Opinions of Selected Thai Nursing Students on Factors Contributing to their Academic and Clinical Stress

ความคิดเห็นของนักศึกษาพยาบาลเกี่ยวกับปัจจัยที่มีผลต่อความเครียดจากการเรียนภาคทฤษฎีและภาคปฏิบัติ

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Abstract

Academic and clinical stress in nursing students is a global issue. The purpose of this research was to investigate the factors that contribute to academic and clinical stress, to identify perceptions of levels of stress attributed to these factors, and to explore coping interventions that can reduce stress in nursing students at a institute of higher learning in Thailand. This is a mixed-method research study design including 415 nursing students across all years of their bachelors' program. Quantitative data collection (n=415) was done using a survey questionnaire with analysis including descriptive and inferential statistics (i.e., ANOVA). Qualitative data collection (n=8) was conducted through a focus group discussion with content analyzed using conceptual descriptive analysis.

Results revealed that nursing students generally experience a moderate level of stress in both academic and clinical areas (an overall score of 1.40 , SD = 0.41). Higher mean scores were noted for academic stress, particularly in the physical dimension (M=1.70, SD=0.51). Comparison between different educational levels showed that freshmen experienced the highest level of academic stress, followed by sophomore, senior and junior nursing students [M=1.59 (SD=0.45); M=1.51 (SD=0.42); M=1.49 (SD=0.53); M=1.38 (SD=0.37)]

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respectively. Sophomore nursing students experienced the highest level of clinical stress, followed by senior nursing students, freshmen, and junior students [M=1.37 (SD=0.39); M=1.34 (SD=0.42); M=1.32 (SD=0.39), M=1.30 (SD=0.39)] respectively.

There was a significant difference among the mean scores on academic stress for academic levels at p=.041. For subscale of academic stress, there is significant difference among the mean scores on physical, social, and spiritual for academic levels at p-level of .000, .022, and .002, respectively. There was no significant difference among the mean scores on clinical stress for academic levels (p=0.487). However, for subscale of clinical stress, there is significant difference among the mean scores on physical dimension for academic levels (p=0.003).

Results from focus group discussion revealed that factors contributing to academic stress included studying multiple subjects at the same time, heavy course work assignments, examinations, age, lack of family support, classmates, and time management. Factors contributing to clinical stress included preceptors, group members, changing wards, lack of confidence, patients, assignments, case conferences, and competition. Nursing educators need to be aware of the factors that affect stress of nursing students across the program as well as across the years of the program in order to intervene appropriately.

Keywords: Academic Stress, Clinical Stress, BCNS Nursing Students

บทคัดย่อ

ความเครียดจากการเรียนภาคทฤษฎีและภาคปฏิบัติของนักศึกษาพยาบาลถือเป็นประเด็นที่สำคัญ การศึกษานี้จึงมีวัตถุประสงค์ เพื่อศึกษาปัจจัยที่มีผลต่อความเครียดทั้งจากการเรียนภาคทฤษฎีและภาคปฏิบัติ และเพื่อศึกษาการรับรู้ระดับความเครียดรวมทั้งวิธีการจัดการความเครียดของนักศึกษาพยาบาล โดยใช้วิธีวิจัยแบบผสมผสาน (mixed-method) ศึกษาในนักศึกษาพยาบาลศาสตรบัณฑิต วิทยาลัยพยาบาลบรมราชชนนี สระบุรี ทุกชั้นปี รวม 415 คน เก็บรวบรวมข้อมูลเชิงปริมาณ (n=415) โดยใช้แบบสอบถาม และวิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา และสถิติอ้างอิง ANOVA สำหรับข้อมูลเชิงคุณภาพ (n=8) ใช้การสนทนากลุ่ม และวิเคราะห์ข้อมูลโดยการวิเคราะห์เชิงเนื้อหา

ผลการศึกษาพบว่า นักศึกษาพยาบาลมีความเครียดจากการเรียนภาคทฤษฎีและภาคปฏิบัติ ในระดับปานกลาง (M1.40 , SD = 0.41) แต่ภาคทฤษฎีมีผลรวมคะแนนเฉลี่ยสูงกว่าภาคปฏิบัติในมิติทางกายภาพ (M=1.70, SD=0.51) เมื่อเปรียบเทียบความแตกต่างของระดับความเครียดในแต่ละชั้นปี พบว่า นักศึกษาชั้นมีที่ 1 มีระดับความเครียดจากการเรียนภาคทฤษฎีสูงกว่าชั้นปีอื่น รองลงมาเป็นชั้นปีที่ 2, 4 และ 3 [M=1.59 (SD=0.45); M=1.51 (SD=0.42); M=1.49 (SD=0.53); M=1.38 (SD=0.37)] ตามลำดับ ในภาคปฏิบัติพบว่า นักศึกษาชั้นปีที่ 2 มีระดับความเครียดสูงที่สุดเมื่อเทียบกับชั้นปีอื่น ลองลงมาเป็น ชั้นปีที่ 4 และ 3 [M=1.37

(SD=0.39); M=1.34 (SD=0.42); M=1.30 (SD=0.39)] ตามลำดับ และพบว่ามีความแตกต่างอย่างมีนัยสำคัญของค่าเฉลี่ยความเครียดจากการเรียนภาคทฤษฎี (p=.041) ซึ่งมีคะแนนเฉลี่ยในมิติด้านร่างกาย สังคม และจิตวิญญาณแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ .000, .022, และ. 002 ตามลำดับ สำหรับความเครียดจากการเรียนภาคปฏิบัติพบว่า มีความแตกต่างอย่างมีนัยสำคัญในมิติทางกายภาพ และระดับการศึกษา (p = 0.003)

ผลจากการสนทนากลุ่ม พบว่าปัจจัยที่มีผลต่อความเครียดจากการเรียนภาคทฤษฎี ได้แก่ การเรียนหลายวิชาในช่วงเวลาเดียวกัน จำนวนชิ้นงาน การสอบ อายุของผู้เรียน การขาดครอบครัวสนันสนุน ลักษณะของเพื่อนร่วมกลุ่ม และการจัดการเวลา ขณะที่ปัจจัยที่ส่งผลต่อความเครียดในการเรียนภาคปฏิบัติ ประกอบด้วย อาจารย์นิเทศ สมาชิกในกลุ่ม การเปลี่ยนแหล่งฝึก การขาดความมั่นใจ ตัวผู้ป่วย จำนวนชิ้นงาน การอภิปรายกรณีศึกษา และการถูกเปรียบเทียบ จากผลการศึกษา อาจารย์ผู้สอนจำเป็นต้องตระหนักถึงปัจจัยที่มีผลต่อความเครียดของนักศึกษาในแต่ละชั้นปี ทั้งที่เกิดขึ้นแล้วและกำลังจะเกิดขึ้น เพื่อให้สามารถวางแผนในการจัดการปัจจัยดังกล่าวได้อย่างเหมาะสม

คำสำคัญ : ความเครียดจากการเรียนภาคทฤษฎี, ความเครียดจากการเรียนภาคปฏิบัติ, นักศึกษาพยาบาล

INTRODUCTION

The nursing profession is a stressful career as it involves constant attention to multiple pressures and immerses the nurse in contexts replete with suffering, grief, and death. In addition, the workplace requires nurses work very hard limiting their opportunities for self or for family care. Preparing nursing students to become future nurses is a source of both academic and clinical stress. The nursing education phase is demanding in terms of daily work assignments, paperwork, skill performance, and sometimes extracurricular activities (Borkowski, Amann, & Weiss, 2007; D'Arcy, 2010; McCarthy, Trace, O'Donovan, O'Regan, Brady-Nevin, O'Shea, et al, 2018).

There is no empirical studies that have been conducted regarding the academic and clinical stress of nursing students from Thailand or Southeast Asia, therefore, researchers decided to embark in this study. Sources of stress appearing in the literature (Pulido-Martos, Augusto-Landa, & Lopez-Zafra, 2011; Ratanasiripong, Ratanasiripong, & Kathalae, 2012) can be reflected in the following categories. Measures that would decrease the stress level of nursing students must be identified and implemented in order to catalyze optimal academic performance and success (Lim, Bogossian, & Ahern, 2010).

Table 1 Categories of Stress for nursing students

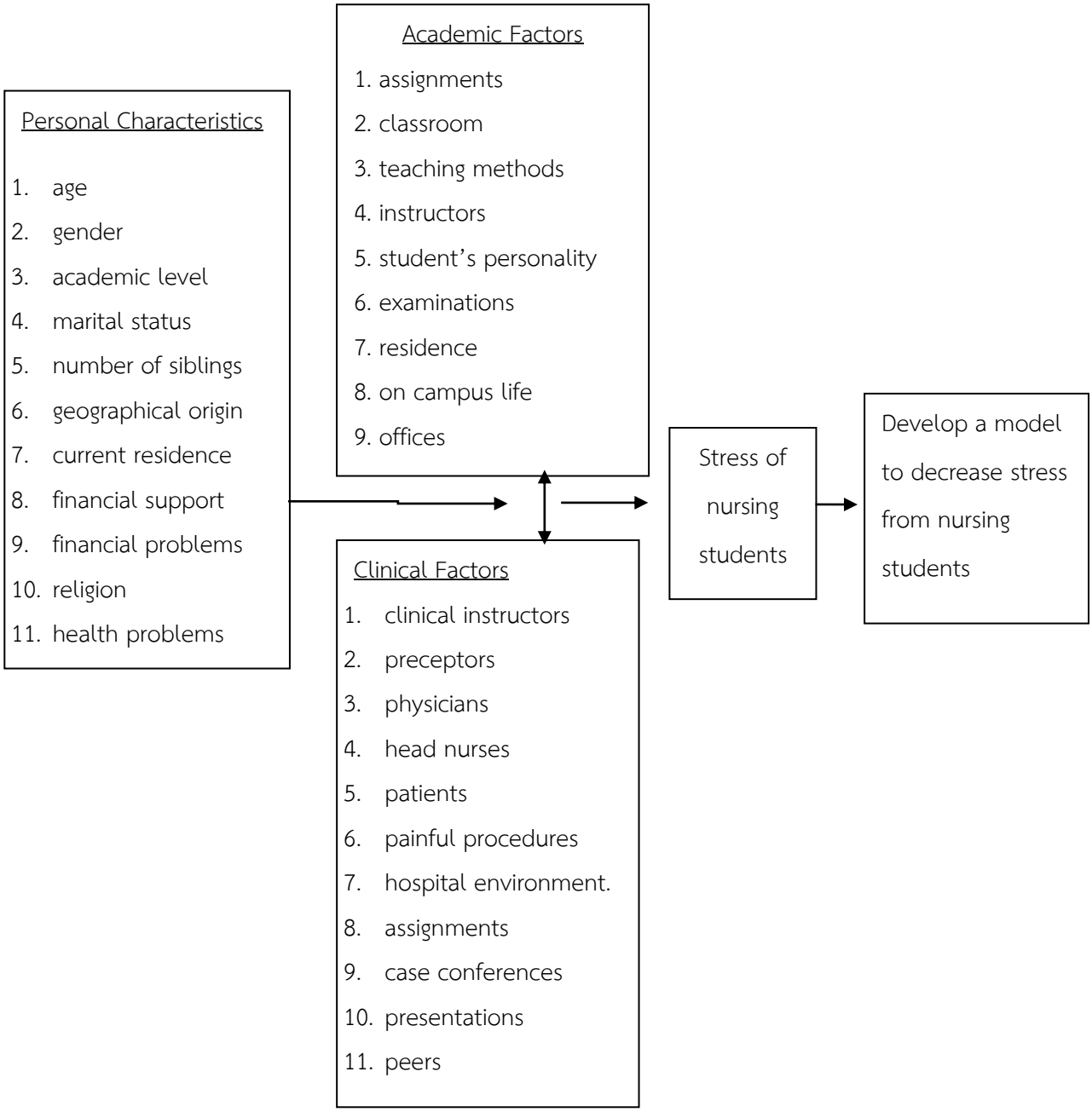
Category		Examples
1	Personal Attributes	-Lack of confidence, personality type, fear of being evaluated, less exposure to life problems, and health problems
2	Personal/Capacity Support	-Financial support system -Residence
3	Education Experiences	-Classroom atmosphere, teaching methods, assignments, hospital teaching, tests of different types, fear of clinical rotations, case conference presentations
4	Professional Relationships	-Nursing instructors, clinical instructors, hospital team members, classmates, family members, obnoxious instructors
5	Non-professional Relationships	-Obnoxious patients -Van drivers
6	Experiential/Exposures	-Witnessing painful procedures, Death and dying

Nursing students experience both academic and clinical stress. Academic stress is defined as the body's response to academic-related demands that exceed adaptive capabilities of nursing students. This type of stress can be experienced by nursing students either in the classroom, library, dormitories, or anywhere on campus or off campus (Pulido-Martos, Augusto-Landa, & Lopez-Zafra, 2011). Clinical practice has been identified as one of the most anxiety producing components in nursing programs. Lack of experience, fear of making mistakes, difficult patients, discomfort at being evaluated by faculty members, worrying about giving patients the wrong information or medication and concern about possibilities of harming a patient are just a few of the clinical stressors for nursing students (Pryjmachuk & Richards, 2007; Timmins & Kaliszer, 2002; Lim, Bogossian, & Ahern, 2010). Stress coping interventions include setting realistic goals and avoiding unrealistic perfectionism; having a positive thinking, exercising regularly, listening to the music, watching Television; maintaining good friends, and performing their favourite activities (Shaban, Khater, & Akhu-Zaheya, 2012); Ratanasiripong, Ratanasiripong, & Kathalae, 2012).

Theoretical Framework

This study is based on the Stress Adaptation Syndrome developed by Selye (1950) which thoroughly explains the stress response and how aging and disease are caused by chronic exposure to stress. Selye (1950) identified these stages as alarm reaction, resistance, and exhaustion. The Alarm Reaction Stage refers to the initial symptoms the body experiences when under stress. This phase is known as the "fight-or-flight" response. In this stage, the body reaction prepares a person to either flee or self-protect in dangerous situations. The heart rate increases, the adrenal glands release cortisol (a stress hormone), and a boost of adrenaline is delivered, which increases energy. After the initial shock of a stressful event and the fight-or-flight response, the body begins to re-establish. If stress continues, the body remains on high alert and eventually adapts to a high stress level. The body continues to secrete the stress hormones and blood pressure remains elevated. This is the "Resistance Stage". If this resistance stage continues for too long without pauses to offset the effects of stress, the person experiences the "Exhaustion Stage" which is manifested in a body which is tired and ready to give up. In this stage, resistance to stressors breaks down and the body became susceptible to tissue damage, low immune response, and perhaps even death (Timmins & Kaliszer, 2002; Lim, Bogossian, & Ahern, 2010; Seleye, 1950).

Conceptual Framework



According to the diagram #1, personal characteristics, academic and clinical factors contribute in creating or increasing stress in nursing students. This research intends to identify those factors and describe a collaborative model that will reduce or mitigate stress in nursing students, creating a stress-reduced environment for them, as they pursue their education.

The collaborative model will include nursing administrators, nursing educators, nursing preceptors, nursing students, and nursing students' parents. Nursing administrators and policy makers must commit to a stress-reduced nursing curriculum and education environment; nursing instructors, clinical instructors and preceptors, as well as medical team, must intervene in identifying stressors and seek ways to mitigate or reduce stress in nursing students; nursing students themselves must care for themselves, accomplish the learning tasks as required and strive to find opportunities to build resilience, confidence, and improved copiong skills along their education journey (Pulido-Martos, Augusto-Landa, Lopez-Zafra, 2011; Ahmed, 2015).

METHODS

Design, Setting and Sampling

This study was a mixed method research design using internally constructed questionnaires and focus group discussions for data collection. This study took place at Boromarajonani College of Nursing, Saraburi. Boromarajonani College of Nursing, Saraburi (BCNS) is the third academic institute established in 1966 by the Ministry of Public Health. It is one of the 31 Boromarajonani Colleges of Nursing. BCNS is located in Saraburi Province and offers a 4-year program in undergraduate nursing and midwifery degree. The population from which the sample size for this study was taken consisted of freshmen, sophomore, junior and senior undergraduate nursing programs. All nursing students were invited to participate A total of 415 students participated in the quantitative component and a sub-set of 8 in the qualitative components.

Inclusion criteria: Being a current nursing student, studying at BCNS, willing to participate, and either male or female. **Exclusive criteria:** Not meeting inclusion criteria, and unavailable to participate on the days of the study

Ethical Consideration

Approval was sought and obtained from the Research Ethics Committee of BCNS. All participants were assured of confidentiality. Participants were informed that accepting to complete the questionnaires and participate in the focus group discussion was regarded as consent. The questionnaires were distributed online using Google Forms.

Measurements/Instruments

Data collection instruments included the demographic profile using a constructed questionnaire by the researcher and focus group guide. A pilot study was conducted to test the self-constructed questionnaire about academic and clinical stress of nursing students on among 41 undergraduate nursing in 2012. The self-constructed questionnaire used in this research study was also submitted to reliability and validity testing. The section on academic stress in which all dimensions were combined was found to be reliable at alpha = .9344. The section on clinical stress in which all dimensions were combined was found to be reliable at alpha = .9622. A repeat reliability test revealed that the section on academic and clinical stress were both found to be reliable at Cronbach's alpha = .978 on the first application (i.e., in 2012) and the repeat adapted tool's Cronbach's alpha = .980.

The questionnaire used a four-point Likert Scale from 1 "being ***seldom*** (once/week) = eustress"; 2 "being ***sometimes*** (twice/week) = moderate stress"; 3 "being ***usually*** (3-5 times/week) = high stress/severe stress"; and 4 "being ***always*** (everyday) = very high stress/severe stress".

Data collection methods

Quantitative data collection was completed using a self-administered questionnaire between June 15th to July 31st, 2018 from 415 participants. Qualitative data collection was conducted on 19th of August 2018 with eight students through a focus group discussion

Data analysis

The Statistical Package for the Social Sciences (SPSS™ Version 20) was used in performing data analysis. Quantitative data were analysed using descriptive statistics of frequency distribution, percentage, mean, standard deviation, and ANOVA. Qualitative data were content analysed using conventional approaches such as described by Kondracki, Wellman, & Amundson (2002).

RESULTS

1) Descriptive analysis of the respondents' personal characteristics

A total of 415 responses were obtained with a 100% return rate. Two nursing instructors (co-researchers) distributed the questionnaires online. Students from all academic levels were given in class time to complete them and immediately returned the completed questionnaires. If some items were not complete, the co-researchers would contact the student and ask the student to return and complete the sections not finalized. Only the two

co-researchers had access to the original data. There was a high response rate probably because, in Asian settings, nursing students have a high respect to their instructors and within BCNS there is students are high achievers (having been selected through a competitive process) and highly engaged therefore taking these research involvements very seriously.

As reflected in Table 1, 415 nursing students participated in the quantitative component of this research study. The majority [n-222; 53.5%] were between 21 and 24 years old. The majority were female [n=399; 96.1%] and Buddhist [n=407; 98.1%]. Nearly all respondents [n=411; 99.0%] were single, and most [n=213; 68.9%] were coming from functional or intact families. The majority [n=294; 70.8%] of respondents had 1 to 2 siblings. The majority [n=289; 69.6%] came from the central region of Thailand, 334 (80.5%) did not have any reported financial problems related to their studies and 373 (89.9%) denies any relevant health challenges. Nearly all respondents were Buddhists,

2) Descriptive analysis of variables

The variables in the study consisted of academic and clinical stress in the four dimensions of health (physical, social, mental, and spiritual). The results are reflected in tables below (See Table 2 and Table 3):

Table 1. Demographic characteristics of the respondents

Characteristics	Frequency	Percentage
Age		
18-20	183	41.1
21-24	222	53.5
25 and above	10	2.4
Gender		
Male	16	3.9
Female	399	96.1
Marital status of respondents		
Single	411	99.0
Married	4	1.0
Marital status of the parents		
Live together	213	68.9
Separated/divorced	44	14.2
Live separately because of work in different places/study/business..	17	5.6

Characteristics	Frequency	Percentage
Number of siblings		
No siblings	67	16.1
1-2 siblings	294	70.8
3 or more siblings	54	13.0
Geographical origin		
Bangkok city of Thailand	12	2.9
Central region of Thailand	289	69.6
Northern region of Thailand	5	1.2
Southern region of Thailand	6	1.4
Eastern region of Thailand	29	7.0
Western region of Thailand	5	1.2
North eastern region of Thailand	69	16.6
Financial problem		
Not have	334	80.5
Have	81	19.5
Religion		
Buddhism	407	98.1
Christian	1	.2
Islam	6	1.4
None	1	.2
Health problem		
Not have	373	89.9
Have	42	10.1

According to the above table, the majority of participants 222 953.5%) were aged between 21 to 24 years old; 399 (96.1%) female; 411 (99%) single; 213 (69% from families whose parents lived together; 294 (71%) participants had 1 to 2 siblings; 289 (70%) from central region of Thailand; 334 (80.5%) without financial problems; 407 (98%) being Buddhists; and 373 (90%) had no health problems. For some technical reasons, not all 415 participants completed fully each component of the demographic variables.

Table 2 Level of academic and clinical stress categorized by dimension

Variables	Min	Max	Mean	SD	Stress Level
Academic stress	**1.00**	**4.00**	**1.50**	**0.46**	**Moderate**
Physical dimension	1.00	4.00	1.70	0.51	Moderate
Social dimension	1.00	4.00	1.34	0.47	Moderate
Mental dimension	1.00	4.00	1.53	0.56	Moderate
Spiritual dimension	1.00	4.00	1.43	0.51	Moderate
Clinical stress	**1.00**	**4.00**	**1.58**	**0.55**	**Moderate**
Physical dimension	1.00	4.00	1.20	0.40	Moderate
Social dimension	1.00	4.00	1.30	0.44	Moderate
Mental dimension	1.00	4.00	1.29	0.41	Moderate
Spiritual dimension	1.00	4.00	1.34	0.40	Moderate
Overall stress	**1.00**	**3.99**	**1.40**	**0.41**	**Moderate**

The pre-set criteria for interpreting the results were based on mean scores as follow: <1.00 = mild stress (academic/clinical); between 1.00 to 2.00 = moderate stress (academic/clinical); more than 3.00 very high stress (academic/clinical).

The results revealed that nursing students generally experience a moderate level of stress in both academic and clinical areas. In terms of the four dimensions of health, the mean score of the physical dimension was higher than the mean scores of other dimensions. By comparing academic and clinical stress, the overall scores of academic and clinical stress were moderate at 1.40 with a standard deviation of 0.41. Moreover, the mean scores for clinical stress were higher than that the mean scores for academic stress [M=1.58 (SD=0.55); M=1.50 (SD=0.46)] respectively. When analyzing each item in the four dimensions for **academic** stress, the item from the physical dimension: "**I feel physically exhausted**" (M=2.43, S=0.95) had a higher mean score compared to other items. When analyzing each item in the four dimension the **clinical** stress, the item from the physical dimension: "**I feel physically exhausted**" (M=2.12, SD=0.96) had a higher mean score compared to other items. Results of data testing the comparison between different educational levels of nursing students revealed that freshmen nursing students reported the highest level of **academic stress**, followed by sophomore, senior, and junior nursing students [M=1.59 (SD=0.45); M=1.51(SD=0.42); M=1.49 (SD=0.53); M=1.38 (SD=0.37)] respectively.

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Results of data testing the comparison between different educational levels of BCNS nursing students revealed that the sophomore nursing students had a high means score in **clinical stress**, followed by senior nursing students, followed by freshmen, and junior students (M=1.37 SD=0.39, M= 1.34, SD=0.42, M=1.32 SD=0.39, M=1.30, SD=0.39) respectively. Results revealed that freshmen nursing students had higher means scores in the academic stress and clinical stress, followed by sophomore, senior, and junior nursing students [M=1.45 (SD=0.40); M=1.44 (SD=0.40); M=1.42 (SD=0.42); M=1.34 (SD=0.37)] respectively. There is a significant difference among the mean scores on academic stress for academic levels such as freshman, sophomore, junior, and senior, at the p=0.041. That means that nursing students significantly perceived stress differently according to their academic levels.

For the subscale of academic stress, there is significant difference among the mean scores on physical, social, and spiritual for academic levels at the level of .000, .022, and .002, respectively. There was no significant difference among the mean scores on clinical stress for academic levels. However, for subscale of clinical stress, there is significant difference among the mean scores on physical dimension for academic levels such as sophomore, junior, and senior, at p=.003

Table 3. Analysis of Variance (ANOVA) between Academic and Clinical Stress

Variable		SS	df	MS	F	P
Academic Stress	between	2.184	3	.728	3.572*	.041
	within	83.765	411	.204		
	total	85.949	414			
Physical	between	5.275	3	1.758	7.083*	.000
	within	102.024	411	.248		
	total	107.298	414			
Social	between	2.104	3	.701	3.256*	.022
	within	88.536	411	.215		
	total	90.640	414			
Mental	between	2.011	3	.670	2.153	.093
	within	127.956	411	.311		
	total	129.967	414			
Spiritual	between	3.943	3	1.314	5.202*	.002
	within	103.846	411	.253		
	total	107.789	414			

Variable		SS	df	MS	F	P
Clinical Stress	between	.234	2	.117	.722	.487
	within	49.330	304	.62		
	total	49.564	306			
Physical	between	3.438	2	1.719	5.854*	.003
	within	89.254	304	.294		
	total	92.692	306			
Social	between	.642	2	.321	2.020	.134
	within	48.297	304	.159		
	total	48.939	306			
Mental	between	.429	2	.215	1.130	.324
	within	57.780	304	.190		
	total	58.210	306			
Spiritual	between	.089	2	.045	.266	.767
	within	51.024	304	.168		
	total	51.113	306			

*indicates significance at $p < .05$

DISCUSSION

The research showed that nursing students experience both academic and clinical stress but that the experience varies by type and by year of enrolment within the BCNS program. The overall scores of academic and clinical stresses was **moderate** at mean 1.40 (SD 0.41). Moreover, the students reported experiencing a higher level of clinical stress than academic stress [M=1.58 (SD=0.55); M=1.50 (SD=0.46)] respectively.

When analyzing each item in the four dimension the academic stress, the highest item was from the physical dimension: "**I feel physically exhausted**" (M=2.43, SD=0.95). When analyzing each item in the four dimension the clinical stress, the highest item was also found from the physical dimension: "**I feel physically exhausted**" (M=2.15, SD=0.94). Nursing students perceived highest stress in the physical dimension in a previous work by Pulido-Martos, Augusto-Landa, & Lopez-Zafra (2011).

Results from analysis of variance revealed that freshmen experience the highest level of academic stress followed by sophomore, senior, and junior nursing students (M=1.59 (SD=0.45), M=1.51(SD=0.42), M=1.49 (SD=0.53), and M=1.38 (SD 0.37) respectively. Current research studies claimed that freshmen are still panicking because of heavy academic work. To

help decrease the stress and anxiety students experience and to promote study skills, nursing instructors should encourage senior students to mentor first-year nursing students so that they can acquire the study skills needed to be successful in the program. Peer mentors can encourage students to look up unknown information when reading question rationales, rather than simply reading them and moving on. This type of study can promote deeper learning than memorization, (Lim, Bogossian, & Ahern, 2010).

Sophomore nursing students reported the highest level of **clinical stress**, followed by senior nursing students, and junior students [M=1.37 (SD=0.39); M=1.34 (SD=0.42); M=1.32 (SD=0.39); M=1.30 (SD=0.39)] respectively. Shaban, Khater, & Akhu-Zaheya (2012) stated that the first-year students face the clinical area for the first time, including patients and many new techniques, whereas junior and senior nursing students have already adjusted to the situation.

Results from the focus group discussion revealed that generally nursing students experience a higher level of academic stress than clinical stress. Academic stress is associated with class requirements such as quizzes, mid-term tests, and final examinations. Nursing instructors, dormitory environment, staff, financial problems, family problems and unfriendly classmates. Clinical stress has been associated with nursing instructors, preceptors, less experience in patience care, objective structured clinical examination (OSCE). The lecturer is perceived to significantly induce stress, and this is common when the student perceives that the lecturer's interaction is in a "policing" manner. The primary stressors associated with patient care include lack of life-saving medication which sometimes leads to death of a patient, taking care of critically ill patients unsupervised, and fear of contracting infections such as HIV and tuberculosis, and death of a patient. These results are consistent with previous research studies that state that the high rigor of nursing curricula causes stress to nursing students because failure in either a course or a program results in lost time and investment in the student's education, which, in turn, causes a delay in entry to future employment. (Pulido-Martos, Augusto-Landa, & Lopez-Zafra, 2011; Reddy, Menon, Thattil, 2018, D'Arcy, 2010).

There is a significant difference among the mean scores on academic stress for academic levels such as freshman, sophomore, junior, and senior, at p= 0.041. For subscale of academic stress, there is significant difference among the mean scores on physical, social, and spiritual for academic levels at the level of .000, .022, and .002, respectively; this finding means that nursing students experience a high level of stress in each dimension of health, except the social dimension.

There is no significant difference among the mean scores on clinical stress for academic levels. However, for subscale of clinical stress, there is significant difference among the mean scores on physical dimension for academic levels such as sophomore, junior, and senior, at the level of .003. The interpretation of this finding is that each educational level from sophomore to senior nursing students experience low levels of clinical stress. However, for each dimension of health, nursing students experience a high stress level in the physical dimension. At the end of each clinical day, students feel physically exhausted. This result is one of several consequences of clinical stress that each clinical instructor or preceptor can notice and intervene on individual basis. Stress can affect health, memory, problem-solving, and the ability to cope, all of which can lead to decreased academic performance (McKenna & Plummer, 2013).

Current review of literature and relevant research studies revealed that factors contributing to academic stress were studying many subjects over the same period of time, course work assignments, examinations, age, lack of family support, classmates and time management. Factors contributing to clinical stress were preceptors, changing wards, insufficient experience, difficult patients, and lack of cooperation from some group members, as well as competition between students from different educational institutions especially when they have case conferences. These findings are consistent with previous research studies, that state that anxiety in nursing students becomes high because competing priorities (Bindu John and Munira Al-Sawad, 2015; Stone, Mooney-Kane, Larson, Pastor, Zwanziger, & Dick, 2007).

CONCLUSION

The most important findings are that undergraduate nursing students experience stress from both academic and clinical area. When nursing students experience stress in one area, they will most probably experience stress also in the clinical area. However, nursing students experience a higher level of academic stress than clinical stress likely due to course work requirements and multiple assignment/submission deadlines. Nursing students, whether they come from functional or broken families, from rich or poor families, have or do not have health problems, experience a moderate level of both academic and clinical stress

RECOMMENDATIONS

In the light of the finding of this research, the following recommendations were made:

1) Nursing administrators and educators should review the nursing curriculum that would be strong academically, yet, caring for nursing students.

2) There should be a systematic training of preceptors on how to handle carefully nursing students when they are in the clinical area.

3) Sophomore nursing students should undergo a special preparation seminar before the start of their clinical practices.

4) Nursing educators, students, and parents should sustain a very close participation in decreasing academic and clinical stress of nursing students.

5) The second phase of this research on coping interventions should start immediately and focus the freshmen and sophomore nursing students.

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