 3.49 (SD = 0.32). The highest mean score was the domain of contribute to a culture of patient safety with a mean score of 3.69 (SD = 0.32) and the lowest mean scores were the domains of work in teams for patient safety (SD = 0.42) and recognize, respond to and disclose adverse events (SD = 0.38) with the same mean score of 3.40. The results of each domain of patient safety competencies of nurses are represented in Appendix D.

Table 4

Mean, Standard Deviation and Level of Patient Safety Competencies of Nurses (N = 207)

Patient Safety Competencies of Nurses	M	SD	Level
Total	3.49	0.32	High
Contribute to a culture of patient safety	3.69	0.32	High
Manage safety risk	3.62	0.44	High
Communicate effectively for patient safety	3.46	0.43	High
Optimize human and environmental factors	3.41	0.40	High
Work in teams for patient safety	3.40	0.42	High
Recognize, respond to and disclose adverse events	3.40	0.38	High

The overall domains of patient safety competencies of nurses were at a high level. The domain of contribute to a culture of patient safety showed that the highest mean score was the statement of "use personal protective equipment such as mask, gloves, gown, etc when in contact with the infected patient" (M = 3.88, SD = 0.32) and

the lowest mean score was the statement of "participate in patient safety or un-safety discussions" (M = 3.50, SD = 0.50).

The results of the domain of manage safety risk showed that the highest mean score was the statement of "we have a good control toward infection by applying an aseptic technique, hand hygiene, etc" (M = 3.68, SD = 0.48) and the lowest mean score was the statement of "anticipating each high risk situation in patient care including fall injury, infection and medication errors" (M = 3.55, SD = 0.58). While, the results of the domain of communicate effectively for patient safety showed that the highest mean score were the statements of "use effective verbal and nonverbal communication in order to prevent adverse event" (M = 3.49, SD = 0.50) and "examine patient care orders and prescriptions to avoid misinterpretation" (M = 3.49, SD = 0.56) and the lowest mean score was the statement of "receive verbal instructions or information clearly regarding care of the patient to prevent adverse events" (M = 3.41, SD = 0.54).

Furthermore, for the domain of optimize human and environmental factors, the highest mean score was the statement of "utilize supporting facilities and existing equipment in the work environment in order to achieve safer care" (M = 3.49, SD = 0.52) and the lowest mean score was the statement of "perform the tasks in accordance with the existing standard precautions within the organization" (M = 3.34, SD = 0.48).

The results of the domain of work in teams for patient safety showed that the highest mean score was the statement of "always collaborate, delegate and supervise of duties within inter-professional team in order to safe care for patients" (M = 3.54, SD

= 0.50) and the lowest mean score was the statement of "receive appropriate debriefing and the inter-professional team support after an adverse event" (M = 3.31, SD = 0.57). Whereas, the domain of recognize, respond to, and disclose adverse events shows that the highest mean score of this domain was the statement of "perform infection precaution procedure properly and prevent violations occurring in practice" (M = 3.57, SD = 0.49) and the lowest mean score was the statement of "maintain the documents of adverse events and perform reporting each adverse event" (M = 3.26, SD = 0.53).

Relationship Between Organizational Climate and Patient Safety Competencies of Nurses

The results revealed that there was a significantly positive relationship between the organizational climate and patient safety competencies of nurses. The result of statistical assumptions (graph for linearity of the relationship between organizational climate and patient safety competencies of nurses) can be seen in Figures 2:

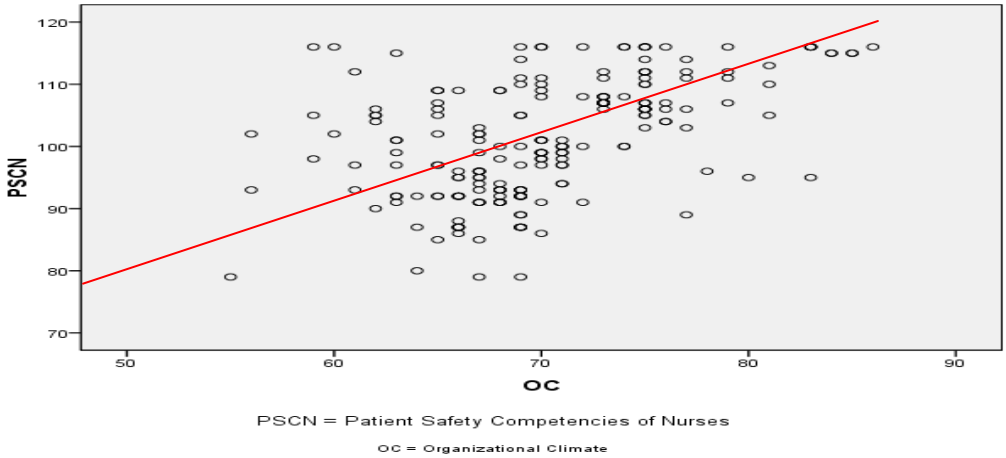

Figure 2. Linearity Relationship Between Organizational Climate and Patient Safety Competencies of Nurses

Discussion

The main findings of this study were composed of three parts which consist of the organizational climate and patient safety competencies as perceived by nurses as well as the relationship between organizational climate and patient safety competencies of nurses.

Organizational Climate

The findings of the organizational climate as perceived by nurses were at a high level with the mean score of 3.05 (SD = 0.25). For each domain, the levels of organizational climate in team commitment, flexibility and standards were at a high level, while the levels of organizational climate in rewards, clarity and responsibility were at a moderate level (Appendix C). A reasoned explanation of the perception of organizational climate of nurses at a high level may be relevant to leadership and organizational culture in the work environment.

Leadership is one of the important keys used to create solidity of work and performance of employee within the organization (Stewart & Usher, 2010). Thereby, the role of a nurse leader such as manager or head nurse can contribute significantly to improve relationships, atmosphere and harmony in the work environment (Snow, 2002). A study examined the link between organizational climate and empowerment of nurses and found that leadership is an important factor toward improving social processes and behavior of employees (Mok & Au-Yeung, 2002). Ying et al. (2007) mentioned that a

nurse leader who was able to take responsibility for education and employment for nurses through giving incentives, bonuses and other rewards was considered an effective leader. Therefore, the success of a nurse leader or head nurse in the ward can affect the organizational climate in providing guidance to staff through training, development and reward due to improving the quality of work and employee performance (Snow, 2002).

Organizational climate also can represent a group culture including norms, values, beliefs and assumptions within an organization (Snow, 2002). However, organizational cultures in various countries are different and depend on regulations and policies which are applied in each country. A study in China mentioned that the healthcare providers had encouraged the employees to apply an ideological approach and use political education and thus influence climate within the organization (Ying et al., 2007). However, a study in Bangladesh stated that the local authority had less power, support facilities and finance to affect decision making and their working climate (Latif, 2010).

The present study showed that the highest domain of the organizational climate was team commitment with a mean score of 3.31 (SD = 0.45). This result might be due to the fact that most nurses had work experience of more than one year therefore they were familiar with their working environment and had a good relationship as well as good cooperation with healthcare providers and other healthcare professionals. With regard to the increase in team commitment, resolving the conflict within a team will be more easily overcome with fostering cooperation and encouraging interaction in the organization (Snow, 2002).

Nurses also perceived flexibility at a high level (M = 3.28; SD = 0.41), this may be due the fact that the nurses understood the rules, policies, and existing standards within the organization and were able to take any decision or perform duties in the right manner. Snow (2002) mentioned that flexibility can encourage each employee to be more focused on their job and establish new ideas and so achieve the best results at work.

Regarding the domain of the standards perceived by nurses showing that nurses understood existing standards and was able to apply standard procedure in each duty. This may be because the nurses had followed the job orientation in their workplace. Standards can improve optimum performance of employees and encourage them to perform better toward achieving the goals of organization (Snow, 2002).

The level of the rewards score was at a moderate level and that may be due to nurses' beliefs or perception regarding a standards-compliant wage, bonuses and possible job promotion. Snow (2002) stated that the rewards domain is an important in maintaining performance and encouraging good work.

The domain of clarity was also at a moderate level. Even though, there was one negative statement of authority in the workplace. The nurses understood vision, mission and goals which held by the organization and recognized lines of authority that were carried by nurses in their workplace. Therefore, work productivity was considered to be at a high rate due to good planning and clear lines of organization. Thus, the organization that is highly productive has a carefully planned, well defined and clearly communicated mission statement (Snow, 2002).

The domain of responsibility was at a moderate level and this domain has the lowest mean score (M = 2.75; SD = 0.29). There were two negative statements in this domain that indicated the nurses had constraints related to their own responsibilities and delegation of duties. However, the results of the domain of responsibility show that nurses had a good perception regarding their level of authority and they needed encouragement to take initiative in solving problems more effectively.

The results of all of domains indicate that nurses had a positive organizational climate and were motivated to enhance their performance. A study found that a positive attitude in the work environment can encourage stability of work and improve employee performance in the hospital (Winkler, 2004). Without the involvement and support of employees and leaders within the organization, it may be difficult to build a good working climate (Snow, 2002; Swansburg & Swansburg, 2002).

Studies in Indonesia stated that there were many conditions that influence the organizational climate in the healthcare services particularly in the hospital including policies and regulations, financial and human resources (Barber et al., 2007; Shield & Hartati, 2003). Therefore, all stakeholders in the healthcare services such as nurses, head nurses, physicians, and healthcare providers are required to create and develop the organizational climate through the six domains of team commitment, flexibility, responsibility, standards, rewards, and clarity. In doing so, they can improve trust and maintain performance within the organization and in addition, feel proud to belong to the organization.

Patient Safety Competencies of Nurses

The level of patient safety competencies among nurses in this study reflected a high level (M = 3.49, SD = 0.32). There are many factors that could influence this level and it has explained in the review of this study that they include educational levels, work experience, culture and climate within the organization as well as support of the nurse leader.

A list of the domains of patient safety competencies of nurses included mean and standard deviation: contribute to a culture of patient safety (M = 3.69, SD = 0.32), manage safety risk (M = 3.62, SD = 0.44), communicate effectively for patient safety (M = 3.46, SD = 0.43), optimize human and environmental factors (M = 3.41, SD = 0.40), work in teams for patient safety (M = 3.40, SD = 0.42) and recognize, respond to and disclose adverse events (M = 3.40, SD = 0.38). It is interesting to note from these findings, even though most of the participants had only an educational qualification at a diploma level and had not yet attended the training or short courses regarding patient safety, nurses' competencies were still categorized at a high level.

The findings of this study show that the nurses studied had a high level of awareness and adequate knowledge, in particular providing safe care for patient. High employee supports professional maturity (Ying et al., 2007) and employee's enthusiasm to share knowledge and experience related to patient safety (Gershon et al., 2000). Such conditions might occur because the employee was driven to learn independently how to provide safe care in order to improve their competency.

There are no prior studies regarding patient safety competencies of nurses in Indonesia available. Even though, the implementation of patient safety began more than eight years ago in many hospitals. However, relating to their competency, various challenges are still faced by nurses including the lack of human resources, a high occurrence of errors which affect negatively the quality of healthcare services (UGM, 2011; Anugrahini, 2010; Waluyo, 2010).

Therefore, patient safety competencies can be a part of nurses' self evaluation with regard to improving safe care and patient safety.

Relationship Between Organizational Climate and Patient Safety Competencies of Nurses

The objective of the study was to investigate the relationship between organizational climate and patient safety competencies of nurses in Aceh Province, Indonesia. Based on the correlation result of this study, it was found that a significantly positive relationship between the organizational climate and patient safety competencies of nurses ($r = .497$; $p < .01$). The findings of this study indicate a high level of organizational climate and a high level of patient safety competencies of nurses.

Several studies also revealed that there was a positive relationship between the organizational climate and other variables including empowerment (Mok & Au-Yeung, 2002), job satisfaction (Latif, 2010), and nurses' intent to continue working in particular units (Mrayyan, 2004).

One study was conducted to investigate a positive relationship between nursing competency and the organizational climate (Ying et al., 2007). Ying et al. (2007) mentioned that nursing competency within the organizational climate, focused on general competency, and that was required from nurses who were working in the surgical and medical units at one university hospital in China. In Ying's study, nursing competency included critical thinking and research aptitude, clinical care, leadership, legal and ethical practice, professional development and teaching/coaching. Even though Ying's study was not similar in the context of the present study, it showed that competency of nurses has direct implications on improving organizational climate in the workplace.

In the present study, organizational climate was at a high level and showed that nurses have a high commitment and understanding toward the policies and existing standards in the workplace as shown in Table 3. Snow (2002) stated that there was a high level of team commitment within the organization can reduce and resolve problems quickly. In addition, high standards and flexibility allow nurses to organize and apply existing policies and realize the organizational goals that they need to achieve their performance. Thus, the healthcare providers and all stakeholders can easily run the patient safety program and in particular, enhance their competency regarding patient safety in the work environment. Therefore, the result of this study showed that there was a positive relationship between organizational climate and patient safety competencies. It was also expected that nurses contributed to a favorable organizational climate in order to improve their competencies regarding patient safety, although facilities and existing resources in the workplace were limited.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

Conclusion

This descriptive correlational study was designed to identify the level of organizational climate and the level of patient safety competencies as well as investigate the relationship between organizational climate and patient safety competencies as perceived by nurses in Aceh, Indonesia.

This study was conducted at Dr. Zainoel Abidin general hospital in Aceh Province. There were 207 subjects who participated in this study. The subjects were requested to complete a set questionnaire which consists of three parts, including: (1) Demographic Data Form, (2) Organizational Climate Questionnaire (OCQ) and (3) Patient Safety Competency of Nurses Questionnaire (PSCNQ).

The results of the content validity index (CVI) were validated by three experts who found that the PSCNQ coefficient was .96 and the OCQ coefficient was .95. The processing reliability of instruments was tested in Dr. Pirngadi general hospital in Medan, North Sumatera using Cronbach's alpha coefficient with 20 participants. The results showed that Cronbach's alpha coefficient of the PSCNQ and OCQ in this study were .91 and .83, respectively. The data were collected in Aceh in March, 2013.

Data were analyzed using frequencies, percentage, means, standard deviation, and minimum and maximum scores. For inferential statistics, Pearson's

product moment correlation coefficient was used to test a relationship between organizational climate and patient safety competencies of nurses.

The demographic data of the subjects showed that an average age of the subjects was 31 years (M = 31.15, SD = 5.87) and most of them were female (77.8 %) and married (70.0 %). More than two-thirds of the subjects had diploma degree (68.6 %). In terms of working experience, the majority of them (79.2 %) had 1 to 10 years. In addition, the subjects currently worked in one of the following wards; medical-surgical wards (26.6 %), intensive care wards (25.6 %), general disease wards (26.1 %), special disease wards (15.4 %) and private ward (6.3 %). Most of the subjects (74.9 %) earned a monthly salary between 1,500,000 – 3,000,000 rupiah (1 US$ = 9,500 rupiah). With regards to trainings or short courses, more than three-quarters of the subjects (83.1 %) had not yet been the trainings or short courses regarding patient safety.

The results of this study showed that there was a high level of organizational climate (M=3.05, SD= 0.25), the highest mean score was the domain of team commitment (M = 3.31, SD = 0.45) and it was at a high level. Whereas the lowest mean score was the domain of responsibility (M = 2.75, SD = 0.29) and it was at a moderate level. The level of patient safety competencies of nurses was at a high level (M=3.49, SD= 0.32) with the highest mean score was the domain of contribute to a culture of patient safety with a mean score of 3.69 (SD = 0.32) and the lowest mean score were the domain of work in teams for patient safety and recognize, respond to and disclose adverse events with the same mean score of 3.40 and standard deviation of 0.42 and 0.38 respectively. The results also revealed that there was a significantly positive

relationship between organizational climate and patient safety competencies of nurses ($r = .49$, $p < .01$).

Limitation and Strength of the Study

This study is an initial research in nursing which was conducted in Indonesia particularly in Aceh province to measure the level of organizational climate and patient safety competencies of nurses as well as investigate the relationship between the two. In addition, the questionnaires were developed by researcher based on two conceptual frameworks and used a self-reported measure with the distribution of questionnaires and assumed that the subjects could give valid responses, filling in the questionnaires with honest and true answer for each item of the statement.

However, this study also has limitations among others the subjects filling in the questionnaires may have been influenced by their mood at that point of time thereby affecting their choices and the results of the findings. Another limitation of this study it was conducted only on the nurses who worked in an inpatient ward. Furthermore, the purposes of this study were only to explore the level of organizational climate and patient safety competencies of nurses as well as the correlation between the two variables.

Implication and Recommendations

The results of this study have several implications and recommendations to nursing practice and nursing education. The nurses in the hospital should be aware of the importance of patient safety competencies as a necessary competence of nurses to improve the quality of healthcare services. Nurses also need to build a solid the organizational climate in the work environment. In addition, they also can develop their knowledge and skills to implement patient safety competencies and the organizational climate in the hospital.

Further study is expected to use the qualitative research method to obtain in-depth information related to patient safety competencies and the organizational climate might be helpful and may obtain detailed information more accurately. In addition, further research should evaluate patient safety competencies that are correlated to head nurses' and patients' satisfaction.

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APPENDICES

APPENDIX A

Informed Consent Form

Code :

Date :

Dear Participants,

I would like to introduce myself as Rahmad Julianto, a master's student at the Faculty of Nursing, Prince of Songkla University, Thailand. As well as conducting this study, I am working as a lecturer at the nursing academy "Tjoet Nya' Dhien" for the Health Department of Aceh Province, Indonesia.

As a part of my master's study, now I am conducting a research entitled "Organizational Climate and Patient Safety Competencies of Nurses in Aceh Province, Indonesia". The purpose of this study are to identify the level of patient safety competencies and the level of organizational climate as perceived by the nurses as well as to investigate the relationship between two in Aceh, Indonesia.

The proposed study and all the instruments were approved by distinguished experts and the International Review Board (IRB) of Prince of Songkla University, Thailand. The findings of this study will be valuable in the improvement of the nursing profession, particularly in the area of nursing management.

Your participation in this study will be considered as a voluntary service. The confidentiality of personal identity and all other information will be maintained and will be used solely for the purpose of this research project. If you agree to participate, please

give your consent by signing the letter and answering all the items of questionnaires to the best of your knowledge and return to your head or nursing superintendant. Please answer each item carefully, even though you may consider your personal of no relevance to the study. If you do not approve and feel uncomfortable, you may withdraw your participation from this study at any time without any consequences.

Finally, if you still do not understand anything in completing the questionnaire or need more information, please contact either the research or major advisor listed below:

Thank you in advance for your willingness and cooperation to participate in this study.

……	…….	……
Name of Participant	Signature of Participant	Date
Rahmad Julianto		
……	…….	……
Name of Researcher	Signature of Researcher	Date

Major Advisor:
Pratyanan Thiangchanya, Ph.D, RN
Department of Nursing Administration,
Faculty of Nursing,
Prince of Songkla University, Thailand
Email address : pratyanan.t@psu.ac.th

Researcher:
Rahmad Julianto
Nursing of Academy Tjoet Nya' Dhien
Health Department
Government of Aceh, Indonesia
Email : ners.rahmad@gmail.com
Mobile : +6281377111722

APPENDIX B

INSTRUMENTS

Code :

Date and Time :

The Demographic Data Form (DDF)

Instruction: Please fill in by selecting the best answer for each item use a tick mark (√) or fill in the blank space that you think appropriate. You can ask the researcher about any items if you do not understand or are not clear to you.

1. Age : ……years old.
2. Gender : ( ) 1. Male ( ) 2. Female
3. Marital status:

   ( ) 1. Single ( ) 2. Married ( ) 3. Divorced

   ( ) 4. Widowed
4. Level of nursing education:

   ( ) 1. Diploma degree ( ) 2.Bachelor degree ( ) 3. Master degree
5. Working experience:

   ( ) 1. 1-10 years ( ) 2.11- 20 years ( ) 3.> 20 years
6. Current workplace:

   ( ) 1. Medical-surgical ward ( ) 2.Intensive care ward ( ) 4. General disease ward

   ( ) 5.Special disease ward ( ) 6. Private ward
7. Salary per month

   ( )1.< Rp. 1,500,000 ( ) 2. 1,500,000 – 3,000,000 ( ) 3. > 3,000,000

8. Have you any trainings or short course trainings in patient safety?

   ( ) 1. No

   ( ) 2. Yes (Please, write any trainings or short courses trainings you attended)

   - ……

   - ……

   - ……

   - ……

Organizational Climate Questionnaire (OCQ)

This questionnaire is developed to measure the organizational climate of nurses. Please read carefully and then respond to each statement. Make a tick mark (√) in the section that you agree with based upon your opinion or perception of the statement. The levels of agreement in your answer are graded as follows: 1= strongly disagree, 2= disagree, 3= agree, 4=strongly agree.

Statements	1	2	3	4
Flexibility				
1. I always obey the existing rules in the workplace.				
2. I can apply duties in accordance with professional responsibility and organizational policies.				
3. I can easily to develop creative ideas of working.				
4. Utilize the policies and procedures enables you to complete your tasks easily.				
Responsibility				
5. I have an authority based on the job description to provide care for patients.				
6. One of problems in my unit is that some individuals did not want take responsibility.				
7. Most decisions in our unit are conducted with judgment on a group or committee within the organization.				
8. I felt difficult to delegate duties properly.				

Statements	1	2	3	4
Standards				
9. Our organization has applied standard operating procedures.				
10. I felt that the existing standards can improve the performance of staff.				
11. I and my colleagues have to understand the standard to achieve goals organization.				
12. The standard is authorized by the leader or the committee of the organization.				
Rewards				
13. Our managers usually providing a form of reward such as job promotions, bonus and other recognition of the good performance.				
14. We have an evaluation system for giving the reward of the good performance.				
15. We have the opportunities to earn the rewards with the fix and avoid the mistakes in the unit.				
Clarity				
16. I understand the organizational vision, mission, goals and objectives.				
17. In this organization, the authority of the work is still unclear understood by our nursing personnel.				
18. Clarity regarding procedures and the standard of infection precaution affect to work productivity and quality of services in our organization.				
19. I feel involved and contribute directly within the organization's mission.				

Statements	1	2	3	4
Team Commitment				
20. I felt proud be a part of this organization				
21. We have a high loyalty to the organization				
22. I will provide the extra effort to maintain the organization's mission.				
23. There is an effort to have mutual support between my leader and staff in order to maximize healthcare services effectively.				

Patient Safety Competencies of Nurses Questionnaire (PSCNQ)

This questionnaire is developed to measure the patient safety competencies for nurses. Please read and respond to each statement carefully and then give a tick mark (√) in the section that you agree with based upon your opinion or perception to the statement. The levels of agreement in your answer are graded as follows: 1= strongly disagree, 2= disagree, 3= agree, 4=strongly agree.

Statement	1	2	3	4
Contribute to a culture of patient safety				
1. Integrate safety practice into daily activities such as hand washing before and after taking care the patient.				
2. Use personal protective equipment such as mask, gloves, gown, etc when in contact with the infected patient.				
3. Use safety medical equipment to care the patient properly.				
4. Participate in patient safety or un-safety discussions.				
5. Apply the rules, guidelines and standard procedure in the workplace				
Work in teams for patient safety				
6. Receive appropriate debriefing and the inter-professional team support after an adverse event.				
7. Integrate safe care duties in the inter-professional team based on functions, structure and their capabilities				
8. Avoid misunderstanding among the inter-professional team in giving care of the patient.				
9. Avoid delay information regarding patient care through a better coordination within the inter-professional team.				
10. Always collaborate, delegate and supervise of duties within an inter-professional team in order to safe care for patients.				

Statement	1	2	3	4
Communicate effectively for patient safety				
11. Convey the message or verbal information regarding patient care accurately.				
12. Use effective verbal and nonverbal communication in order to prevent adverse events.				
13. Receive verbal instructions or information clearly regarding care of the patient to prevent adverse events				
14. Provide proper disclosure and reporting each adverse events that occur in the workplace				
15. Examine patient care orders and prescriptions to avoid misinterpretation				
Manage safety risk				
16. We have a good control towards infection by applying an aseptic technique, hand hygiene, etc.				
17. Be aware of using personal protective equipments properly.				
18. Anticipate each high risk situation in patient care including fall injury, infection and medication errors.				
19. Recognize hazard and sign of hospital-acquired infection.				
Optimize human and environmental factors				
20. Aware of their own capabilities and responsibilities of the profession in patient safety.				
21. Perform the tasks in accordance with the existing standard precautions within the organization.				
22. Understand work mechanism and workflow to promote safety in the ward.				
23. Utilize supporting facilities and existing equipment in the work environment in order to achieve safer care.				

Statement	1	2	3	4
24. Recognize limitation human, environment and existing support system to maintain safe care in the workplace				
Recognize, respond to, and disclose adverse events				
25. Maintain the documents of adverse events and perform reporting each adverse event.				
26. Recognize an adverse events and possible risk of harm such as nosocomial infection, patient falls or bedsore.				
27. Perform reporting immediately when errors or risk of harm will occur in the workplace.				
28. Provide care of a patient immediate when adverse events occurred.				
29. Perform infection precaution procedure properly and prevent violations occurring in practice.				

APPENDIX C

THE RESULTS OF EACH DOMAIN OF THE ORGANIZATIONAL CLIMATE

Table 5

Mean, Standard Deviation and Level of Domain of Team Commitment (N = 207)

Team Commitment	M	SD	Level
Total	3.31	0.45	High
1. We have a high loyalty to the organization	3.35	0.53	High
2. I will provide extra effort to maintain organization's mission	3.34	0.51	High
3. I felt proud be a part of this organization	3.31	0.52	High
4. There is an effort to have mutual support between my leader and staff in order to maximize healthcare services effectively	3.22	0.54	High

Table 6

Mean, Standard Deviation and Level of Domain of Flexibility (N = 207)

Flexibility	M	SD	Level
Total	3.28	0.41	High
1. I always obey the existing rules in the workplace	3.43	0.50	High
2. I can apply duties in accordance with professional responsibility and organizational policies.	3.42	0.50	High
3. Utilize the policies and procedures enables you to complete your tasks easily	3.31	0.61	High
4. I can easily to develop creative ideas of working	2.96	0.61	Moderate

Table 7

Mean, Standard Deviation and Level of Domain of Standards (N = 207)

Standards	M	SD	Level
Total	3.13	.41	High
1. Our organization has applied standard operating procedures.	3.39	0.59	High
2. I and my colleagues have to understand the standard to achieve goals organization.	3.27	0.48	High
3. I felt that the existing standards can improve the performance of staff	3.08	0.54	High
4. The standard is authorized by the leader or the committee of the organisation	2.78	0.78	Moderate

Table 8

Mean, Standard Deviation and Level of Domain of Rewards (N = 207)

Rewards	M	SD	Level
Total	2.93	0.58	Moderate
1. We have the opportunities to earn the rewards with the fix and avoid the mistakes in the unit.	2.98	0.66	Moderate
2. We have an evaluation system for giving the reward of the good performance	2.92	0.62	Moderate
3. Our managers usually providing a form of reward such as job promotions, bonus and other recognition of the good performance	2.88	0.68	Moderate

Table 9

Mean, Standard Deviation and Level of Domain of Clarity (N = 207)

Clarity	M	SD	Level
Total	2.89	0.30	Moderate
1. I understand the organizational vision, mission, goals and objectives	3.30	0.54	High
2. Clarity regarding procedures and the standard of infection precaution affect to work productivity and quality of services in our organization	3.15	0.55	High
3. In this organization, the authority of work is still unclearly understood by our nursing personal	2.14	0.71	Moderate
4. I feel involved and contribute directly within organization's mission	2.94	0.59	Moderate

Table 10

Mean, Standard Deviation and Level of Domain of Responsibility (N = 207)

Responsibility	M	SD	Level
Total	2.75	0.29	Moderate
1. I have an authority based on the job description to provide care for patients.	3.24	0.45	High
2. Most decisions in our unit are conducted with judgment on group or committee within the organization.	2.97	0.61	Moderate
3. I felt difficult to delegate duties properly	2.56	0.78	Moderate
4. One of problem in my unit is that some individual did not want take their responsibility	2.24	0.77	Moderate

APPENDIX D

THE RESULTS OF EACH DOMAIN OF

PATIENT SAFETY COMPETENCIES OF NURSES

Table 11

Mean, Standard Deviation and Level of Domain of Contribute to a Culture of Patient Safety (N = 207).

Contribute to a Culture of Patient Safety	M	SD	Level
Total	3.69	0.32	High
1. Use personal protective equipment such as mask, gloves, gown, etc when contact the infected patient	3.88	0.32	High
2. Integrate safety practice into daily activities such as hand - washing before and after taking care patient.	3.79	0.41	High
3. Use safety medical equipment to care the patient properly	3.68	0.46	High
4. Apply the rules, guidelines and standard procedure in the workplace	3.63	0.48	High
5. Participate in patient safety or un-safety discussion	3.50	0.50	High

Table 12

Mean, Standard Deviation and Level of Domain of Manage Safety Risk (N = 207)

Manage Safety Risk	M	SD	Level
Total	3.62	0.44	High
1. Having a good control towards infection by applying aseptic technique, hand hygiene, etc	3.68	0.48	High
2. Recognize hazard and sign of hospital-acquired infection.	3.65	0.51	High
3. Be aware to using personal protective equipments properly.	3.62	0.56	High
4. Anticipate each high risk situation in patient care including falls injury, infection and medication errors.	3.55	0.58	High

Table 13

Mean, Standard Deviation and Level of Domain of Communicate Effectively for Patient Safety (N = 207)

Communicate Effectively for Patient Safety	M	SD	Level
Total	3.46	0.43	High
1. Use effective verbal and nonverbal communication in order to prevent adverse event	3.49	0.50	High
2. Examine patient care orders and prescriptions to avoid Misinterpretation	3.49	0.56	High
3. Convey the message or verbal information regarding patient care accurately	3.47	0.58	High
4. Provide proper disclosure and reporting each adverse events that occur in the workplace	3.44	0.57	High
5. Receive clear verbal instructions or information regarding care of patient to prevent adverse events	3.41	0.54	High

Table 14

Mean, Standard Deviation and Level of Domain of Optimize Human and Environmental Factors (N = 207)

Optimize Human and Environmental Factors.	M	SD	Level
Total	3.41	0.40	High
1. Utilize supporting facilities and existing equipment in the work environment in order to achieve safe care.	3.49	0.52	High
2. Aware of their own capabilities and responsibilities of the profession in patient safety.	3.45	0.51	High
3. Understand work mechanism and workflow to promote patient safety in the ward.	3.39	0.49	High
4. Recognize limitation human, environment and existing supporting system to maintain safe care in the workplace.	3.36	0.50	High
5. Perform the tasks in accordance with the existing standard precautions within the organization.	3.34	0.48	High

Table 15

Mean, Standard Deviation and Level of Domain of Work in Teams for Patient Safety (N = 207)

Work in Teams for Patient Safety	M	SD	Level
Total	3.40	0.42	High
1. Always collaboratively consult, delegate and supervise of duties within inter-professional team in order to safe care for patient.	3.54	0.50	High
2. Avoid misunderstanding amongst the interprofessional team in giving care of patient.	3.40	0.53	High
3. Integrate safe care duties in the inter-professional team based on functions, structure and their capabilities	3.38	0.52	High
4. Avoid delay information regarding patient care through a good coordination within inter-professional team.	3.38	0.52	High
5. Receive appropriate debriefing and the interprofessional team support after an adverse event.	3.31	0.57	High

Table 16

Mean, Standard Deviation and Level of Domain of Recognize, Respond to, and Disclose Adverse Events (N = 207)

Recognize, Respond to, and Disclose Adverse Events	M	SD	Level
Total	3.40	0.38	High
1. Perform infection precaution procedure properly and prevent occur violations in practice	3.57	0.49	High
2. Provide care of patient immediately when adverse events occurred.	3.45	0.51	High
3. Perform reporting immediately when errors or risk of harm will occur in the workplace.	3.35	0.54	High
4. Recognize an adverse event and possible risk of harm such as nosocomial infection, patient falls or bedsore	3.34	0.47	High
5. Maintain the documents of adverse events and perform reporting each adverse events	3.26	0.53	High

APPENDIX E

LIST OF EXPERTS

The names of experts are:

1. Dr. Pramot Thongsuk

   Department of Nursing Administration

   Faculty of Nursing, Prince of Songkla University

2. Dr. Somsamai Sutherasan

   Associate Nurse Director

   Chulabhorn Hospital, Thailand

3. Dr. Muh. Mardiyono

   Ministry of Health, Republic of Indonesia

   School of Nursing, Health Polytechnique, Semarang, Indonesia

PEMERINTAH ACEH
RUMAH SAKIT UMUM DAERAH dr. ZAINOEL ABIDIN
Jln. Tgk. Daud Beureueh Nomor 108 Telepon (0651) 34562,34563 Fax. (0651) 34566
BANDA ACEH (23126)

Banda Aceh, 27 Maret 2013 M
15 Jumadil Awal 1434 H

Nomor : 423.6/ 2924
Lamp. : -
Perihal : **Selesai Penelitian**

Yang Terhormat;
Acting Dean,
Faculty of Nursing
Prince of Songkla University
di-

Thailand

1. Sehubungan dengan surat Saudara nomor : MOE 0521.1.05/118 tanggal 14 Januari 2013, kami nyatakan bahwa mahasiswa yang namanya tersebut dibawah ini :

   Nama : Rahmad Julianto
   ID : 5410420044

   telah selesai melakukan Penelitian di RSUD dr. Zainoel Abidin dari tanggal 18 s.d 26 Maret 2013 dengan judul Penelitian "Iklim Organisasi Dan Kompetensi Keselamatan Pasien Pada Perawat Di Provinsi Aceh, Indonesia (Organizational Climate and Patient Safety Competencies of Nurses in Aceh Province, Indonesia)".

2. Kami minta agar Saudara dapat menyampaikan 1 (satu) eks hasil penelitian dalam bentuk cetak dan CD atas nama mahasiswa yang bersangkutan demi perbaikan dan peningkatan mutu pelayanan RSUD dr. Zainoel Abidin di masa yang akan datang.

3. Demikianlah untuk dapat dipergunakan sebagaimana mestinya dan terima kasih.

a.n. DIREKTUR RSUD dr. ZAINOEL ABIDIN
WAKIL DIREKTUR PENGEMBANGAN SDM

BURHAN, SH, MM, MH
PEMBINA UTAMA MUDA
NIP. 19560506 198612 1 001

PEMERINTAH KOTA MEDAN
RUMAH SAKIT UMUM DAERAH DR. PIRNGADI
(AKREDITASI DEP. KES. RI NO : HK.00.06.3.5.738 TGL. 9 PEBRUARI 2007)
Jalan Prof. H.M. Yamin, SH No. 47 MEDAN
Tel. : (061) 4536022 - 4158701 - Fax : (061) 4521223

Nomor : 2456 /420.2/IV/2013 Medan, 15 April 2013
Sifat : -
Lampiran : -
Perihal : Selesai Melaksanakan Uji Validitas Dan Reliabilitas

An. Rahmat Julianto

Kepada Yth:
Direktur Pasca Sarjana
Universitas Prince Of Songkla
Di-
T e m p a t

Dengan hormat,
Membalas surat saudara no : MOE 0521.1.05/117 tanggal : 14 Januari 2013, dengan ini kami sampaikan bahwa:

Nama	***: RAHMAT JULIANTO***
NIM	***: 5410420044***
Jurusan	***: S-2 Nursing Science Prince Of Songkla University***

Telah selesai melaksanakan Uji Validitas Dan Reliabilitas di Rumah Sakit Umum Daerah Dr.Pirngadi Kota Medan dengan judul :

Iklim Organisasi Dan Kompetensi Keselamatan Pasien Pada Perawat Di Provinsi Aceh, Indonesia.

Untuk kelangsungan kegiatan Uji Validitas Dan Reliabilitas, kiranya saudara dapat memberikan kepada kami 2 (dua) eksp Thesis.

Demikian disampaikan atas perhatian dan kerjasamanya diucapkan terima kasih.

An. Direktur
RSUD Dr. Pirngadi Kota Medan
Wakil Direktur Bidang SDM dan Pendidikan

PEMERINTAH KOTA MEDAN
RUMAH SAKIT UMUM DAERAH Dr. PIRNGADI

Hj. Masnelli Lubis, SST, MARS
Pembina Tingkat I
NIP.140 1120748

VITAE

Name : Mr.Rahmad Julianto

Student ID : 5410420044

Education Attainment

Degree	Name of Institution	Year of Graduation
Bachelor of Nursing	Syiah Kuala University	2007

Scholarship Award during Enrolment

2011 – 2013 Aceh Government Scholarship

Research Experience

1. Poster presentation: Phuket International Nursing Conference, Orchid Hotel, Phuket, Thailand, 1st – 3rd May 2013

Work Position and Address

Work position Lecturer at Nursing Academy Tjoet Nya' Dhien,
Health Department Government of Aceh

Address Jalan Lingkar Kampus, Desa Rukoh, Kecamatan Syiah Kuala
Banda Aceh, Aceh Province, Indonesia
Phone: +62-651-7555885