



ADMINISTRACIÓN - GESTIÓN - CALIDAD

Stress perception in Nursing students facing their clinical practices

Percepción del estrés en los estudiantes de Enfermería ante sus prácticas clínicas

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ABSTRACT

Objective: This research aims to establish what the Nursing students' main stress sources are during their practice period, according to their gender, grade and age.

Methodology. It is a descriptive transversal study. The sample was composed by 45 Nursing students, 30 women and 15 men, at the University of Murcia in 2010/2011. The information gathering tool was KEZKAK questionnaire.

Results. The ignorance facing a determined clinical situation and the risk of damaging the patient are the Nursing students' two main stress sources. Men often suffer from a bigger stress than women; nevertheless, as well as the age increases and the students pass grades, the stress level is smaller.

Conclusions. Nursing students' stress determines their formation within their clinical practices period. Thus, it is necessary that the theoretical learning that supports these practices considers these needs that own Nursing students require.

RESUMEN

Objetivo. Esta investigación pretende conocer cuáles son las principales fuentes de estrés durante el periodo de prácticas de los estudiantes de Enfermería de la Universidad de Murcia en función de su sexo, curso y edad.

Metodología. Se trata de un estudio transversal de corte descriptiva. La muestra estuvo compuesta por un total de 45 alumnos, 30 mujeres y 15 hombres, de Enfermería de la Universidad de Murcia del curso académico 2010/2011. El instrumento de recogida de la información fue cuestionario KEKZAK.

Resultados. El desconocimiento ante una determinada situación clínica y el riesgo de dañar al paciente son las dos principales fuentes estresoras para los estudiantes de enfermería. Los hombres suelen sufrir un mayor estrés que sus compañeras; no obstante, a medida que aumenta la edad y se avanza de curso el grado de estrés es cada vez menor.

Conclusiones. El estrés de los estudiantes de enfermería marca su formación durante el período de prácticas clínicas. Por tanto, se hace necesario que el aprendizaje teórico que sustenta a las prácticas atienda a estas necesidades que los propios estudiantes de enfermería demandan.

INTRODUCTION

Through his whole life, a human being aims to adapt himself to the changes he lives, looking for the balance between his organism and his environment, what origins an answer to stress, necessary to face new experiences ^(1, 2, 3).

Nowadays, stress and its study have reached high popularity in quotidian language and in scientific literature as well, being considered as a predisposing, triggering or contributing factor to the development of multiple illnesses which can be serious ⁽⁴⁾.

The concept of stress was firstly coined by the physiologist Hans Selye, who defined it as “an organism reaction to environment requirements” in 1950 ⁽⁵⁾.

Since 1950, stress has been conceptualised in several ways, as a reaction, a stimulus or a process ^(5,6). Thus, Holmes and Rahe ⁽⁷⁾ understand stress as: “an independent variable stimulus or load produced in organism, creating discomfort, in such a way that whether tolerance limits are surpassed, stress becomes insufferable, appearing then psychological and physical problems”.

On the other side, Lazarus and Folkman, from a stress perspective as a process, define it as: “a transitory relationship between one person and his environment which is assessed as threatening and able to overtake his resources and to endanger his wellness and homeostasis”; producing a dynamic interaction between two basic processes: the cognizable valuation that each person does about his environment requirement and the facing strategies he has to face those requirements ⁽⁸⁾.

At present, stress is considered as the result of individual incapability to face environment requirements, unlike anxiety that is emotional response to a threaten expressed in cognitive, physiologic, motor and emotional areas ⁽⁹⁾. Therefore, anxiety is the principal emotional response to stress, considered a transitory condition, characterised by tension subjective feelings, apprehension, restlessness and worry as well as a hyperactivity of central nervous system, which can vary its intensity and last ⁽¹⁰⁾.

Through their whole life, everybody has experienced some of the negative stress consequences. In this way, analogously, through academic life, students and, specifically those who carry out practises in hospitals as nursing students do, are exposed to stress ⁽¹¹⁾. Additionally, it must be assumed that “what is considered as stressing by one person cannot be considered as stressing by other person”, therefore stress is different for each student. Consequently, this fact forces students to, in an attempt of adapting to these situations, develop a sort of facing strategies to success the requirements, looking for the relieve of their tension state. Nevertheless, a large percentage of university students lack the needed strategies or adopt inadequate strategies ⁽¹²⁾.

Clinical practises are a key element in nursing students’ formation because they let them apply their theoretic knowledge and develop skills for providing care to their

patients⁽¹³⁾. Hospital practises have a deep educative impact to the extent that the knowledge acquired during them let the abilities and personal attitudes development which is necessary to the acquisition of competences that let them incorporate to healthcare system like professionals⁽¹⁴⁾.

Within their clinical practises, students have their first contact with their future profession and have a small training on it, facing difficult situations, which often produce stress and not always does the environment where they take place foster the whole understanding of nursing practise⁽¹⁰⁾.

Healthcare systems usually provide many stimulus that produce stress due to the contact with illnesses, pain, suffering, disability, patients death, the need of establishing relationships with several sanitary professionals and patients, as well as the fact of developing a new role which they are not completely prepared for⁽¹⁵⁾.

Diverse studies have described the main stress sources in nursing students, linking them to clinical, academic, social and interpersonal areas⁽¹⁶⁾. Zryewsky and Davis demonstrated that academic and clinical area supposed a 78,4% of stressing occurrences, meanwhile social and interpersonal areas supposed a 8% and a 13,6% respectively⁽¹⁷⁾.

Among the most intense situations experienced by nursing students within their clinical practises they remark: a patient death, suffering, contact with terminally ill and facing death, critical pathologies situations, cardio-respiratory stoppage, relationship with patients and their families and the difference between theoretic knowledge and practical requirements⁽¹³⁾. Timmins and Kaliszer have observed that the main stress sources during the last year of nursing degree are: academic stress, relationships with professors, relationships in their clinical practise and patients death^(18, 19).

Therefore, in the formation of nursing students, determining which are the main stress sources is fundamental in order to know which skills must be mastered and, in this way, contributing to the health of future sanitary professionals and, indirectly, to a better care of ill patients⁽⁹⁾. According to the literature gathered, there was not any questionnaire until 2003, neither in Spanish nor in English to assess stress sources within nursing students practises⁽¹⁸⁾.

Consequently, our research aims to determine which the main nursing students' stress sources are, as well as their evolution through nursing degree and, specifically, measuring stress sources in function of their age, gender and grade.

Furthermore, it is interesting to determine the evolution of those stress sources as students are being taught and are acquiring experience in order to prevent stressing situations. Nursing job produces stress because of the own job and organisation aspects⁽²⁰⁾.

METHODOLOGY

The sample was made up by 45 students (15 men and 30 women) whose ages vary from 17 to 24 years old (M = 19,67; SD = 1,85) enrolled at Nursing Degree of University of Murcia in 2011. There were 16 first year students, 15 second year students and 14 third year students. Sociodemographical variables considered were gender (men or women), enrolled year (first, second or third) and age. The sampling

method was non-probabilistic by convenience including only those students who voluntarily wanted to participate.

It is a transversal and descriptive study whose instrument is KEZKAK questionnaire, which assess those factors that can produce stress in nursing students and have a high reliability and validity levels. It has 12 items that must be answered in a Likert scale of 5 values that covers from (1) "not at all stressful to (5) "absolutely stressful".

Data analysis was done using SPSS 20. Statistic significance was considered for those values whose probability was lower than $p = ,050$.

RESULTS

Descriptive data about the whole sample for all the stressing variables considered are presented below, in Table 1.

	Mean	Standard Desviation
Handling New Technologies	3,49	1,24
Ignorance facing Clinical Situations	4,51	,92
Contact with Others' Suffering	3,62	1,21
Relationships with other Healthcare Professionals	3,73	1,36
Impotency and Uncertainty facing Situations	4,40	,84
Cannot Control Relationship with Patients	2,67	1,35
Emotional implications with ill persons	4,02	1,32
Risk of Contagion, Damage or Injuries	4,27	1,12
Risk of Damaging the Patient	4,51	,82
Relationships with Patient Family	2,29	1,42
Excess – Overload of Work	4,16	,98
Practise Evaluation Results	3,58	1,08

Table 1. Descriptive data of stressing sources.

It is shown that the main situations that produce stress are the ignorance facing clinical situations, the impotency and uncertainty facing them and the risk of damaging the patient. These three variables are related with formation quality, specifically practical formation which seems to be inadequate or, at least, that is what nursing students think.

On the other side, social relationship with the patient as with his family are the less powerful sources among the studied stressing sources.

Next, the relationship between gender and academic year with each one of the stress source is presented below. To do that, normality distribution analysis has been done through χ^2 test resulting a non-parametric distribution for gender and parametric

distribution for academic year. Therefore, correlation between gender and the source of Stress has been studied through U Mann Whitney test reaching statistic significance in 4 of the 12 stressing sources. Significance and values of these relationships are shown in Table 2.

Source of Stress	Gender		Sig.
	Men	Women	
Handling New Technologies	4,33 ± 0,82	3,07 ± 1,22	,001
Ignorance facing Clinical Situations	4,33 ± 0,98	4,60 ± 0,89	,245
Contact with Others' Suffering	4,53 ± 0,64	3,17 ± 1,18	,000
Relationships with other Healthcare Professionals	3,80 ± 1,42	3,70 ± 1,34	,753
Impotency and Uncertainty facing Situations	4,53 ± 0,52	4,33 ± 0,96	,860
Cannot Control Relationship with Patients	3,80 ± 1,01	2,10 ± 1,13	,000
Emotional implications with ill persons	4,27 ± 0,96	3,90 ± 1,47	,559
Risk of Contagion, Damage or Injuries	4,40 ± 0,83	4,20 ± 1,24	,901
Risk of Damaging the Patient	4,60 ± 0,63	4,47 ± 0,90	,776
Relationships with Patient Family	2,40 ± 1,50	2,23 ± 1,41	,749
Excess – Overload of Work	4,33 ± 0,90	4,07 ± 1,02	,379
Practise Evaluation Results	4,20 ± 1,01	3,27 ± 0,98	,007

Table 2. Correlation between gender and source of stress.

In this way, the higher stress experienced by men in handling new technologies, contact with others' suffering, cannot control relationships with patients and practise evaluation results is demonstrated.

To carry through the study of the link between stressful situations and academic year, ANOVA test has been done, whose results are shown below, in Table 3.

		Squares sum	df	Square Mean	F	Sig.
Handling New Technologies	Inter-groups	22,378	2	11,189	10,474	,000
	Intra-groups	44,866	42	1,068		
	Total	67,244	44			
Ignorance facing Clinical Situations	Inter-groups	1,347	2	,673	,788	,461
	Intra-groups	35,898	42	,855		
	Total	37,244	44			
Contact with Others' Suffering	Inter-groups	19,644	2	9,822	9,181	,000
	Intra-groups	44,933	42	1,070		
	Total	64,578	44			

Relationships with other Healthcare Professionals	Inter-groups	1,272	2	,636	,336	,717
	Intra-groups	79,528	42	1,894		
	Total	80,800	44			
Impotency and Uncertainty facing Situations	Inter-groups	2,652	2	1,326	1,979	,151
	Intra-groups	28,148	42	,670		
	Total	30,800	44			
Cannot Control Relationship with Patients	Inter-groups	23,810	2	11,905	8,898	,001
	Intra-groups	56,190	42	1,338		
	Total	80,000	44			
Emotional implications with ill persons	Inter-groups	14,283	2	7,142	4,784	,013
	Intra-groups	62,695	42	1,493		
	Total	76,978	44			
Risk of Contagion, Damage or Injuries	Inter-groups	3,760	2	1,880	1,547	,225
	Intra-groups	51,040	42	1,215		
	Total	54,800	44			
Risk of Damaging the Patient	Inter-groups	1,216	2	,608	,911	,410
	Intra-groups	28,028	42	,667		
	Total	29,244	44			
Relationships with Patient Family	Inter-groups	,193	2	,096	,045	,956
	Intra-groups	89,052	42	2,120		
	Total	89,244	44			
Excess – Overload of Work	Inter-groups	2,859	2	1,430	1,538	,227
	Intra-groups	39,052	42	,930		
	Total	41,911	44			
Practise Evaluation Results	Inter-groups	11,330	2	5,665	6,001	,005
	Intra-groups	39,648	42	,944		
	Total	50,978	44			

Table 3. Correlation between academic year and source of stress.

According to shown data, significant differences can be observed for 5 sources of stress: handling new technologies, contact with others' suffering, cannot control relationships with patients, emotional implications with him and practise qualification. These variables evolution is shown in Figure 1.

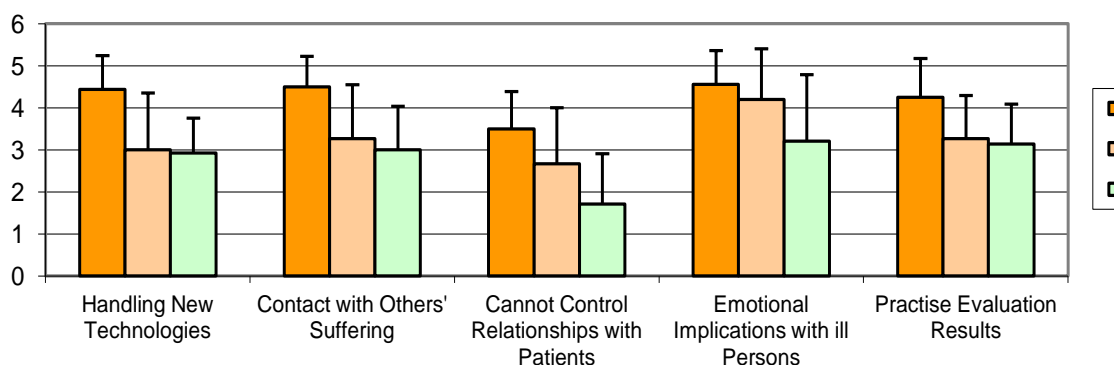


Figure 1. Evolution of stress source with significant changes.

It can be observed that with regards to these 4 stressful situations, the level of stress decreases as the students progress through the academic years.

Finally, with respect to participants' age, Kolmogorov-Smirnov test has been done, achieving a non-parametric distribution; therefore, its bivariate study with each one of stress sources has been done through Pearson Correlation Test.

Since higher academic year students are usually older than lower academic year students, significant statistic with the same direction (lower as the age increases) has been found in stress sources in function of age test, that is: handling new technologies ($r = -,365$ $p = ,014$), contact with others' suffering ($r = -,352$ $p = ,018$), cannot control relationships with patients ($r = -,511$ $p = ,000$), emotional implications with ill persons ($r = -,313$ $p = ,036$) and qualification worry ($r = -,313$ $p = ,037$).

DISCUSSION

Mean values on the whole simply show a high perception of stress within the clinical practises. It agrees with other studies that find higher stress levels in nursing students when they were putting in practice their theoretic knowledge. It should be outlined that these values report about what situation they think that is more stressing but not about stress level⁽¹³⁾.

It is remarkable that several situations included in the questionnaire were considered as quite or very stressful. In line with other studies, the main stressful situations have been "ignorance facing clinical situations"⁽¹¹⁾ and "impotency and uncertainty facing situations"⁽⁸⁾; nonetheless this study adds "risk of damaging the patient"⁽⁸⁾ which is not considered in other researches as an important stress element for nursing students. On the other side, other studies mark the situations related to relationships with professionals, partners, patients and practice professors as the main stressing sources⁽⁴⁾ but, otherwise, in this study these factors are the least stressful sources.

With respect to stress factors, it can be considered that stressful situations that students live with a higher intensity are caused by the insecurity of facing new situations and the fear of ignore the correct answer, above a characteristic of their attitudes. The fact of being a population in formation who still has not acquired enough skills and security to provide healthcare can explain that the fear of doing an incorrect work or damaging the patient, inject an infected needle or being contagious by the patient are the more stressing situations for nursing students, in line with other studies⁽²⁴⁾.

Despite some differences being found among the participants of their stress sources according to their gender, the number of men who made up the sample was low thus, those differences have to be understood under this fact. Nonetheless, it can be affirmed that men feel more stressed than women, which does not concur with the results gathered by Amat, et al.⁽²⁵⁾ who demonstrated that, at the beginning of their clinical practises, men can feel a higher cognitive reaction but this feeling disappear as the practices develop.

The higher stress perception among first year students in comparison with their fellow second and third year students must be outlined, although these differences are not important in all the stress sources. This could be explained by the lack of contact with patients that the first year students have because they have not already done their clinical practices^(20, 22). On the other side, third year students have a reduced stress perception compared to first and second year students. In third year, the students have more practical experience what provides them a more intense feeling of self-confidence and, furthermore, they have more knowledge so it diminish their worry in

items about “I face a situation where I do not know what to do”, “I face an urgent situation” or “I receive contradictory orders” as López-Medina and Sánchez-Collado demonstrated ⁽¹³⁾.

The same as in Ferrer Pascual et al. research ⁽¹⁵⁾, a small diminution in stress perception as the age of nursing students increases has been found but, different from that research “contact with others’ suffering” and “practice evaluation results” have kept steady.

CONCLUSION

Individual controlled characteristics of participants were: gender, age, academic year and stress sources. The most of the studied population presents high stress levels; being the most important stress source the “ignorance facing a clinical situation”.

Among their first contacts with nursing profession (first year students) they are afraid of damaging either the patient or themselves. On the contrary, they do not feel stress because of the relationships with other students, healthcare professionals, professors or patients; perhaps because it does not endanger their health or patient health and they feel more prepared to social relationships than to face the previous situations. Stress level is significantly related to the use of strategies focused on the problem; however, the use of emotion is also related to higher stress levels. Therefore, acquiring techniques and therapies orientated to stress facing and diminution is able to produce a significant change on students.

Then, it is important to do track longitudinal study to those students who will keep on studying during 2011 – 2012 academic year, in order to check whether the perception levels of stressing situations maintain steady or diminish throughout that academic year.

Given the transcendence of the detected stress in nursing students, it is necessary to implement formation programs to encourage facing strategies to stress. These programs could be very useful to help the future healthcare professionals to identify their stress situations, to diminish their stress perception and to enjoy their daily work without risk for their health. Putting in order from higher to lower stress situations can help to prioritize and to plan the educative interventions to the extent that it lets know in detail what experiences lived during their clinical practices influence them more and which are perceived with a higher intensity. This will ease that future nursing professionals are able to adaptively react to their daily stress stimulus in their work environment.

For professors, it is important that, when they teach their students, they try to adapt their contents to real situations because being excessively separated from real situations does not ease the learning.

It is also important that the current healthcare professionals do not forget that the students who are doing their clinical practice are still learning, that everybody lived that period and that the most important aim during this period is to learn, although each person has his own learning speed.

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