

MENTAL HEALTH NURSING PRACTICUM: STUDENT AND MENTOR PERSPECTIVES ON STRESS AND SATISFACTION

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Abstract

Nursing students begin to complete practicum experiences during their first year, increasing the number of applied credits as they progress toward degree completion. This contributes to integrating knowledge and skills from all of their courses and to obtaining the basic competencies of the nursing profession.

It is also essential to identify the student's sources of stress in order to provide strategies to confront them and diminish the potential consequences. Therefore, it is a priority to ascertain the perception of stress and the stressors.

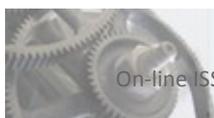
This study applied both quantitative and quality methods to achieve its objectives: to analyze the perception of stress and the stress-generating factors faced by third- and fourth-year nursing students during the mental health practicum, and to determine satisfaction with the new mental health practicum in a student survey and in a focus group of mentor nurses.

Study results identified four major stress factors before students began the practicum: the difficulty of providing nursing care for the patient with a mental disorder, knowing how to react in an unfamiliar situation, lack of knowledge about mental health services, and the possibility of patient aggression. Only the latter remained as a stressor after the practicum was completed. Student satisfaction with the mental health practicum was highly positive. Mentor nurses were particularly satisfied with the changes in student follow-up and evaluation, emphasizing the importance of reflective practice and students' self-management of their learning experience as set out by the European Higher Education Area.

Keywords – Nursing, Nursing students, Practicum, Mental health, Stress, Satisfaction.

1 INTRODUCTION

The European Higher Education Area (EHEA) has implemented many regulations emphasizing the acquisition of skills and competencies in the new degree programs (Burjalés Martí, Ricomá Muntané, Maciá Soler & Ballester Ferrando, 2005). These competencies are introduced throughout the entire nursing degree program, but the practicum is the context within which they must be fully achieved and integrated into practice. For that reason, on the degree programs the evaluation is based on these competencies.



Our program introduces practicum credits during the first year, and progressively increases this requirement. Each practicum experience integrates knowledge and skills from all of the coursework up to that time and helps students learn the attitudes and behaviours that will be expected of them as members of the nursing profession. Therefore, every course the students have to attain more competencies or increase the standard assumed of them.

Students consider the practicum experience an essential training opportunity, while at the same time perceiving it as a source of considerable stress (Timmins & Kaliszer, 2002). Several studies have reported that nursing students feel greater stress than those in other degree programs (Zupiria Gorostidi, Alberdi Erice, Uranga Iturrioz, Barandiarán Lasa & Sanz Cascante, 2003; López-Medina & Sánchez-Criado, 2005; TamPhun & Benedita dos Santos, 2010). Although a certain stress level may have some benefits with respect to heightened concentration and effort invested in an activity, poor stress management by nursing students is related to other negative factors, such as excessive use of alcohol (Antolín Rodríguez, Pualto Durán, Moure Fernández & Quintero Antolín, 2007).

Most research on stress among students in health-related fields has applied the definition of stress provided by Folkman and Lazarus (1988): Stress occurs when an individual perceives that the demands of an external situation are beyond his or her perceived ability to cope with them and endangers his or her well-being. Some authors have claimed that stress affects students' academic success and their well-being (Pulido-Martos, Augusto-Landa & Lopez-Zafra, 2012), and that the study of student stress is a priority because stress increases the difficulty of learning and achieving expected outcomes (Jiménez, Martínez & Vacas, 2009).

Other studies have classified the sources of stress among nursing students (Zupiria-Gorostidi, Uranga-Iturrioz, Alberdi-Erice, Barandiaran-Lasa, Huitzi-Egileor & Sanz-Cascante, 2006) or measured stress levels during clinical practice using validated questionnaires such as the Sheu Perceived Stress Scale (Sheu, Lin & Hwang, 2002) or scales used by other authors (Admi, 1997; Sánchez, 1992; López-Medina & Sanchez-Criado, 2005). Some authors have concluded that the sources of stress decreased over the course of the program and at the end the remaining stressors were the same as those faced by new practicing professionals (Zupiria-Gorostidi et al., 2006). The sources of stress observed in nursing students have been grouped into three categories: academic stress factors (related to testing and evaluation, fear of failure, and problems with the academic workload); clinical stress factors (related to the practicum, fear of committing error, not handling patient suffering and death adequately, and relations within the health care team); and personal or social stress factors (related to financial problems and balancing work, study, and family) (Jiménez et al., 2009; Pulido-Martos et al., 2012). Nonetheless, these two studies did not agree on which factors were most frequent, or the most prevalent among nursing students.

The consequences of stress experienced by nursing students have also been defined by various studies, and include anxiety, nervousness, depression, fear, frustration, anger, despair, loneliness, and feelings of inferiority or exhaustion (Jiménez et al., 2009). All of these factors could clearly affect the student's academic success and learning outcomes.

A recent review of literature attempted to identify the major sources of stress among nursing students during the practicum. The authors affirmed the need to apply qualitative research methods in order to explore the sources of stress in depth and concluded that identifying these sources was essential in order to help students acquire strategies that would assist them in confronting stress and limiting its consequences (Pulido-Martos et al., 2012).

Although little evidence is available with respect to the mental health practicum, research in other health disciplines has shown that students do not feel prepared for clinical experiences (Pulido-Martos et al., 2012), a situation that increases stress.

For all these reasons, the proposed study was considered a priority for the implementation of the new nursing degree program at our university, in order to determine the perception of stress among students and the contributing factors during the mental health practicum, and to collect the perceptions of mentors concerning the practicum.

2 OBJECTIVES

Given the importance of the new practicum requirements in nursing degree programs, and specifically with respect to the mental health nursing practicum, the study aimed to safeguard the quality of care to be provided by future nursing professionals by addressing the following three objectives:

- To analyze the perception of stress and the stress-generating factors faced by third- and fourth-year nursing students during the mental health practicum.
- To determine student satisfaction with the mental health practicum included in the nursing degree requirements.
- To determine nurse mentors' satisfaction with the mental health practicum included in the nursing degree requirements.

3 METHODOLOGY

This study used mixed qualitative and quantitative methods, combining a phenomenological two-tiered follow-up study with descriptive and bivariate statistical analysis. The study population was the students participating in the Mental Health Practicum (MHP) from April to December 2012, distributed across four practicum periods, and a focus group of 5 nurse mentors from the participating centres. 95 students participated in this study: 90 quantitative methodology and 5 in qualitative methodology. (Figure 1).

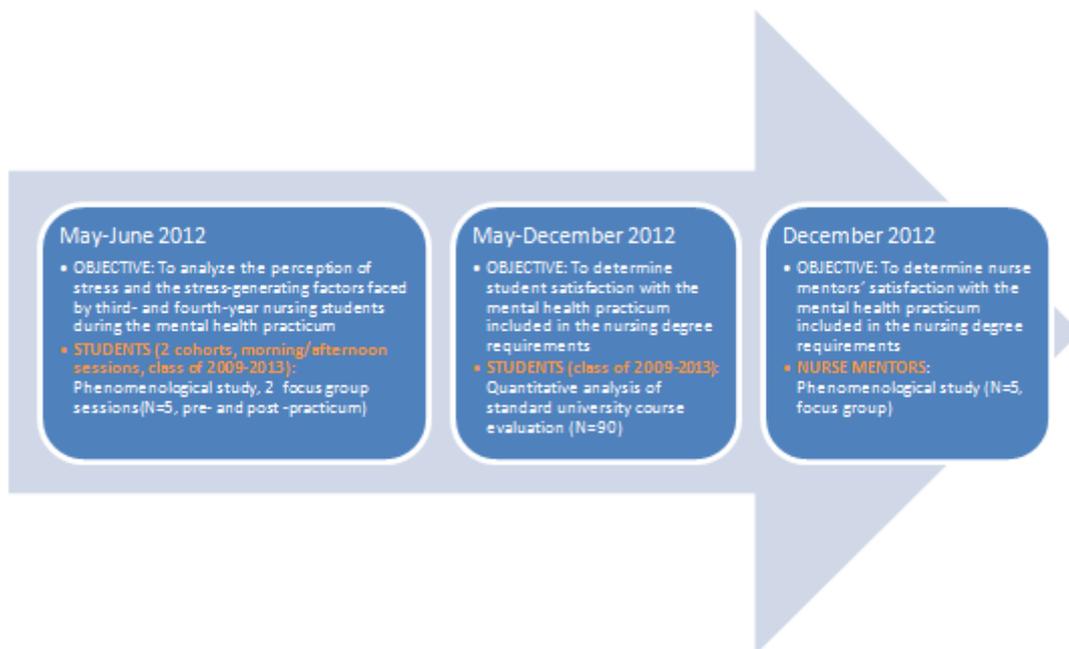


Figure 1. Study design

At the outset of the study, qualitative data were collected from two focus group discussions with five student volunteers, using a semi-structured interview about their perceptions of concerns and stress-generating elements of the MHP. The first occurred before students began the practicum and the second after it had been completed. All volunteers were third-year students. Data were categorized and analysed using the Atlas-Ti program.

To quantitatively assess student satisfaction with the MHP, the standard School of Nursing questionnaire was distributed to all students who completed the MHP in 2012 (n=90). The average age is 24.53 years (SD=6.77). On a 10-point Likert scale, this anonymous, self-administered survey asked students to evaluate how the participating clinical centre welcomed them, what they learned from the nurse mentor at the centre, and their

general assessment of their mentor nurse during the practicum, their integration into the nursing team and services provided, and how well the practicum met their expectations. They were also asked to rate how useful the knowledge and skills acquired in the classroom had been in the clinical environment of mental health nursing, and their overall impression of the practicum. The Student test was applied to compare means, with standard deviations (SD), in the descriptive and bivariate analysis; relationships between variables or ordered ranges were assessed using the Pearson correlation coefficient, Spearman rho, and Kendall tau-b. All analyses were done using the SPSSv19 software.

At the end of the study period, a focus group of nurse mentors at the participating centres was convened to participate in a phenomenological study. The convenience sample was asked about their perception of the new MHP implemented as part of the nursing degree. These data were categorized and analyzed using the Atlas-Ti program.

4 ETHICS APPROVAL

Students and mentor nurses, who are members of the university's teaching faculty, were informed of the study objectives and its academic intent, including the publication of study results. Confidentiality was strictly respected, in accordance with all university and European policies related to classroom research, informed consent was obtained before sound-recording the focus group sessions, and reporting of results was anonymized.

5 RESULTS

5.1 Perception of stress and stressors associated with the mental health practicum by third- and fourth-year nursing students

The stress-generating factors anticipated by student participants in the pre-MHP focus group session were the difficulty of providing nursing care for the patient with a mental disorder, the possibility of patient aggression, knowing how to react in an unfamiliar situation, and a lack of knowledge about mental health services.

In the post-MHP focus group, the four expected stress factors had been reduced to just one: patient aggression. Students indicated that even before starting the MHP their conversations with fellow students helped to lower their stress levels about their lack of knowledge of mental health services and the type of patients they would be caring for, but not in the categories of dealing with patient aggression and reacting to an unfamiliar situation.

5.2 Student satisfaction with the mental health practicum in the nursing degree program

The response rate for this standard course evaluation was 76.67% (n=69, 58 [84%] women and 11 [16%] men, ranging from 20 to 60 years of age). The mean age was 24.53 years (SD=6.77). The student distribution by type of MHP placement was 75% in hospital settings and 25% in out patient mental health centres; 69.6% participated in the morning practicum and 30.4% in the afternoon.

Overall, students gave the MHP a mean score of 9.10 (SD=1.285), median of 9 and mode of 10 on the 10-point Likert scale (Figure 2). Their welcome by the practicum site and the information received there received a mean score of 9.04 (SD=1.17); the information received from the nurse mentor was scored at 9.12 (SD=1.21), with the same mean score for the overall evaluation of the training received from the mentor: 9.12 (SD=1.06) and 9 as both the median and mode values (Figure 3). Integration into the nursing team obtained a mean score of 9.26 (SD=0.96), although integration into the health care service team scored slightly lower, with a mean of 9.14 (SD=0.97). On the other hand, despite a mean of 9.03 (SD=0.85) for meeting their learning expectations, the respondents assigned a mean score of just 7.25 (SD=2.37) to the question about the usefulness of the knowledge and skills acquired in class.

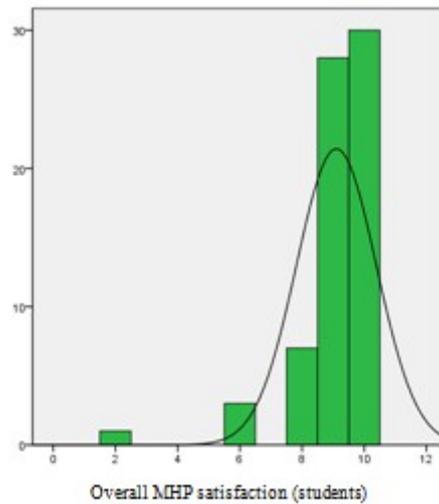


Figure 2. Score distribution of overall student satisfaction with the MHP

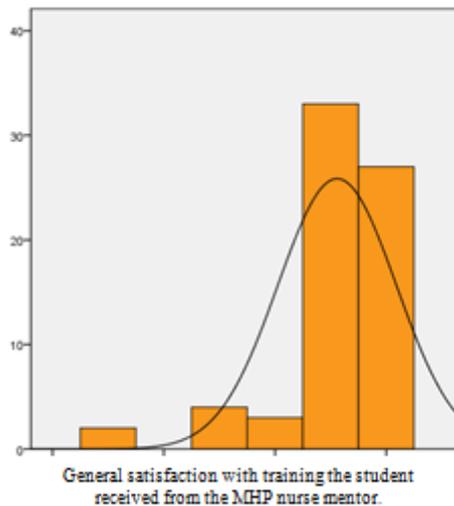


Figure 3. Score distribution for students' general satisfaction with training received from the MHP nurse mentor

In the bivariate analysis, a comparison of overall student satisfaction with age, sex, type of health care setting, and practicum cohort (period and morning/afternoon session) found a significant difference based on “shift” assignment and class year. Morning shift students were more satisfied than afternoon students ($t(67)=2.57$; $p=0.012$); fourth-year students were noticeably more satisfied ($\bar{X}=9.26$; $SD=0.9$) than third-year students ($\bar{X}=8.90$; $SD=0.7$), although this difference was non significant.

A non significant difference also was observed in overall satisfaction with the MHP based on type of clinical setting, with students in out patient centres showing greater satisfaction ($\bar{X}=9.53$; $SD=0.7$) than those working in hospital settings ($\bar{X}=8.96$; $SD=1.4$). A significant difference was observed in general satisfaction with the training received from mentor nurses: students whose MHP took place in outpatient centres were more satisfied ($\bar{X}=9.59$; $SD=0.8$) than those working in hospitals ($\bar{X}=8.96$; $SD=1.1$), ($t(67)=-2.16$; $p=0.034$).

There was a linear correlation between age and overall student satisfaction with the MHP, shown in Table 1 the older the student, the greater the satisfaction.

			Age	Overall satisfaction
Kendall Tau_b	Age	Correlation coefficient	1.000	.258*
		Significance (two-sided)	.	.011
		N	68	68
	Overall Satisfaction	Correlation coefficient	.258*	1.000
		Significance (two-sided)	.011	.
		N	68	69
Spearman Rho	Age	Correlation coefficient	1.000	.317**
		Significance (two-sided)	.	.008
		N	68	68
	Overall satisfaction	Correlation coefficient	.317**	1.000
		Significance (two-sided)	.008	.
		N	68	69

*. Significant correlation at 0.05 (two-sided).

**.. Significant correlation at 0.01 (two-sided).

Table 1. Correlations between students' age and their satisfaction

5.3 Perceptions of nurse mentors about the mental health practicum in the nursing degree program

The nurse mentors focus group identified five key themes concerning their satisfaction with the new MHP.

5.3.1 Evaluation of the current degree practicum, compared to the former diploma courses

The former curriculum was more structured, which facilitated the mentor's work: "I used to feel more oriented, because you knew that you had three weeks, and if you spend this week talking about this, and that week on that... But not now. Now you say, what do I tell [my student]?"

Some participants referred to degree students as more motivated than the diploma students were. New teaching methods are also being used, and these are unfamiliar to the mentor nurses: "Now the students tell you that they have done a practice-based learning (PBL), on antipsychotic drugs...and you say to yourself, you don't even know what a PBL is!"

(Note: None of the five mentors interviewed had participated in the teaching methods class offered by the School of Nursing, and only one was aware of its existence).

5.3.2 Student skills and competencies

In the analysis of data on pre-existing knowledge, the difficulty of relating theory to practice stands out. The mentors did not feel that the length of time since students had completed theoretical courses before their clinical practice was not a consideration. Mentors often were unaware of the theoretical outline of the course, and reported that the student was the one who told them about it.

One of the proposals was to improve the mentor's access to information about the arriving student's level of competency. In this sense, they underlined a lack of communication with university faculty, which sometimes was also perceived as a lack of support.

The intermediary role of the practicum professor was not always appreciated by the mentors. They commented that these professors either "abandon" the students or "keep asking about them incessantly". There were notable differences between their opinions of the practicum professors, with a much higher opinion of those who belonged to the clinical unit (rather than teaching theoretical courses). Another proposal for improvement was that the student reread or reviews the relevant theoretical content before beginning the practicum.

Communication skills were discussed, recognizing that this depends on each student's personal characteristics but generally agreeing this is an area that needs more work: "*They have very poor communication skills.*"

With respect to nursing care, mentors pointed out a major conceptual vacuum in areas such as treatment adherence, verbal strategies to calm an agitated patient, monitoring autolytic risk, etc. The students did not think of these interventions as part of nursing care because many associated nursing tasks mainly with drawing blood or putting in a line for intravenous therapy, oxygen, etc.

5.3.3 Evaluation

The daily journal of reflection was evaluated positively. Among the strong points, the possibility stood out of reflecting on situations the students would not normally encounter in the hospitalized population: suicide attempts, ethical aspects such as involuntary admissions, mechanical restraints, verbal patient management, drug addictions in patients their own age, etc.

In discussing instructor continuity, the focus group noted that especially in the afternoon cohort (when the nurses have more time available) the student may have more instructors than just the mentor nurse: "*It's good for them to have various nurses around because they can take what they want to learn about each nursing action, from each nurse, whatever appeals to them the most.*"

5.3.4 Impact of the mental health practicum on the student

Most mentors indicated that the students arrive very nervous, with certain beliefs about the mental health patient and the fear of possible aggression: "*At first they are very worried because they arrive in the acute unit and they hallucinate, yes, it's true, at first they are scared. Later they see that it's not all that bad.*"

"*Many people arrive thinking that a mental patient is aggressive, that something could happen to them.*"

They also commented that it is important for the university to make an effort to align the student profiles to the practicum places available. However, they favoured making the MHP a universal requirement for nursing degree students.

5.3.5 Unique aspects of each practicum unit

There is a considerable difference in responses depending on whether or not the student has been in an acute, outpatient, or other type of unit: "*They come to the acute ward and they have this idea that hospitalizing the psychiatric patient is normal. And you explain to them that this is the exception.*"

To address this problem, the participants suggested the possibility of a rotation so that students could visit and be introduced to various different units.

6 DISCUSSION AND CONCLUSIONS

This study shows the need to inform students before they begin mental health clinical practice work and to explain aspects that generate greater stress, as in studies by other authors (Antolín Rodríguez et al., 2007; Jiménez et al., 2009; Pulido-Martos et al., 2012; Sanchez, 1992; López-Medina & Sanchez-Criado, 2005). Students should also review the knowledge and skills learned, with the goal of adapting what they know to the health care reality they will experience in mental health units.

The experience of this initial study will allow us to work on these concerns in a variety of educational contexts, with the goal of decreasing the stress level for future students. This will help to improve the training and well-being of our students as they prepare for the MHP experience.

In relation to student satisfaction with the MHP, we must highlight the excellent scores they assigned the experience on the standard survey. The lowest score – although still approaching 80% – was related to the usefulness of knowledge and skills acquired in the classroom. It is necessary to take steps to raise awareness that not all competencies must be acquired on campus, using learning methods such as master classes, participatory methods, PBL, seminars, simulation, and techniques and procedures. Some specific competencies that are impossible for students to assimilate on campus must be acquired and consolidated during the MHP.

Most of our current nursing students are about 21 years old. However, we have a growing number of older students who have completed advanced technical training (Ciclos Formativos Superiores) and are working in the health care environment at a lower job classification or have completed other degrees and are turning to nursing. These individuals, above the mean age of the study group, were those who most highly valued the practicum experience. They usually had greater motivation and better time management than the younger students.

Although non significant, we observed a trend toward greater satisfaction with their practicum experience among students completing the MHP during their fourth year, compared to third-year students. As also reported by Zupiria-Gorostidi et al. (2006), the additional experience with diverse clinical practices in different settings helps the student feel more secure and less stressed.

Practicum students scored the outpatient setting higher than the hospital mental health unit. All of the students had previous practical experience in the primary care setting. Together with the specificity of the care provided and the instruments and skills used by nurses in these out patient centres, there is also no risk of aggression, a factor that could have contributed to the lower score in the hospital units.

Students who did their MHP in the morning cohort were more satisfied. It has been demonstrated that nursing activity is more intense and diverse in the morning shift. This leads to the importance of having students experience a variety of clinical experiences in the different health care shifts during their practicum.

The nurse mentors who work with practicum students value the recent changes in the follow-up and evaluation aspects of the practicum. They emphasize the importance of reflective practice and of the student's management of his or her own learning, according to the European Higher Education Area recommendations (Burjalés Martí et al., 2005).

The authors are aware that the study has limitations, including the small sample and the limitations inherent to survey research. We could not establish causal relationships between variables nor directionality in the associations observed. There is a possible social desirability bias in the responses because the instrument score was self-reported. Finally, the qualitative aspects used a convenience sample and assigned participants using the snowball recruitment method.

Nonetheless, this study contributes several proposals for improvement in this new MHP in a newly minted degree program. Although it was scored highly, it is important to take into account the suggestions that were directly or indirectly suggested by the students and nurse mentors:

- Improve the communication between the university and the health care centre.
- Increase the use of practical case studies to teach theory.
- Strengthen the training in verbal expression and argumentation.
- Offer preparatory seminars before students begin the MHP.

REFERENCES

- Admi, H. (1997). Nursing students' stress during the initial clinical experience. *Journal of Nursing Education*, 36, 323-327.
- Antolín Rodríguez, R., Pualto Durán, M.J., Moure Fernández, M.L., & Quinteiro Antolín, T. (2007). Situaciones de las prácticas clínicas que provocan estrés en los estudiantes de enfermería. *Enfermería global*, 6(10). Retrieved September 12, 2013, from: <http://hdl.handle.net/10201/24191>.
- ATLAS.ti 7. (2013). Berlin, *Scientific Software Development*.
- Burjalés Martí, M.D., Ricomá Muntané, R., Maciá Soler, L., & Ballester Ferrando, D. (2005). Marco europeo, una realidad inminente. Integración de los estudios de enfermería en el espacio europeo de educación superior. *Presencia, jul-dic*, 1(2). Retrieved September 28, 2013, from <http://www.index-f.com/presencia/n2/20articulo.php>.
- Folkman, S., & Lazarus, R.S. (1988). Coping as a mediator of emotion. *J. Pers. Soc. Psycho!*, 54, 466-475. <http://dx.doi.org/10.1037/0022-3514.54.3.466>
- Jiménez, C., Martínez, P., & Vacas, C. (2009). Stress and health in novice and experienced nursing student. *Journal of Advanced Nursing*, 66(2), 442-455. <http://dx.doi.org/10.1111/j.1365-2648.2009.05183.x>

- López-Medina, I., & Sanchez-Criado, V. (2005). Percepción del estrés en los estudiantes de enfermería de práctica clínica. *Enfermería Clínica*, 15, 307-315. [http://dx.doi.org/10.1016/S1130-8621\(05\)71136-0](http://dx.doi.org/10.1016/S1130-8621(05)71136-0)
- Pulido-Martos, M., Augusto-Landa, J.M., & Lopez-Zafra, E. (2012). Sources of stress in nursing students: a systematic review of quantitative studies. *International Nursing Review*, 59, 15-25. <http://dx.doi.org/10.1111/j.1466-7657.2011.00939.x>
- Sanchez, M. (1992). Estrés de los estudiantes de enfermería en el periodo practico. *Enfermería Científica*, 127, 43-46.
- Sheu S., Lin H.S., & Hwang, S.L. (2002). Perceived stress and physio-psycho-social status of nursing student during their initial period of clinical practice: the effect of coping behaviours. *International Journal of Nursing Studies*, 39, 165-175. [http://dx.doi.org/10.1016/S0020-7489\(01\)00016-5](http://dx.doi.org/10.1016/S0020-7489(01)00016-5)
- SPSS Statistics 21.0. (2012). New York, IBM.
- TamPhun, E., & Benedita dos Santos C. (2010). El consumo de alcohol y el estrés entre estudiantes de segundo año de enfermería. *Rev. Latino-Am. Enfermagem*, May-Jun, 18(Spec), 496-503. <http://dx.doi.org/10.1590/S0104-11692010000700003>
- Timmins, F., & Kaliszer, M. (2002). Aspects of nurse education programmes that frequently cause stress to nursing students – fact-finding sample survey. *Nurse Education Today*, 22, 203–211. <http://dx.doi.org/10.1054/nedt.2001.0698>
- Zupiria Gorostidi, X., Alberdi Erice, M.J., Uranga Iturrioz, M.J., Barandiarán Lasa, M.T., & Sanz Cascante, X. (2003). Principales estresores de los estudiantes de enfermería relacionados con las prácticas clínicas y factores relacionados. *Enfermería Científica*, 258-259, 59-68.
- Zupiria-Gorostidi, X., Uranga-Iturrioz, M.J., Alberdi-Erice, M.J., Barandiaran-Lasa, M.T., Huitzi-Egileor X., & Sanz-Cascante, X. (2006). Fuentes de estrés en la práctica clínica de los estudiantes de enfermería. Evolución a lo largo de la diplomatura. *Enfermería Clínica*, 16(5), 231-237. [http://dx.doi.org/10.1016/S1130-8621\(06\)71222-0](http://dx.doi.org/10.1016/S1130-8621(06)71222-0)

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