AN ANALYSIS OF WORK-RELATED STRESS IN MEDICAL NURSES

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Abstract

In the European Union, work-related stress represents the second health problem relating to professional activity after spinal cord injuries, affecting 28% of employees and being one of the most common problems in the workplace (Panagopoulou E. et all, 2006).Within the same profession of nursery, the specificity of the workplace leads to differentiations in levels of psychical stress and factors responsible for it: the work/family interface is more acute for nurses which work in shifts; for surgery nurses, the organizational climate is a veritable stress factor, while the interpersonal relationships are more important to nurses working in teams; other types of nurses present mostly with symptoms such as tiredness, while nurses in surgery wards complain more of mental tiredness than laboratory nurses.

Key words: work-related stress, nurses, professional activity

INTRODUCTION

Emotionally and interpersonally tiring professional activities specific to some professions can have negative consequences, leading to professional stress (Maslach C. et all, 2001, Stoica M., 2007). In most cases, this is manifested through accentuated emotional exhaustion, emotional detachment in a professional environment and, in an external fashion, in cynicism and professional insatisfaction (Vahey D. C. et all, 2004, deaconu A. et all, 2004). The studies undertaken on medical personnel in various countries indicates the fact that approximately a third of them present with professional stress (Anagnostopoulos F., Niakas D., 2010, Escribà-Agüir V. et all, 2011, Adam S. et all, 2008, Chiron B. et all, 2010, Ringrose R. et all, 2009). Currently there is no data to indicate a prevalence in professional stress of nurses in Romania.

The most studied factors which can pose a risk for developing work-related stress are organizational factors (values promoted by the institution, reward system, colleague relations) and those which are specific to the professional role (emotional solicitation, pressing work and role-related ambiguity) (Corde C. L., Dougherty T. W., 1993, Maslach C., Leiter, M. P., 2005, Glass D. et all, 1993).

MATERIAL AND METHOD

We have analyzed professional stress levels within the scope of medical assistants from various sections of the hospitals through evaluating the frequency of professional stress and comparing the levels of professional stress.

For a proper evaluation of work-related stress levels, the Maslach Burnout Inventory (MBI) Scale was used (Maslach C., Jackson S. E., 1981). The congruence between personal needs and organizational factors was evaluated using the Areas of Worklife Survey (AWS) Scale (Maslach C., Leiter M., 1997). The methods used for identifying stress factors were passive observation, informal discussions and an inventory of stress factors.

The study was undertaken between March 2012 and December 2013, with 120 questionnaires being distributed within two medical hospitals in Oradea, with the approval of the institution's managers. The selection of participants for research was partially randomized. The questionnaires were handed to respondents individually, after a brief explanation of the scope of the research and after underlining the confidentiality of information used. The response rate was of 65,83%, meaning that 79 valid questionnaires were returned. The average age was 41.2 years (at least 21, at most 58). The work schedule in nurses involved in the study is organized in 2 shifts of 12 hours each or 3 shifts of 8 hours each.

RESULTS AND DISSCUSIONS

Applying the T test for independent batches, there were no significant statistical differences obtained in stress levels ($t(48)=1,161$; $p=0,25$ l; $p>0,05$), with the average of male subjects being 5,11 and the average of female subjects being 4,86 (table 1).

Table 1

Statistic representation of stress levels related to biological gender

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Stress Level	masculine	5	5.11	.55	.15
	feminine	74	4.86	.72	.12

The representatives of both levels of the biological variable feel the stress factor within the same margins. This result comes in contradiction to the researches in the domain which sustain the fact that, for various reasons, female subjects feel more stressed than male subjects. The obtained result

can be explained by the fact that at the date of realization of the anterior research studies, the rapport between the obligations and rights of each category has been modified, with females taking over a large part of male responsibilities and males undertaking largely feminine tasks. As such, the subordonation of women in the marital relation decreased and the openness of males towards the role of mother and wife has increased.

From a point of view of age group repartition, the largest part of people fit the 30-44 year old category, where there were far more interested and willing people to participate in the study.

The T test was applied on independent batches to verify the effect of the age group variable on the level of stress. There were no significant differences obtained (t(48) =0,079; p=0,937), meaning that the subjects in different age groups feel the same amount of stress (table 2).

Table 2

Statistical representation of stress levels based on age groups

Group Statistics					
	Age Group	N	Mean	Std. Deviation	Std. Error Mean
Stress Level	21-24	6	4,92	.55	.15
	25-29	11	4,79	.59	.12
	30-34	12	4,88	.58	.13
	35-39	14	4,86	.57	.14
	40-44	13	5,05	.72	.16
	45-49	11	4,93	.65	.15
	50-54	8	4,82	.61	.14
	55-58	4	4,76	.58	.12

This result could be explained by the fact that, in current society conditions, at any age group, stress factors act with the same intensity even if they are different. If in younger age groups the professional abilities and financial situation predominate as stress factors, in older groups, overworking and a lack of free time are of the most importance.

From the point of view of the originating environment, a reduced number of people had their domicile in a rural area, travelling up to 70 km to get to or from work.

The T test was applied for independent batches in order to verify the effect of the originating environment variable on stress levels. There were no significant differences obtained (t(48)=0,689; p=0,494), meaning that the subjects which live in an urban environment encounter the same levels of stress as rural inhabitants (table 3).

Table 3

Statistical representation of stress levels based on originating environment

Group Statistics					
	Originating Environmen	N	Mean	Std. Deviation	Std. Error Mean
Stress Level	urban	7	5.01	.58	.12
	rural	72	4.87	.76	.14

Approximately 41.77% of the people included in the study have a professional experience larger than 15 years, in the same workplace and on the same ward. These people declare that they would not change wards even if the workload is significant, with the specific of each ward being well known by every employee.

The T test was applied for independent branches in order to verify the effect of the professional experience variable on the level of stress. There were no notable differences observed (t(51)=0,671; p=0,492), meaning that subjects which have a greater professional experience encounter the same level of stress as people who possess smaller professional experience (table 4).

Table.4

Statistical representation of stress levels based on professional experience

Group Statistics					
	Professional Experience	N	Mean	Std. Deviation	Std. Error Mean
Stress Level	1-5 years	17	5.11	.59	.11
	6-15 years	29	4.91	.71	.14
	+15 years	33	4.86	.63	.13

In undertaking this study, diverse wards with specific activities were visited. The repartition based on wards is relatively uniform, with male nurses being present in surgery and laboratory wards and women nurses everywhere else.

The smaller professional experience of 1-5 years is found mostly in internal medicine, cardiology, neurology and pediatric wards.

Within the wards with surgical specificity we can encounter medical personnel with an experience of over 6 years in a medium proportion and medical personnel with over 15 years of experience in a larger proportion. Declaratively, nurses with a greater professional experience say that they would not want to move to another ward even if the ward they work in is a hard one. The main motive consists in the abilities accumulated over time in the same ward, the use of medical equipment, the knowledge of particularities related to medical care within the ward and the collective of

people at the workplace. From the persons being interviewed, 26,58% (21 people) affirm that they would agree if they would be moved to another ward. The reasons invoked are various and can include work-related conflicts, hard work, tiredness, multiple tasks, overtime, reticence in using medical equipment or financial situation.

Following the discussions, an inventory of stress factors was undertaken. This inventory was offered to the attention of all employees and constituted the support for differentiating stress levels within them.

The influence of legislative stress factors is also significant, with the decreased level of pay compared to professional preparation, competences and responsibility of the medical act having the most impact.

A large part of these stress factors within the organization are cumulated with stress factors which result from the patient-nurse relationship. The interviewed personnel pointed out that an important stress factor is the bad communication with the patient, with more and more extreme cases prevailing where a patient is either very informed and has higher demands or a patient has a low capacity of understanding and communicating and does not present with an interest for receiving medical care.

Statistical work on the data (T test, which has allowed to pinpoint significant differences in obtained means from the three lots, and the regression equation) show the fact that the work/family stressor is more acute in nurses working in shifts (significant differences between scores obtained by laboratory nurses and surgery nurses: t= -1,656; p=0,01, while for nurses working an entire day and nurses working in shifts the result was t= 1,764; p=0,1) (table 5).

Table 5

Results of the linear regression analysis: predictors for stress levels and their dimensions

Group Statistics					
Shift Work		Criteria	Standardized β	t	Adjusted R^2
Stress Level	3 Shifts (8 h /day)	Medical Wards	.100	-2.154	.205
		Surgery	-.110	-2.421	
		Laboratory	-.478	-1.656**	
Stress Level	2 Shifts (12 h /day)	Medical Wards	.225	+1.764*	.122
		Surgery	.198	+1.689*	
		Laboratory	-.105	-2.456	

(*p<0,05; **p<0,01; ***p<0,001)

For nurses working in surgery wards the organizational climate is a veritable stress factor (t= -3,116; p=0,01) when compared to laboratory or medical ward nurses (t= -2,629; p=0,02). The interpersonal relationships are

more important for nurses working in teams; comparing the averages obtained by laboratory nurses and surgery nurses we have obtained p=0,1 t= -1,687) (table 6).

Table 6

Results of the linear regression analysis: predictors for stress levels and organizational climate

Group Statistics					
	Predictor	Criteria	Standardized β	t	Adjusted R^2
Stress Level	Organizational Climate	Medical Ward	-.158	-2.593	.322
		Surgical Ward	-.224	-3.116*	
		Laboratory	-.124	-2.629	
Stress Level	Interpersonal Relationships	Medical Ward	-.321	-1,543*	.208
		Surgical Ward	-.296	-1.687*	
		Laboratory	-.105	-1.002	

(*p<0,05; **p<0,01; ***p<0,001)

For laboratory nurses compared to nurses on medical wards there is a significant difference in the job overload variable (t= -1,751 and p=0,1) which shows that within medical wards the psychological and physical conditions are viewed by nurses as the most soliciting and tiring (the data correlates with data taken by interview and observation). The lot of laboratory nurses was compared to the surgery nurses and the result was t= -2,602 and p=0,2 meaning that in the surgery ward the level of work is much more demanding and nurses are overburdened.

Comparing obtained averages in the satisfaction scale for the work itself between the laboratory and medical wards we have obtained t= -2,591 and p=0,01 meaning that nurses on medical wards manifest a greater satisfaction than laboratory nurses.

Between the lot of laboratory nurses and surgical nurses there were significant differences between the averages obtained in the satisfaction scale for the work itself and satisfaction scale for working within the organization.

Calculating the regression equations for the variables implied in the study led to a correlation between "work-related satisfaction" and tension sources in the workplace (organizational climate, appreciation within the collective, overloading) and also the values promoted by the individual – long term orientation within the organization but also stress, tiredness and the coping mechanisms.

For the analyzed lot, the intrinsic work satisfaction has some sources of tension in the workplace as predictors: organizational climate, overburdening, appreciation, promoted values and stress levels perceived by

the subject while also touching on the level of control of the subject in reducing the state of stress.

For nurses in surgery wards the social support has greater importance than for nurses in other wards. Similar results were obtained when comparing the laboratory nurses with surgery and medical nurses. There are no observed differences between the surgery and medical wards, but we cannot affirm that only shift work makes social support and interpersonal relations an important moderator of stress or a veritable stressor.

Adopting social support as a coping mechanism is dictated even by the requirements of the workplace, respectively working in shifts, and is also tied to the home/work interface.

CONCLUSIONS

The results of the study have showed that there are no significant differences in the stress levels of nurses depending on gender, age group, originating environment and professional experience. Most probably, the hypotheses of the research were rejected due to the small number of subjects available. However, the modifications which have appeared in the last decade in regards to gender roles and the expectations related to these roles have to also be taken into account, these being modifications which are produced even today with great speed.

For nurses in surgery wards, social support has a greater importance than for nurses in other wards. Similar results were obtained when comparing the nurses in laboratory wards with nurses in surgery and medical wards. There are no notable differences between surgery wards and medical wards, but we cannot affirm that only shift work makes social support and interpersonal relations a strong moderator of stress or a veritable stressor.

Within the collective of nurses which has been tested, an important role in undertaking a quality work act is taken by the relationships with colleagues.

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