STRESS RESPONSES AND COPING RESOURCES IN PORTUGUESE HEALTH PROFESSIONALS
(A Preliminary Study)

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ABSTRACT

This study was begun at the request of the Northern Region Administration of Health in order to ascertain the sources of stress, stress responses and coping resources in health professionals and administrative personnel in northern Portugal. The sample was 220 health professionals and administrative personnel representing primarily health centers. The Portuguese version of the Brief Personal Survey was used. Significant differences were found between professional groups regarding the stress responses Denial and Anger/Frustration. The post-hoc comparisons showed a significant difference in Denial only between physicians and the other two groups, with nurses and administrative staff scoring higher on Denial than the physicians. Regarding Anger/Frustration, the significant differences were also between physicians and the other two groups, with physicians scoring higher on this scale than nurses and administrative staff. The order of the Coping Resources reported by the three professional groups was the following: Physicians and Administrative staff: Social Support, Coping Confidence and Philosophical/Spiritual Resources; Nurses: Social Support, Philosophical/Spiritual Resources and Coping Confidence. The ANOVA results were significant for all the Coping Resources scales. The post-hoc comparisons were significant for the differences between Administratives and Physicians on Social Support and Coping Confidence, with Administratives scoring higher on these scales. Nurses also scored higher than Physicians on the Philosophical/Spiritual Resources scale. These results suggest the need for psychological intervention programs, such as the one sponsored by Fundação Bial which is in progress.

INTRODUCTION

Economic factors have motivated a large body of research on the concept of *occupational stress* in the last 20 years. The majority of studies done have indicated that occupational stress is related to a higher incidence of physical and emotional problems which could lead to diminished productivity, higher rates of absenteeism, work-related injuries, premature death and family problems (Calhoun, 1980; Greenberg, 1987; Gunnarsdóttir & Vihjálmur, 1995, Lindstrom, 1992)

The health sector has received less attention from researchers than other sectors despite representing an extensive portion of the service industry and despite the health-related professions being considered high-risk in terms of occupational stress. As early as 1978, Smith studied 22,000 workers in 130 occupations and concluded that seven of the 27 occupations related to health care were characterized by a high level of stress. Other studies indicate that health care organizations, especially hospitals and health centers, constitute work environments with organizational characteristics usually associated with stress, such as multiple levels of authority, heterogeneity of personnel, work interdependence, and high degree of specialization (Calhoun, 1980; Rodrigo, 1995). Another source of stress inherent to health professions is the demand for intense social contact, which has been associated with burnout (Leppanen & Olkinuora, 1987; Pines, Aronson & Kafry, 1981). Researchers suggest that being responsible for people, such as having contact with patients and their families, contact among colleagues and with professional organizations, is more stress producing than being responsible for things.

A comprehensive model of occupational stress as applied to the health professions is difficult to define since the sources and consequences of stress are multiple and are sometimes hard to distinguish. The sources of stress can be job intrinsic (work climate), personal (needs, coping resources), job extrinsic (financial or family problems) while the consequences of stress can be subjective (mood), behavioral (accidents), cognitive (impaired memory), physiological (high blood pressure) and organizational (job satisfaction),etc.

The research on stress in health professionals in Portugal is virtually non-existent. We have no data on this issue available from the Ministry of Health. However, there are some indications of occupational stress among Portuguese health professionals. Lucas (1987) reported that the rate of absenteeism for nursing in Portugal is the highest among all health service personnel and attributes this to the high number of inhabitants per nurse (471 in 1982), as compared to the U.S. (148), France (169) and Norway (101). More recently, Loff (1992) conducted a study of 92 nurses who were having

psychiatric counseling and concluded that these nurses represented 20% of the total nursing staff, with an average age of 47 and with 37% being over the age of 50, and 79% having direct patient contact. Loff also reported that 82% of the nurses presented recurrent psychological problems and that 12% had attempted suicide. The rate of absenteeism for this group was 50%. Nogueira (1988) did a pilot study of burnout and depression in 182 General Practice physicians of both sexes in Northern Portugal. The study focused on organizational sources of stress and the main sources found were patient and consult overload, inadequate pay and frustrated professional ambitions. He reported that 86.8% of the physicians presented symptoms of burnout and that 82% of these were in phase three (chronic symptoms). He also reported that 33.8% of the male and 66.2% of the female physicians presented some form of depression. In another study, Felício and Pereira (1994) also studied occupational stress in 60 General Practice physicians of both sexes in Southern Portugal. They found the primary sources of stress to be work overload and a lack of adequate physical or technical resources. Regarding the symptoms of stress they reported more moderate levels of stress and that the behavioral and intellectual symptoms were more prevalent than the physical ones for both sexes.

This paper reports the preliminary results of a larger study which aims at investigating stress-related variables in Portuguese health professionals based on a more comprehensive model of occupational stress. We studied the sources of stress, the stress responses, the coping resources and the desired coping resources, and several demographic and professional characteristics in three categories of health professionals (physicians, nurses and paramedics) of both sexes, in different units (emergency, rehab, cardiology, oncology), different settings (hospital versus health center, public and private) and with different types of patients. Although this study is largely exploratory in nature, we were particularly interested in investigating the relationship between the health care professionals' stress responses and the coping resources available and desired by these, and the relationship between these variables and the health care professionals professional background (length in the profession and position, among others). Many of these relationships will be presented in later studies.

METHOD

Subjects

The sample is made up of 220 health professionals (48 physicians, 95 nurses and 63 administrative staff) of both sexes who work in 66 hospitals and health centers in Northern Portugal. The demographic and professional characteristics of the health professionals are presented in Table 1. In spite of contributing as limitation to this study, the data are reported and analyzed jointly for both sexes due to the small percentage of male subjects (23.1%). The mean age of the health professionals is 42.68 and 61.3% of them are married, with 19.3% having completed grade school, 13.4% having completed high school, 24.8% having completed a bachelors degree and 25.6% having a licentiate which is more than a bachelors and not quite a masters degree. Only 0.8% of the health professionals completed their master's degree and no one had completed a doctorate.

Concerning the professional characteristics, the mean years of service in the profession was 18.55 with a mean of 6.06 in their current situation. In terms of the position in the hierarchy, 5.9% of the respondents reported that they were in a director position (head nurses or chief physicians), 24.8% as being in a technician position (health professional without leadership responsibilities), .and 27.7% in administrative positions. In this sample, 13.4% of the respondents have direct reports with an average of 18.82 subordinates per leadership position.

The data collection is continuing and it is expected that there will be a sample of over 3,000 subjects for this study. As a result, the data that is presented here may change significantly at the final stage of this study.

Instruments and Procedures

The instruments used were the Portuguese version of the Brief Personal Survey (Mauger, 1994) and a questionnaire developed by the authors that includes items pertaining to demographic data (age, sex, marital status, education), items pertaining to the professional characteristics (degree, years and type of service, shift work, patient load and training). The Brief Personal Survey is 80-item self-report questionnaire which was developed as a quick screening tool for use in health care settings. The inventory is comprised of one Validity scale (Denial), six Stress Response Scales which measure the ways in which persons react to stress (Health Distress, Pressure-Overload, Anger-frustration, Dysphoric Emotionality, Anxiety and Guilt), three critical indicators (Suicidal ideation, Loss of control and Drugs/Alcohol) and three Stress Resource Scales which evaluate the person's coping resources (Social Support, Philosophical/Spiritual Resources, Coping confidence).

The questionnaires were distributed by the representatives of each professional group in each health unit to all the staff in each professional category. The sample was randomly selected from listings of all the active staff in the respective health units. The response rate obtained was 80%. The participation was voluntary and all the answers were confidential, with the questionnaires returned directly to the researchers.

RESULTS

The means on the Brief Personal Survey scales for the three professional groups are presented on Table 2. A ranking of the three top Stress Responses and critical indicators, as well as the two top Coping Resources available was done by correcting the mean for the number of items per scale. Three-way ANOVAS were computed to determine the significance of the differences between the three professional groups. Bonferroni post-hoc comparisons were made when significant differences were encountered (See Table 2).

The results show that the three top Stress Responses reported by physicians are Anger/Frustration, Dysphoric Emotionality and Health Distress. For the nurses the tops stress responses were Denial, Health Distress and Pressure/Overload. The same stress responses were indicated by the administrative personnel but with slight variations in order (Denial, Pressure/Overload and Health Distress).

Significant differences were found between professional groups regarding the stress responses Denial and Anger/Frustration ($F(2, 195) = 12.213$, $p = .000$; $F(2, 203) = 4.44$, $p = .013$). The post-hoc comparisons showed a significant difference in Denial only between physicians and the other two groups, with nurses and administrative staff scoring higher on Denial than the physicians. Regarding Anger/Frustration, the significant differences were also between physicians and the other two groups, with physicians scoring higher on this scale than nurses and administrative staff.

The order of the Coping Resources reported by the three professional groups was the following: Physicians and Administrative staff --Social Support, Coping Confidence and Philosophical/Spiritual Resources; Nurses: Social Support, Philosophical/Spiritual Resources and Coping Confidence. The ANOVA results were significant for all the Coping Resources scales (Social Support: $F(2, 203) = 4.17$, $p = .017$; Coping Confidence: $F(2, 203) = 3.96$, $p = .021$; Philosophical/Spiritual Resources: $F(2, 203) = 3.95$, $p = .021$). The post-hoc comparisons were significant for the differences between Administratives and Physicians on Social Support and Coping Confidence, with Administratives scoring

higher on these scales. Nurses also scored higher than Physicians on the Philosophical/Spiritual Resources scale.

DISCUSSION

The top stress responses most experienced by the Portuguese health professionals, Anger/Frustration, Denial, Health Distress, Dysphoric Emotionality, are in accordance with the Portuguese medical culture which favors more indirect or internalized displays of psychological distress, such as through depression and somatization (McIntyre, 1985). Health problems and depression have also been largely reported in nurses and physicians in other countries, with values surpassing those of the general population (Gunnarsdóttir & Vihjálmur, 1995; Kandolin, 1993; Olkinuora et al., 1992). The lack of comparison groups (other professionals, community residents, etc.) at this point of the study does not allow us to estimate the extent and severity of this problem for the professionals working with patients in Portugal.

The comparisons among the three groups of health professionals show that there are more similarities than differences in terms of stress responses. The differences found concern Anger/Frustration and Denial. Physicians seem to respond to stress more with Anger/Frustration, losing one's temper than nurses or administrative staff in contrast, nurses and administrative staff present higher denial than physicians. This may suggest that anger responses are more accepted in the medical culture, whereas nurses and administratives tend to deny more these emotions and feelings due to them not being as accepted as part of their professional role. The fact that both nurses have more direct patient contact than physicians may contribute to this defense mechanism.

In terms of Coping Resources, Social Support is the most used resource by the three groups of health professionals. In a country where interpersonal relationships are a cultural value (McIntyre, 1985), it is not surprising that social support would be among the top reported resource. The group comparisons yielded significant differences for all coping resources. Administratives scored highest on Social Support and Coping Confidence, whereas physicians scored the lowest, indicating that they need to develop coping resources in these areas. The fact that the physicians responses were Anger/Frustration and Depression may be related to more difficulties in utilizing social support as effectively. Nurses scored in the middle range in the above coping resources but reported higher utilization of Philosophical/Spiritual Resources than physicians. This indicates that nurses area more able to utilize a personal philosophical or spiritual framework to integrate stress responses and thus potentially decrease their impact.

The results on the stress responses in the Portuguese professional in the Northern region, although preliminary, point to important physical and mental health consequences for those involved. Physicians in general seem to be a group of particularly at risk since they show equally relevant emotional responses to stress but fewer coping resources than nurses or administrative staff. It is interesting to notice that although most of these professional's function involves taking care of other people's health, they report significant health distress themselves, not being able to take care of their own needs. These data suggest that interventions more directed to staff training and psychological support are pressing due to the emotional toll that Portuguese health professionals in the northern region are experiencing, especially concerning depression and health problems. This supports the need for psychologists to be an integral part of the staff in hospitals and health centers, which is still a rare commodity in Portugal. We hope that this preliminary report and those that will follow from the larger study we are undertaking will alert the government and the proper authorities to the pressing need to evaluate the impact of occupational stress in Portuguese health professionals and to foster proper psychological interventions to prevent its negative consequences for health professionals and the quality of patient care. Recently, the Bial foundation has approved a three year grant to evaluate the effectiveness of a pilot stress management program for health professionals in selected hospitals in the northern region, setting up an example for other funding entities.

REFERENCES

Calhoun, G. (1980). Hospitals are high-stress employers. Hospitals. 54(12): 171-176.

Felício, M. & Pereira, A. (1994). Stress ocupacional: sua relação com a saúde e variação com o sexo. [Occupational stress: it's relation with health and variation by sex.] Communication presented at the I Congresso Nacional de Psicologia da Saúde (I National Congress of Health Psychology), Lisboa.

Greenburg, J. (1987). Comprehensive stress management. Dubuque, Iowa: William C. Brown Publishers.

Gunnarsdóttir, H. & Vihjálmur, R. (1995). Mortality among Icelandic nurses. Scandinavian Journal of Work Environment and Health, 21: 24-29.

Kandolin, I. (1993). Burnout of female and male nurses in shiftwork. Ergonomics, 36(1-3), 141-147.

Leppanen, R. & Olkinuora, M. (1987). Psychological stress experienced by health care personnel. Scandinavian Journal of Work Environment and Health, 13: 1-8.

Lindstrom, K. (1982). Work organization and well-being of Finnish health care personnel. Scandinavian Journal of Work Environment and Health, 18(2): 90-93.

Loff, A. (1992, October). Aspectos psicológicos do exercício da profissão de enfermagem [Psychological aspects of the nursing profession]. Paper presented at the meeting "Jornadas de enfermagem", Lisbon, Portugal.

Lucas, J. (1987). Satisfação profissional: Problema de gestão ou administracão de recursos humanos? O caso da enfermagem [Professional satisfaction: A problem of human resource management? The case of nursing]. Revista Portuguesa de Saúde Pública, 2 (2), 31-37.

Mauger, P. (1994). The Brief Personal Survey. Jonesboro, GA: Automated Assessment Systems.

McIntyre, T. (1985). Aggressiveness and assertiveness in Portuguese and American college students: a cross-cultural study. Unpublished Masters Thesis, Georgia State University, Atlanta.

McIntyre, T. (1994). Stress e os profissionais de saúde: os que tratam também sofrem [Stress and health professionals: those who heal also suffer]. Análise Psicológica, 2-3 (XII): 193-200.

McIntyre, T., McIntyre, S., Silvério, J. & Figueiredo, B. (1995). Inventário de Recursos para Lidar com o Stress [Coping Resources Inventory for Stress - Portuguese version]. Fayetteville, GA: Health Prisms Inc.

McIntyre, T., McIntyre, S. & Silvério, J. (1995). Inventário de Respostas e Recursos Pessoais [Brief Personal Survey - Portuguese version]. Jonesboro, GA: Automated Assessment Systems.

Nogueira, J. (1988). Stress e exhaustão médicas: que saída para a crise? [Stress and medical exhaustion: how to get out of the crisis?]. Estudo feito no âmbito do Internato de especialidade de Saúde Pública, Escola Nacional de Saúde Pública.

Olkinuora, M., Asp, S., Juntunen, J., Kauttu, K., Strid, L. & Aarimaa, M. (1992). Stress symptoms, burnout and suicidal thoughts of Finnish physicians. Scandinavian Journal of Work Environment and Health, 18(2): 110-112.

Pines, A., Aronson, E. & Kafry, D. (1981). From tedium to personal growth. New York: The Free Press.

Rodrigo, M. L. (1995). Estrés de los profesionales de efermería: sobre qué o quien repercut? Revista ROL de Enfermería, Mayo(201): 65-68.

Smith, M. (1978). A review of NIOSH physical stress research - 1977. National Institute of Occupational Health and Safety, pp. 27-28.

Table 1

Demographic and Professional Characteristics of the Sample (N=220)

		n*	%	M	SD
Age		203		42.68	10.00
Sex	Male	55	23.1		
	Female	148	62.2		
Marital Status	Single	33	13.9		
	Married	146	61.3		
	Widow(er)	9	3.8		
	Other	16	6.7		
Educational Level	Grade Sch.	46	19.3		
	High Sch.	32	13.4		
	Bachelors	59	24.8		
	Licenciate	61	25.6		
	Post-Grad.	4	1.7		
	Masters	2	0.8		
	Doctorate	0	0		
Years in the Profession		201		18.55	9.86
Years in this Service		202		6.06	7.23
Hierarchical Position		184			
	Director	14	5.9		
	Technician	59	24.8		
	Admin.	66	27.7		
	Other	45	18.9		
Direct Reports	Yes	32	13.4		
	No	166	69.7		
Number of Subordinates		33		18.82	19.23

Table 2

ANOVA's and Post-Hoc Comparisons of the Brief Personal Survey (N=206)

	Scale Means				
	Physicians n = 48 M	**Nurses n = 95 M**	**Admin. n = 63 M**	**p**	**Post-Hoc Comparisons**
Stress Responses					
1. Suicidal Ideation	0.30	0.36	0.49	ns	
2. Denial	3.71	**4.88 (1)**	**5.44 (1)**	.000	PHY<NU,AD
3. Health Distress	**3.23 (3)**	**3.58 (2)**	**3.11 (3)**	ns	
4. Dysphoric Emotionality	**2.81 (2)**	2.08	2.30	ns	
5. Guilt	2.63	2.22	2.52	ns	
6. Pressure - Overload	2.63	**2.92 (3)**	**3.03 (2)**	ns	
7. Anger - Frustration	**3.85 (1)**	2.81	2.68	.013	PHY>NU,AD
8. Drug/Alcohol	0.23	0.35	0.62	ns	
9. Loss of Control	0.63	0.62	0.73	ns	
10. Anxiety	2.35	1.94	1.98	ns	
				ns	
Coping Resources				ns	
Social Support	**6.13 (1)**	**6.81 (1)**	**6.98 (1)**	.017	AD>PHY
Coping Confidence	**4.88 (2)**	5.56	**6.00 (2)**	.021	AD>PHY
Philo./Spiritual Resources	5.33	**6.40 (2)**	6.00	.021	NU>PHY