Original Article :

Assessment Of Clinical Stress Among The Undergraduate Nursing Students Of Taibah University In Geriatric Nursing Course

Hammad Ali Fadlalmola[1, *], Wahieba E. Mohamedsalih[2], Amal Mohamed Elhusein[1,2,] ,Neima Mirghani Ibrahim[4]

1. Associate Professor, Nursing College, Taibah University, Department of Community health Nursing, Madinah, Saudi Arabia. e-mail: hazzminno345@gmail.com

2. Assistant Professor, Nursing College, Taibah University, Department of Community health Nursing, Madinah, Saudi Arabia. e-mail: Ewahieba@yahoo.com

1, Assistant Professor, College of applied medical science, Nursing department, Bisha University, Bisha, Saudi Arabia.e-mail: amalelhusein4@gmail.com

2, Assistant Professor, University of Khartoum, Faculty of Nursing Science Khartoum, Sudan. e-mail: amalelhusein4@gmail.com

4. Associate Professor, University of Khartoum, Faculty of Nursing Science, Khartoum, Sudan e-mail: drnmi1958@yahoo.com

Received on: Jan 25 2021, Accepted: Apr 12, 2021 dx.doi.org/10.5455/mjhs.2021.03.008

Corresponding Author:

Hammad Ali Fadlalmola1, RN, CHN, PhD. Associate Professor
Taibah University .Nursing College ,Department of Community health Nursing
Saudi Arabia, Madinah Munnawarah , E-mail: hazzminno345@gmail.com
Mobile: 00966504900120

Abstract

Background and aims:

Stress is a key factor that impacts the quality of nursing in various medical settings. The set of factors that can cause stress in students enrolled in the different academic disciplines is significantly different from the stressors identified to cause stress in nursing students globally.

Methods:

Nursing students in Geriatric nursing course (140 students) in Taibah University, Kingdom of Saudi Arabia were enrolled. The Student Nurse Stressor-15 Scale (SNS-15) was used to assess the levels of stress experienced by students on older adult clinical placements.

Results:

The study revealed that the perceived stress among

الملخص

الخلفية والأهداف:

الإجهاد هو عامل رئيسي يؤثر على جودة التمريض في مختلف الأوساط الطبية. تختلف مجموعة العوامل التي يمكن أن تسبب الإجهاد لدى الطلاب المسجلين في التخصصات الأكاديمية المختلفة اختلافًا كبيرًا عن الضغوطات التي تم تحديدها للتسبب في إجهاد طلاب التمريض على مستوى العالم.

طريقة البحث:

شارك ١٤٠ طالب وطالبة تمريض في مقرر تمريض رعاية المسنين بكلية التمريض بجامعة طيبة، المملكة العربية السعودية. تم استخدام مقياس ضغوطات طالب التمريض ١٥-Stressor (١٥-SNS) لتقييم مستويات الإجهاد التي يعاني منها الطلاب عند القيام بالتمريض السريري لكبار السن.

النتائج:

كشفت الدراسة أن الإجهاد المتصور بين طلاب التمريض بسبب العبء الاكاديمي للمقرر (٣,٢١ ± ١,٢٩٪) ≅، عبء العمل في موقع التدريب (٣,٢١ ± ١,٢٦٪)، < أيام غياب التدريب

the nursing students patterns due to academic workload (3.21 ± 1.29%), placement workload (3.21 ± 1.26%), < missing on placement days (3.41 ± 1.39%), < staffing level (3.42 ± 1.18%), < clinical skills (3.51 ± 1.24%), < number of workdays per week (3.56 ± 1.37%) and < treatment by staff (3.66 ± 1.17). Surprisingly, a significant number of students (20%) was found to be stressed out due to canteen facility (3.06 ±1.36%) which is the highest level of stress observed categorically.

Conclusion:

Based on obtained results, it can be concluded as age of students goes beyond 30, the level stress of placement increases significantly. the level of stress experienced in nursing students cannot be assigned to their gender.

Key words:

Stress-levels, older-age, nurse student, placement, academic-stress

للمقرر (٣,٤١ ± ١,٣٩٪) < ، مستويات طاقم التمريض (٣,٤٢ ± ١,١٨٪)، < المهارات السريرية (٣,٥١ ± ١,٢٤٪)، < عدد أيام العمل في الأسبوع (٣,٥٦ ± ١,٣٧٪) < و معاملة الموظفين (٣,٦٦ ± ١,١٧). ومن المدهش أن عدداً كبيراً من الطلاب (٢٠ في المائة) كان السبب في توترهم بسبب مرفق المقصف (٣,٠٦ ±١,٣٦٪) وهو أعلى مستوى من الإجهاد لوحظ بشكل كبير.

الخلاصة:

بناءً على النتائج التي تم الحصول عليها، يمكن استنتاج أنه مع تجاوز عمر الطلاب ٣٠ عامًا، يزداد مستوى الإجهاد في موقع التدريب بشكل كبير. لا يمكن تحديد مستوى الإجهاد الذي يعاني منه طلاب التمريض حسب جنسهم.

الكلمات المفتاحية:

مستويات الإجهاد، كبار السن، طلاب التمريض، موقع التدريب، الإجهاد الأكاديمي

Introduction

Resilience, stress, and psychological well-being in nursing students are generally taken as critical quality indicators of a vibrant clinical setting [1]. Practically, stress can be summarized as a set of compromised behaviours, including learning, attitudes, caring and responding skills, required to be established between a nurse and patient [2]. Thus, the term 'stress' is lack of consensus over its exact meaning and definition. According to Selye, within scientific landscape, stress is a kind of body's response to threats that stimulates the body for a 'fight-or-flight' while responding the encountered threats [3]. Consequently, stressed individuals experience a set of reactions that transformed in either physiological or psychological, or sometimes both. Regrettably, the nursing students and trainee experience a high level of stress as compared to the students of other disciplines [4]. Therefore, it must be endorsed that nursing educators supposed to be aware with the trends of stress pervasiveness among naïve nursing undergraduates and about the negative impacts develop in their future careers as nursing professionals.

Among various healthcare disciplines, nursing students have been reported to be

stressful, globally due to their professional ethics, duties to learn, and provide adequate care to acutely ill patients [5, 6, 7]. Under often challenging situations such as shortage of staff and resource and a parallel fear of making mistakes [8, 9]. The stress experienced at work is generally termed as 'occupational stress' [10], that can lead a myriad of negative impacts on physical and psychological well-being ultimately resulting in extremely poor learning process for students [3, 11]. Besides these, upon qualification the occupational stress can also affect the fitness to work efficiently including necessary communication and work effort, which ultimately reduced the promising health-care environment [12]. Moreover, due to continuous duties with overloaded work pressure, the working nursing staff tend develop severe health problems (physical and metal) and even die [7].

In general, to a large extent, the quality indicators in nursing profession depend on patient and nurse ratios. The increasing size of older aged population for a country can be a challenge to manage its health and nursing liabilities. Strictly, the discharge of liabilities from the concerned health staff affected negatively as the number of patients per nurse increased. In this context, The United Nations (UN), 2015, reflected the fact that a significantly large size of world's population would turn beyond 65 years and continue to grow further next decades.

This increased older population has critical implications for the nursing profession, which already faces a chronic shortage of nurses in older adult nursing. Nevertheless, it can be argued that the augmentation of skilled and competent nursing human resource is the hallmark of high-quality health care while dealing with complexed health issues associated with of huge older population of locality (Institute of Medicine, 2008). Furthermore, older patients with complexed health issues are expect with delayed recovery rate and hence deserve intensive care units enriched with skilled nursing staff. Thus, the implications of population ageing can be a direct pressure in a health system (Nursing Homes Ireland, 2015). This has resulted in demoralization of coming nursing graduates to pursue aged adult nursing as their career choice during graduation.

Even Though it is under investigation that how to underscore a precise set of stress developing sources in the health caring staff who nurse the older adults regardless severity of patient illness. In this context, a little amount of literature is available, globally. The problem turns further serious when it comes to address via an Arabic instrument that can assess the level of stress among Arabic speaking populations.

To our best knowledge, there is no existing Arabic instrument that can specifically assesses stress amongst these populations. Therefore, the researcher has conceived the novel idea to investigate stress experiences of student nurses dedicated specifically to care of the older adults, so that a set of approaches can be designed to attract the young practitioners in nursing profession. To date, a plethora of studies have demonstrated the level perceived stress in diverse nursing students and the patterns of lowering their professional fitness while dealing with a wide range of age group patients. However, the researchers found that there is a room to specify the stress level in nursing students that deal with specifically older aged patients. Therefore, the purpose of the present study was to determine the level of stress perceived by student nurses during their older adult clinical placements and to determine whether stress is based on age or gender.

Methods

Design of study

The current study was carried based on a cross-sectional descriptive research design which involved 140 nursing students enrolled in Geriatric nursing course in TU, KSA.

Setting

The study was conducted at the college of nursing in Taibah University. It is the Government University in Al-Madinah, Saudi Arabia. Data were collected from both male and female section.

Participants

A non-probable, convenience sampling technique was used in this study to make a pool of total 140 samples including 60 males and 80 females undergraduate nursing students enrolled in Geriatric Nursing course in their second semester of the nursing program. Indeed, the college offers the two programs, regular and bridging. A total of 175 students of both of programs were included in this study. Out of 175, total 140 nursing students responded the questionnaire which indicated 80% response rate in the study.

Instrument

The Student Nurse Stressor-15 Scale (SNS-15) allowed by the original author was employed as instrument to assess the levels of stress experienced by students on older adult clinical placements [13]. In brief, the SNS-15 was based on a series of 15 psycho- and physiologically relevant questions and their replies reflected the intensity of stress in nursing students for older adult nursing. The response of a participant nursing student was assigned one of the numerical from a five-point Likert-type scale (psychometric scale), demonstrated as 1, 2, 3, 4 and 5 to indicate

the intensity of stress as highly stressed, stressed, neutral, moderately stressed, and not stressed, respectively. The factor that gained the highest score indicates habitual way in which the person deals with stress.

Data collection

Approval of ethics committee to carry out the study was obtained from the authority of College of Nursing, TU, KSA approval number (TUCN-REC)-2019-3.

The study instrument in hard copy format was distributed among the participating students during the class time. The distributed hard study instruments contained all the aims and their necessary explanations covered by this study. An informed consent demonstrating their volunteered participation in intended study was obtained from each student. There was no provision to collect their identities such as names and affiliations etc. to protect their personnel interests. The confidentiality of participant's response was maintained according to internal policies and research ethics of the institute. The questionnaires were stored in a secure file cabinet that was only accessible by authorized researchers.

Data analysis

The data were analyzed, by one-way analysis of variance (ANOVA) with t test. Cross-sectional descriptive statistical analysis was used to describe the research sample and the items of the questionnaires.

Results

The data in Table 1 demonstrate comparison of participants response to stressors based on gender, no significant difference in stress level among the students enrolled in Geriatric nursing course in TU, KSA during their older adult clinical placements. Furthermore, significant difference between averaged scores of nursing students of both genders was found well beyond vis-à-vis the variables taken for this study. At the same time, the p values obtained from all the factors of the study were found to be greater than 0.05, except the facility (p= 0.002). Thus, it is well obvious, the significance level for the null hypothesis was considered as 5%.

Table 1: Comparison of participants response to stressors based on gender.

Question No	Factors	Gender	Mean	Std. Deviation	t value	p value
Q1	Preceptor relationships	Female	3.75	1.196	-1.487	.140
		Male	4.08	1.394		
Q2	Treatment by staff	Female	3.60	1.026	-.565	.573
		Male	3.72	1.329		
Q3	Clinical skills	Female	3.54	1.067	.246	.806
		Male	3.48	1.432		

Question No	Factors	Gender	Mean	Std. Deviation	t value	p value
Q4	Medications	Female	3.40	1.143	-.156	.877
		Male	3.43	1.332		
Q5	Being prepared	Female	3.40	1.289	.074	.941
		Male	3.38	1.354		
Q6	Placement workload	Female	3.24	1.150	.248	.805
		Male	3.18	1.372		
Q7	Academic workload	Female	3.11	1.232	-.915	.362
		Male	3.32	1.359		
Q8	Resources e.g., equipment	Female	3.01	1.131	-1.173	.243
		Male	3.27	1.364		
Q9	Staffing levels	Female	3.33	1.003	-.920	.360
		Male	3.52	1.359		
Q10	Coordinator relationships	Female	3.76	1.139	.211	.834
		Male	3.72	1.367		
Q11	Patient/client relationships	Female	3.85	1.104	1.637	.104
		Male	3.52	1.255		
Q12	Number of work days per week	Female	3.50	1.293	-.493	.623
		Male	3.62	1.451		
Q13	Facilities e.g., canteen	Female	2.70	1.326	-3.129	.002
		Male	3.43	1.407		
Q14	Missing days on placement	Female	3.20	1.444	-1.822	.071
		Male	3.63	1.353		
Q15	Length of journey to placement	Female	3.44	1.210	-.054	.957
		Male	3.45	1.455		

N = 140. Missing data included 35 participants who did not finish the questionnaires completely.

There is no significant difference among age groups on stress level of students enrolled in Geriatric nursing course in Taibah University during their older adult clinical placements.

Statistical analysis by ANOVA was performed to estimate the distribution of age using F test, the two age groups: 25 years old (58.6%), and above 25 years (41.4%) were considered to carry out the present study Fig 1. The statistical analysis of the data in Table 2 demonstrates very aptly that average scores along with standard deviation (±SD) were found out of the acceptance limit of the acceptance. Besides these, based on the average scores and SDs, the F and p values were computed as shown in Table 2.

Figure 1:

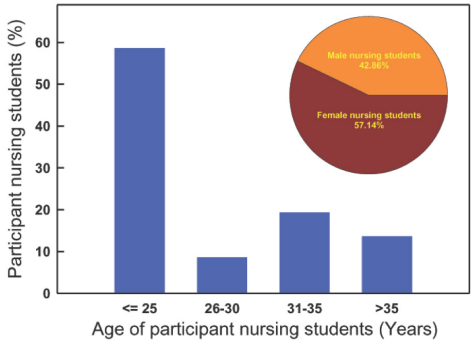


Table 2: comparison of stressors between and within groups

Question No	Stressors	Groups	Sum of Squares	SD	Mean Square	F value	Significance
Q1	Preceptor relationships	Between Groups	7.648	3	2.549	1.550	.205
		Within Group	223.745	136	1.645	-	-
		Total	231.393	139	-	-	-
Q2	Treatment by staff	Between Groups	11.573	3	3.858	2.976	.034
		Within Group	176.277	136	1.296		
		Total	187.850	139	-	-	-
Q3	Clinical skills	Between Groups	11.635	3	3.878	2.746	.052
		Within Group	199.336	136	1.466	-	-
		Total	210.971	139	-	-	-
Q4	Medications	Between Groups	4.185	3	1.395	.931	.428
		Within Group	203.787	136	1.498	-	-
		Total	207.971	139	-	-	-
Q5	Being pre-pared	Between Groups	6.934	3	2.311	1.352	.260
		Within Group	232.458	136	1.709	-	-
		Total	239.393	139	-	-	-
Q6	Placement workload	Between Groups	3.216	3	1.072	.687	.562
		Within Group	212.355	136	1.561	-	-
		Total	215.571	139	-	-	-
Q7	Academic workload	Between Groups	2.227	3	.742	.443	.723
		Within Group	228.173	136	1.678	-	-
		Total	230.400	139	-	-	-
Q8	Resources e.g., equip-ment	Between Groups	3.672	3	1.224	.796	.498
		Within Group	209.263	136	1.539	-	-
		Total	212.936	139	-	-	-
Q9	Staffing levels	Between Groups	12.319	3	4.106	3.147	.027
		Within Group	177.473	136	1.305	-	-
		Total	189.793	139	-	-	-
Q10	Clinical Placement Coordinator relationships	Between Groups	5.884	3	1.961	1.289	.281
		Within Group	206.859	136	1.521	-	-
		Total	212.743	139	-	-	-
Q11	. Patient/client relationships	Between Groups	.043	3	.014	.010	.999
		Within Group	192.950	136	1.419	-	-
		Total	192.993	139	-	-	-
Q12	Number of work days per week	Between Groups	5.140	3	1.713	.926	.430
		Within Group	251.510	136	1.849	-	-
		Total	256.650	139	-	-	-
Q13	Facilities e.g., canteen	Between Groups	8.325	3	2.775	1.421	.239
		Within Group	265.647	136	1.953	-	-
		Total	273.971	139	-	-	--

Question No	Stressors	Groups	Sum of Squares	SD	Mean Square	F value	Significance
Q14	Missing days on placement	Between Groups	35.240	3	11.747	6.549	.000
		Within Group	243.932	136	1.794	-	-
		Total	279.171	139	-	-	-
Q15	Length of journey to placement	Between Groups	.808	3	.269	.153	.928
		Within Group	239.734	136	1.763	-	-
		Total	240.543	139	-	-	-

Nevertheless, it can be concluded that there is significant difference between stress level with respect to treatment by staff (0.034), staffing levels (0.027) and missing days on placements ($p < 0.000$). Besides these, based on factor-wise analysis, it can be argued that nursing students < 35 years suffer with problems with treatment provided to the patients by staff and at staffing level, whereas the students between age group 31-35 were found to face difficulty when they miss the placement days. Beyond these, the 5% significance level was accepted for all the remaining factors.

The level of stress was determined by employing frequency distribution technique. Our results suggested that the preceptor's relationship did not cause any type of stress as 51% of the students agreed with the statement. The study reflected that the perceived stress among the nursing students patterns due to academic workload (3.21 ± 1.29%), ≅ placement workload (3.21 ± 1.26%), < missing on placement days (3.41 ± 1.39%), < staffing level (3.42 ± 1.18%), < clinical skills (3.51 ± 1.24%), < number of work days per week (3.56 ± 1.37%) and < treatment by staff (3.66 ± 1.17). Surprisingly, a significant number of students (20%) was found to be stressed out due to absence of canteen facility (3.06 ±1.36%) which is the highest level of stress observed categorically.

Besides, the obtained results were further analyzed to find whether the factors were co-related with each other. In correlation analyses, it was found that clinical skills and medications showed high correlation (0.717), whereas treatment by staff corelates with (I) staffing level (0.688), (ii) clinical skills (0.664), and (iii) clinical placement coordinator relationships (0.612). All the factors show either high (0.5 or above) or low (< 0.5 - >0.3) except facilities i.e., canteen. Canteen facility is only co related to resources (0.558) whereas with rest its co relation is less than 0.2.

Discussion

Precisely, overall observations of this systematic study suggested that the occupational stress does not impact all the fac-

ulties of nursing profession equally. The disruptive trends with fluctuating levels of stress were observed in nursing students regardless their age and gender.

The statistical analysis of data indicated that there is no affiliation of gender of Geriatric nursing course students with the levels of stress they experienced while their older adult clinical placements. At the same time, the factor that caused a more frequent stress development among the nursing students was identified as their academic load instead of their nursing course.

[14] has also advocated the coarse work and exam anxiety can be speculated the most prominent source of stress development in nursing students which may resulted in compromised work management [14].

Besides, the second most critical factor of stress origin in nursing students was found to be the clinical skills and staffing levels category. However, the level of stress obtained in both, male and female students did not reflect any obvious difference.

Overall, our findings are consistent with several studies that have put fore a constructive and supporting view to validate our results theoretically [15, 16, 17].

After ruling out the gender-based stress development intensity, we analyzed categorized age groups of nursing students regardless their genders. On the other end, an increase in age of nursing student can appear as the most potential factor in order instigate the stress and career insecurity. Critically, with the age above 31 years, the level of stress of placement begins to develop and increases with age. Although earlier studies suggested that there is a huge scope to manage the instigation of stress by providing the counselling to the students aged over 30 years adequately. For instance, the hesitation which limits a student's discussion with the immediate mentor or teacher in fact plays a crucial role in pushing that student into stress and insecurity [1].

Under such conditions, a healthy and frank dialogue exchanging forum between students and teachers is greatly appreciated. Similarly, [18] have also highlighted that the empathetic behavior can contribute significantly to a strong student-teacher relationship [18].

Thus, it can be articulated that this study proved that only relationship among preceptor's is not the only factor that responsible alone for stress. The discussion from this study will help the management to understand the sources of stress and develop further management strategies to reduce these stressors.

Strengths and limitations of the study

The study was carried out on a significant large sample of male and female nursing

students of a wide range of age (25 to < 35 years) enrolled for older adult nursing course.

This study encompasses a convenience yet strategic sampling and data augmentation procedure from nursing students of both genders belonging to a wide range of age, TU, KSA. The factors considered to explore in this study likely rely on possible practical situation that can cause stress in generalized nursing culture for a wide clinical setting.

Besides, the design of current study is fundamentally cross-sectional that enabled us to evaluate the stress intensity trends across the collected data at a specific point of time.

Thus, it can be argued that the study does warranty with the trends, magnitude and recurrence of stress that may originate over the time. The time span between the situations such as (i) the most stressful experience (ii) and the point of time when data was collected can be speculated to affect the level of stress perceived.

Nevertheless, incorporation of longitudinal design is an appealing demand for future research to handle broad spectrum of factors related to nursing training and education over a wide sample to enhance applicability in general clinical settings.

Conclusion

This is first of its kind studies that has evaluated the level of stress in nursing student dedicated for the older adult clinical placements. The level of stress experienced in nursing students cannot be assigned to their gender. Beyond this, most stress augmenting factor for both male and female students is the academic load. The clinical skills and staffing levels category were the second most reported source of stress. Based on obtained results, it can be concluded as age of students goes beyond 30, the level stress of placement increases significantly.

References:

1. Li Z S and Hasson F 2020 Resilience, stress, and psychological well-being in nursing students: A systematic review Nurse Educ Today 90 104440

2. Leyva E W A, Peralta A B, Tejero L M S and Santos M A 2015 Global perspectives of caring: An integrative review International Journal for Human Caring 19 7-29

3. Selye H 1974 Stress sans détresse: Lippincott)

4. Wolf L, Stidham A W and Ross R 2015 Predictors of stress and coping strategies of US accelerated vs. generic Baccalaureate Nursing students: an embedded mixed methods study Nurse Educ Today 35 201-5

5. Walker M and Mann R A 2016 Exploration of mindfulness in relation to compassion, empathy and reflection within nurs-

ing education. Elsevier)

6. Turner K and McCarthy V L 2017 Stress and anxiety among nursing students: A review of intervention strategies in literature between 2009 and 2015 Nurse Education in Practice 22 21-9

7. Tung Y-J, Lo K K, Ho R C and Tam W S W 2018 Prevalence of depression among nursing students: A systematic review and meta-analysis Nurse education today 63 119-29

8. Zhao F F, Lei X L, He W, Gu Y H and Li D W 2015 The study of perceived stress, coping strategy and self-efficacy of C hinese undergraduate nursing students in clinical practice International journal of nursing practice 21 401-9

9. Yıldırım N, Karaca A, Cangur S, Acıkgoz F and Akkus D 2017 The relationship between educational stress, stress coping, self-esteem, social support, and health status among nursing students in Turkey: A structural equation modeling approach Nurse education today 48 33-9

10. Lazarus R S and Folkman S 1984 Stress, appraisal, and coping: Springer publishing company)

11. Ayaz-Alkaya S, Yaman-Sozbir S and Bayrak-Kahraman B 2018 The effect of nursing internship program on burnout and professional commitment Nurse Educ Today 68 19-22

12. Rafati F, Nouhi E, Sabzehvari S and Dehghan-Nayyeri N 2017 Iranian nursing students' experience of stressors in their first clinical experience Journal of Professional Nursing 33 250-7

13. Sheridan P, Carragher L, Carragher N and Treacy J 2019 Development and validation of an instrument to measure stress among older adult nursing students: The Student Nurse Stressor-15 (SNS-15) Scale Journal of clinical nursing 28 1336-45

14. Sansgiry S S and Sail K 2006 Effect of students' perceptions of course load on test anxiety Am J Pharm Educ 70 26

15. Kunttu K, Virtala A and Huttunen T 2004 Yliopisto-opiskelijoiden koettu terveys ja oireilu Teoksessa K. Kunttu (toim.) Oireilevan opiskelijan viesti 35-53

16. Khan M S, Mahmood S, Badshah A, Ali S U and Jamal Y 2006 Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan Journal-Pakistan Medical Association 56 583

17. Niemi P and Vainiomäki P 2006 Medical students' distress–quality, continuity and gender differences during a six-year medical programme Medical teacher 28 136-41

18. Reilly D E and Oermann M H 1992 Clinical teaching in nursing education NLN Publ v-xiv, 1-507