



The Journal of **MacroTrends** in Health and Medicine

Factor influencing stress among nursing students of faculty of nursing during clinical practice

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Abstract

The purposes of this descriptive research were: (1) to study the stress of nursing student during clinical practice and (2) to explore the factor that influencing stress in nursing students during clinical practice. The research sample comprised of 158 nursing students who were enrolled to the clinical practicum courses in General Hospital. Questionnaires were used for collect the data. It consisted of three parts: (1) demographic data, (2) the nursing students' opinion regarding the preparation for clinical practice, environment of clinical setting, and preceptor and 3) the stress of nursing student during clinical practice. These questionnaires were tested for validity and reliability. The Cronbach's coefficients alpha of part 2 and 3 were 0.80, 0.71, 0.82 and 0.94 respectively. Research data were analyzed by descriptive statistics (percentage, mean, standard deviation) and multiple regression analysis. The research results were as follows. (1) The stress of nursing student during clinical practice and (2) lack of the preparation for clinical practice and environment of the clinical setting were presented at the high level. Finally, (3) there was a co-factor that related to the stress of the nursing student with the statistically significant at .05. Whereas, staff nurses, preceptor-knowledge, and preceptor-supervise could predicted the stress of the nursing student accounted for 14.20 % ($R^2 = .142$).

Keywords: Stress, Nursing students, Clinical practice

1. Introduction

The Regulations of the Council of Nursing and Midwifery Professional Act BE 2528, as amended by the Nursing and Midwifery (No. 2) Act BE 2540, requires that nursing and education courses for undergraduates in Nursing and Midwifery, a Bachelor's degree, or those equivalents to a diploma, are required to have at least 140 credits, including general education and professional courses. The course requirements are separated into theoretical course work, laboratory work and a module that requires students to work in a hospital and be scheduled to be taught at least

1,500 hours (Nursing and Midwifery Council, 1997). The theory is classroom based. Whereas, the clinical practice module is hospital based, entailing contact with staff nurses, doctors and patients. For the undergraduate this is their first experience of in situ patient contact. Elliott (2002) noted that the clinical practice time of the nursing students caused stress to the nursing students due to the unfamiliar environment with staff nurses, medical devices that they are not skilled enough to use confidently and meet the needs of patients (Beck, 1993; Elliott, 2002) . A previous study on the prevalence of mental health issues in nursing students, in the faculty of nursing, Mahidol University, 2009, found the prevalence rate of impaired mental health was 21.4 percent (Thanoi., et al, 2009), These findings are consistent with the study on the Faculty of Nursing, Naresuan University, 3rd, semester, 2010, which found that anxiety in undergraduate nursing students in their 2nd year was 82.14 percent. From observation and interviews with the nurse instructors, who work closely with the students, it was revealed that the stress was in relationship to the study and fear of working with patients in the hospital, fear of failure and dismissal from the course (Rakmanee Wong., et al, 2013). Nintachan and colleagues (2013) found that the difficulty of the situation was positively related to the mental health problems. Together with factors such as, the teaching and learning process, adaptations to the environment and as a consequence relationship with their supervisor were affected. The study of Sheu., et al, (2002); Elliott (2002); Beck (1993); Jones (2008) also found that the factors that cause stress among nursing students while in clinical practice were preparation of both the knowledge and skills required for patient care were inadequate, their case load was heavy, too many patients to care for, leading to a poor relationship with mentors, problems with supervisors, particularly those do not have sufficient knowledge and ability to support students, or lack mentoring skills and are not willing to give advice or are unable to teach empathetically.

In the learning and teaching process the Faculty of Nursing ensures students have the opportunity to practice the basic skills that they will use during the clinical practice time. With a focus on the ward environment that is so vastly different from the classroom environment or laboratory room, with its modern equipment, variety of illnesses, the needs of patients, the role of the staff nurses in hospitals, mentor nurses, and nurse instructors who supervise their clinical practice skills together with preparing the nursing students with knowledge and skills. All these aspects cause stress to nursing students and need care and proper management so as not to lead to physical and mental health problems in the future, particularly upon the graduating (Selye H., 1976a). All of these factors, pre-clinic training and factors such as relationships with doctors, staff nurses, patients and medical devices and supervisors cause stress to nursing students.

With the circumstances as describe this researcher was interested to study the factors influencing stress in nursing students and nurses in the period of the clinical practice. As the findings are of use to prevent high levels of stress, correct the environment and establish a counseling program to reduce stress for nursing students during their clinical practice.

Research Objectives

- 1 To study the preparation factors prior the clinical practice, environmental factors in the clinical practice and nursing supervisor factors.
- 2 To study the level of stress in nursing students during clinical practice.
- 3 To determine the factors that influence the stress level of nursing students during clinical practice time.

2. Material and methods

This research study is descriptive research that aims to investigate the factors influencing the stress levels of nursing students, during the clinical practice time. The population of this study was 2nd and 3rd year nursing students in Faculty of Nursing, Naresuan University. The participants in the study were selected by purposive sampling according to the objective of the study. There were 164 students undertaking the clinical practice in hospitals and volunteered to participate in the study. 6 students studying in 2nd year were enrolled in a student exchange program so were not able to participate in the study. Therefore, 158 student nurses were enrolled in the study.

Research instruments

A questionnaire was used as the research tool in this study. It was developed based on the concept of Elliott (2002) Selye (1976a) and The Department of Mental Health (2002). It consists of 3 parts;

Part 1: There were 10 questions, multiple choices, for demographic information such as, gender, year, marital status, occupation of parents or guardian, monthly income, number of the close friends and sport.

Part 2: There were 46 questions with 5 scale rating, regarding preparation before the clinical practice, the environment of the clinical practice and supervisors or nurse instructors that supervised the clinical practice.

Part 3: There were 20 questions with a 5 scale rating regarding the stress level as improved by Suan-Prung Psychiatric Hospital, Department of Mental Health (Mahantnirunkul, 2002)

All of the questions were tested for the content validity by 3 experts. The IOC values ranged from 0.75-1.00 and the Cronbach's alpha coefficient of the questionnaire with 30 students, of similar character with the sample, were 0.80, 0.71, 0.82 and 0.94, respectively.

Data collection

Permission was sought from the Dean of Nursing faculty. Then, the head of nursing department, Faculty of Nursing, Naresuan University was informed of the nature and purpose of the study, in order to conduct the research. This research obtained the IRB certificate No. 172/57, awarded on the 9th of April 2014.

Data Analysis

Data were analyzed statistically as descriptive statistics, frequency, percentage, mean and standard deviation. The correlation coefficient using stepwise multiple regressions was also ascertained.

3. Results

96.3 percent of data were collected and analyzed. The research results were as followings:

Part1: Demographic information

Majority of the participants were female at 96.8 percent, of the sample group, those studying in 3rd year were 56.3 percent, 2nd year 43.7 percent the participant's parent's status were living together at 81.0 percent, parents were farmers at 41.1 percent, followed by employee at 17.8 percent. 17.8 percent of nursing students received their income from parents, at an average of 5,261.15 baht/month. The nursing students have close friends with whom they can talk. Finally, they occasionally have time to play their favorite sport, 63.3 percent.

Part 2: The data regarding factors in pre-clinic training for nursing students. The conditions of the clinical practice, including nursing supervisors in the clinical practice based on the opinion of nursing students.

Examining the factors in pre-clinic training for nursing students, it was found that the students prepared for their practice at a high level. The environmental factors such a relationship with the staff nurses, uses of the medical equipment / nursing were at high level. The relationship with their physicians, those in charge of their cases and the patient were at moderate levels. Additionally, the nurse instructors that supervised their work during their practice time, were assessed by the students as competent, effective consultants, and assigned and monitored their work were at a high level as shown in Table 1.

Part 3: The stress levels of nursing students in the 2nd year and 3rd year during their clinical practice were at the high level, 53.2 percent, followed by 22.7 percent at moderate level. When separated by the year of study, it was found that participants studying on the 3rd year had stress levels higher than those in 2nd year. Almost all of the nursing students were afraid of making mistakes followed by feelings of anxiety and bad memory in Table 2.

Part 4: Factors that together predict the level of stress in nursing students during their clinical practice. The coefficient of multiple regressions analysis showed that the predictive variable selected by regression coefficients was statistically significant at .05 level is the supervisory style of the nurse instructor. The other factors such as, the relationship with the staff nurses in clinical practice area and the knowledge of the nurse instructors who supervised the practice can predict the stress level of nursing students in Year 2 and Year 3 during practice time overall at 14.2 percentage ($R^2 = .142$). For demographic factors such as, expenses per month, number of close friends, environmental factors such as relationships with physicians, those in charge of their case, using of medical equipment, nurses and patient, factors related to their nurse supervisor, such as assignments from their supervisor, counseling with the supervisor cannot

predict the occurrence of stress among nursing students during their training (practice) time with statistical significance as shown in Table 3.

4. Discussion

The results for this research have led to the following conclusions;

1. Factors in pre-clinic training to prepare for clinical practice, it was found that students are well prepared for their clinical practice at a high level. In accordance with The regulations of the Council of Professional Nursing and Midwifery Act BE 2528 and the amended version by the Nursing and Midwifery (No. 2) Act BE 2540 requires that the course of the professional nursing education at the undergraduate and Midwifery Bachelor's degree or equivalent to diploma are required to have at least 140 credits which separated into theory module practice in laboratory of nursing profession and had a practice in a real situation scheduled in their learning and teaching activities at least 1,500 hours (Nursing and Midwifery Council 1997). Whereas, the theory part there will be activities for teaching the class which prepares students in the nursing theory while the practice for nursing students were required and extra experience working on wards in several hospitals. When focusing on individual items based on the preparation clinic found that nursing students are getting ready to practice at a high level as the nursing students are prepared by the supervisor responsible for the practicum. The objective of this preparatory course is to prepare nursing students for their clinical practice. A handbook to guide students in request procedures was provided to them to be carried during the clinical practice. Tasks as assigned in the hand book were, daily planning operations, individual nursing care plans, case study plans, self evaluation of their clinical practice and the requirement that student nurses must obtain, including training in the laboratory (LRC) prior to practice. In this case, supervisors responsible for the practice schedule a practice time table in the laboratory (LRC) to provide nursing students the necessary skills and techniques which are important for the practicum such as, practice giving injections, applying dressings, inserting urinary catheters and caring for patients requiring intravenous fluids etc. This study results are consistent with the studies of Limthongkul and Aree-Ue (2009) who studied the sources of stress in nursing students during a first clinical practice and found that training in the laboratory (LRC) prior to clinical practice helps students to develop better skills in nursing care.

2. The situational factors: the results showed that the relationship with the staff nurse and devices-medical equipment and nursing were at a high level. Contrary, to their relationships with their physicians and their patients which were at the moderate level. Teaching and learning practice that focuses on the learning experience of the student to develop her ability for the nursing practicum with the purpose of gaining nursing knowledge and work as a professional. This course is essential for nursing education as a Carpenito and Duespohl (Carpenito and Duespohl, 1981). Students engaging in the nursing practice in real situations learn the nature and way of nursing practice and develop the skills needed to practice nursing. Nursing cannot be learnt entirely in the classroom students need to be introduced to the realities of nursing and that can only be done in a hospital. Confronting modern medical equipment and nursing those

patients in the modern context of illness and caring for the needs of patients (Elliot, 2002; Sheu et al 2002; Lengpiboon, 1999).

3. Factors of the nurse instructor and supervising nurses in clinical practice. At this point, nursing students have commented that nursing supervisors are competent in counseling during their practice; delegation and supervision of nursing students for nursing supervisors were presented at the high level. The Faculty of Nursing, Naresuan University provides instructors and supervisors who specializes in their field such as, adult nursing, maternal and infant nursing, pediatric nursing, community nursing etc. In the clinical supervision of student nurses, after creating the experience and assigning tasks the supervisors will have to follow up the instructions and offer guidance that will enhance the learning experience and allow students to continue to develop their skill. As well as providing supporting documents, suggest textbooks for and evaluate their nursing performance. This result corresponds with the study of Praesontorn and colleague (2008) and Thongchai et al (2009: 46-66) who found, on the qualifications of the nurse instructor in enhancing the quality education, is that the instructor, supervisor must have enough knowledge in the field to be able to teach. Be able to effectively communicate that essential knowledge during the teaching process. They must allow students to learn with the least anxiety and must have enthusiasm for education and research to enhance knowledge and improve themselves.

As to the previous point, all of the nurse instructors from the Faculty of Nursing, Naresuan University hold at least a master's degree in their major field of teaching. 25.5 percent are PhD's, 31.9 percent were studying towards a PhD in nursing in their field (Data from Faculty of Nursing, Naresuan University, 2013) to enhance their knowledge and continuous for self-development.

4. The stress level of student nurses in Year 2 and Year 3 during clinical practice were at high levels for 53.2 percent, followed by 22.7 percent at moderate level and 22.2 percent extremely stressed. Separated by the year of study students in the 3rd year had stress levels higher than those in 2nd year and considering each item, student nurses were most afraid of making mistakes, followed by the feeling of anxiety and poor memory. This corresponds with the study of Elliott (2002); Limthongkul and Aree-Ue (2009) who studied the sources of stress in nursing and found that the clinical practice stressors were due to confronting a new situation such as staff nurses, medical devices without sufficient skills and needs help from the patient. All of the results above were consistent with the previous studies on the Faculty of Nursing, Naresuan University students in semester 2, of 2010 found that 82.14 % felt anxiety under observation and questioning of the nursing supervisor and those who had close supervision had the most of the stress, impacting on learning ability and practice in the ward of nursing students biggest fear was making a mistake and getting dismissed (Beck, 1993; Sheu et al, 2002; Elliott, 2002; Rakmanee Wong et al, 2013; Ninthachan, 2013). Focused on the practical time on ward, in the actual situation of nursing students found that the stress was caused by their competence and knowledge theory and by having gained sufficient practice before their clinical practice, unable to recall the classroom information and poor relationships with staff nurses. Nursing students are of the opinion that staff nurses in the wards do not pay attention to students practice with

an average at a high level. Also, some of the courses in nursing necessitated distributing student nurses to practice their skills across several hospitals and of different types for instance, health promotion hospitals, secondary hospitals and tertiary hospitals. Thus providing different levels of opportunity to practice and build up their nursing skills, screening skills, and the basic concepts of physical examination especially if visiting a community should be provided. So clinical practice in such situations had to be adapted and supported learning from books, textbooks, internet, and scarce nursing supervisors. An insufficient number of nurse instructors/supervisor to assist students was a problem at times and was associated with stress in the nursing students. Worry, fear of making a mistake, fear of doctors and staff nurses, those that do not accept papers and are not clear about the nursing requirements when requests come from the student nurses to practice.

5. The influence factors that could predict the stress of student nurse during their practice/training time. The coefficient of multiple regression analysis showed that the variables that can predict with statistical significant at the .05 level were the situational factors in their clinical practice area; staff nurses, the nurse instructor/nurse supervisors in the clinical practice area, were they knowledgeable, style of supervision, style of nursing supervisors. These factors were able to predict the stress level of nursing students Year 2 and Year 3 during practice with an overall at 14.2 percent, that was consistent with the research of Elliott (2002), and Jones (2008) They studied the factors that cause stress in midwifery students in Year 2 and 3 while working in clinical practice found that the factors that cause stress is situational, being faced with a new environment, staff nurses and a feeling of being baggage excess on the nursing team, in the ward. Staff nurses sometimes acted inappropriately, bullying, intimidating, showing a poor attitude by staff nurses is being not willing to provide assistance. In accordance with the study of Sheu et al, (2002) that studied the effect of management behavior on nursing students perceived stress and physical health during the initial phase of clinical practice. The study found that students in nursing school that had been assigned to care for patients with severe disease with a complex workload and additionally had to cope with the unwillingness from the staff nurses in the ward caused stress among nursing students in their clinical practice. In the context of the hospital that nursing student may be in, the faculty of nursing was normally in a tertiary care hospital that generally has a large number of the patients, who require constant care, and were more likely to have a complex disease with severe, chronic illness, together with overworked staff nurses. As to the shortage of nurses (Sawangdee, 2009), there are not enough staff nurses in relation to the workload, therefore staff nurses have no time to give advice or teach skills in nursing procedure. At this point, performance under urgent conditions, lack of staff, severity of disease, complexity, and nurses under stress, emotional control is difficult, and impatience may be expressed as hostile gesture, expression, and glare. All of above cause a negative impact on student nurses. Especially, when the preparation of nursing students medical knowledge and skills are involved. This situation negatively correlates with the environmental aspects of patient care. The other point is that when nursing students lack the skills, and knowledge staff nurses will express their feelings in facial gestures, unfriendly eyes and a lack of interested in advising or teaching nursing skills the students. Thus a cycle of negative feedback is established.

Supervision and knowledge of the nurse instructors/nurse supervisor on ward acts as a predictor for the stress of student nurses. Student nurses have assignments to do during clinical practice, daily nursing care, case study reports, setting-up projects, and if perceived to be working too slow it may affect the nurse instructors/nurse supervisors evaluation. In addition there is also a discussion before and after the an operation (pre-post conference), answering questions incorrectly in front of the patient and friends, fear of making a mistakes through inexperience all cause stress. It is also the case that student were not working under supervision at all times. Nurse supervisor were assigned to supervise 8 student nurses at any one time, based on the rule of Nursing Council of Thailand (Nursing Council of Thailand, 2009). So, nursing supervisors were not using empirical evidence to explain the academic application in nursing practice (Jones, 2008.) Students were assigned to self study, writing daily reports that that have to be done every day, which makes student nurses prepare care plans and get ready for next day together with the nursing activities, a full schedule. The clinical practice is often far from the home institution and thus students have to get up early and feeling under slept, feeling drowsy, fatigued and exhausted and stress is cogmitant Christin KL et al, (2009) studied the stress in nursing students and strategies to manage stress during clinical practice in Hong Kong and found that the causes of stress were lack of knowledge, skills and ability to work, the case study reports, project implementation, and the care of a lot of patients including patients with severe illness. All these factors were making nursing student have anxiety regarding their knowledge and their self confidence. According, to the ability of the predictor of the stress for nursing students in Year 2 and Year 3 during clinical practice revealed overall in low level at 14.2 percent. Based on the nursing students' opinions of their nurse supervisors, supervisors have knowledge and skills to supervise at a high level. But because of the supervision in the situational environment, the control and governance of the practice student nurses on their first time in clinical practice for students in Year 2 and Year 3, those working with not enough experience for the nursing care activities, procedures such as injections, dressings, medical mixing etc., necessitate their nurse supervisors take very close attention when the students are engaged in these procedures, and monitor reports, case studies and project plans for students nurses every day. Counseling for student nurses and those having difficulty understanding the knowledge and skills whilst working under the rule of 8 students per 1 nurse instructor is necessary. Also, in some specialty fields the nurse instructor/nurse supervisor is attending higher education so the remaining nurse instructors were then working with an increased workload, feeling tried, and too stretched for time and energy to do the close supervision required for student nurses. The student nurses do the procedure alone and have anxiety, fear mistakes and lack confidence in oneself.

5. Conclusion

From outcomes, the most important factors in the stress for nursing students were related to coping with a new situation, such as staff nurses that show hostility, fail to give advice or teaching skill. It should be a time of skills training for student nurse to become knowledgeable. Once students have efficient skills, they will feel confident to do nursing practice as they will trust the staff nurses, patients and their physicians. Moreover the nurse instructor/nurse supervisor is a factor that causes stress during the practice of nursing students. The Faculty of

Nursing should improve the teaching and learning style of teachers in both theory and practice including, an awareness of developmental potential. Therefore, nurse instructor/nurse supervisors must have good supervisory skills to support and assist students and have a positive attitude towards the nursing students. Finally, co-operation and communication with nursing staff toward the aim of clinical practicum courses should be explained.

6. Suggestions for further research

1 Qualitative and Mixed method research should be conducted to gain information from interviews, observations, to confirm the quantitative data, and indicate the reliability of the research.

2. This research is a survey finding to provide a database to establish an effective program or pattern of counseling; however, there should be further study to assess pre and post conducting program.

Acknowledgements

Funding for the study was supported by Naresuan University, Thailand. In addition, the researcher gratefully acknowledges Associate Professor Dr. Poonsuk Hingkanont, dean of faculty of nursing Naresuan University, Thailand for her support and assistance throughout the conduct of this study.

Table 1: Mean Standard deviation and level of factors of preparing before clinical practice, situational factors in the practice area and nurse instructor in the practice field (n = 158)

Items	Mean	SD	Level of agreement
Preparing before practice	3.89	.52	High
Staff nurse	3.67	.65	High
Physician	3.29	.61	Moderate
Medical devices/nurse	3.51	.50	High
Patient	2.93	.39	Moderate
Assignment from supervisor	4.20	.60	High
Knowledge of the supervisor	4.33	.55	High
Supervisor counseling	4.22	.65	High
Supervision of nurse supervisor/nurse instructor supervise	4.08	.53	High
Total	3.80	.36	High

Table 2: Percentage of the stress level of nursing students from Faculty of Nursing (N = 158)

Level of stress	Number	Percentage
Mild (0-24 marks)	3	1.9
Moderate (25-42 marks)	36	22.7
High (43-62 marks)	84	53.2
Severe (63 marks)	35	22.2

Table 3: The logistic regression (b) mark standard (Beta) and result of testing statically significant of regression for predict the stress level of student nurse during practice time (N = 158)

Predictor	B	SE.b	Beta	t	p-value
Supervision of nurse supervisor/nurse instructor supervise	-8.132	2.374	-.323	-3.425	.001
Staff nurse	-4.388	1.684	-.215	-2.606	.010
Knowledge of the supervisor	4.428	2.233	.184	1.982	.049
Constant = 80.940					
R = .377 F = 3.930					
R ² = .142 Adjust R ² = .125					

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