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Promoting Work Well-being:
Professional Burnout &
Occupational Stress

Edited by: Alexander-Stamatios Antoniou

VOLUME C



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The content of this textbook reflects all the most recent knowledge and internationally accepted techniques as they are analyzed by experienced authors in the field, in each chapter.

Nevertheless, the authors and the editor acknowledge that every medical opinion is under the limitations of the time frame that this book was created, as well as possible mistakes that might have escaped their attention.

Readers of this textbook are encouraged to keep that in mind, while at the same time we hope that the information included will become a starting point for young colleagues or the more experienced ones, for new research projects, clinical trials or maybe an updated version of the book in the near future.

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**Promoting Work Well-being:
Professional Burnout & Occupational Stress**

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Health-Related Quality of Life in Relation to Job Satisfaction and Occupational Stress of Greek Hospitals' Personnel

Chapter

9

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Introduction

According to the current general trend in the field of workplace health promotion research, much emphasis has been placed on the influence of the psychosocial work environment on employee's health status and well-being (Marmot, Siegrist, & Theorell, 2006; Peter & Siegrist, 2000), particularly focusing on factors directly relating to the profession itself (job characteristics) as well as factors relating to conditions of employment (work context). This interest has been widely placed on the health care sector, as one of the most well-documented workplaces with high levels of psychological strain (EuroFound, 2007; Smith, Brice, Collins, Matthews, & McNamara, 2000; Verhaeghe, Vlerick, De Backer, Van Maele, & Gemmel, 2008; Weinberg & Creed, 2000), high rates of work injuries and illnesses, absences from work and related costs (Koeboom, Lowe, Kent, Schellenberg, & Wager, 2002; Yassi, Ostry, Spiegel, Walsh, & de Boer, 2002; Yassi & Hancock, 2005).

Healthcare workers (HCWs) report higher than the average work-related health impact (EuroFound, 2007), since they face a wide range of occupational health and safety hazards such as musculoskeletal injuries (MSIs), infectious diseases, chemical-induced disorders and mental stress, among other work-related illnesses and injuries (Yassi, Pawson, Leary, Sikorski, Parent, & Gilbert, in press; Yassi & Hancock, 2005). Moreover, they encounter various occupational psychosocial risks since they report to feel fatigued, stressed, overburdened, at risk and/or in pain and do not feel able to provide consistent quality care (Moore et al., 1997; Nicklin & McVeety 2002; Yassi & Hancock, 2005).

Job satisfaction and job-related stress have long been under the focus of health ca-

re research, as two of the most widely debated factors that are reported to influence employee's performance, health and longevity (Buciuniene, Blazeviene, & Bliudziute, 2005; Cooper, Brout, & Faragher, 1989; Kisa & Kisa, 2006; Whalley, Bojke, Gravelle, & Sibbald, 2006). Low job satisfaction and high job stress may have adverse effects on employees' health and may lead to several attitudinal and behavioural reactions (e.g. exhaustion, health complaints, illness or disability, increased rates of absenteeism, burnout and turnover), resulting in the increase of direct and indirect organisational costs. (Buciuniene et al., 2005; Cass, Siu, Faragher, & Cooper, 2003; Coomber & Barri-ball, 2007; Sibbald, Enzer, Cooper, Rout, & Sutherland, 2000; Simoens, Scott, Sibbald, Bojke, & Gravelle, 2002; Wright & Davis, 2003).

What is more, low job satisfaction and high levels job-related stress have both been correlated with lower patient satisfaction and compliance with treatment (RCCP, 2005), patients' health outcomes (Gosden, Williams, Petchey, Leese, & Sibbald, 2002; Suzuki, Ohida, Kaneita, Yokoyama, Miyake, Harano, Yagi, Ibuka, Kaneko, Tsutsui, & Uchiyama, 2004; Yassi & Hancock, 2005) and quality of care delivery (Cohen, Village, Ostry, Ratner, Cvitkovich, & Yassi, 2004; DeVoe, Fryer, Jr., Hargraves, Phillips, & Green, 2002; Harris, Proudfoot, Jayasinghe, Holton, Powell Davies, Amoroso, Bubner, & Beilby, 2007; Martin-Fernandez, Gomez-Gascon, Beamud-Lagos, Cortes-Rubio, & Alberquilla-Menendez-Asenjo, 2007; Yassi, Cohen, Cvitkovich, Park, Ratner, Ostry, Village, & Pollak, 2004).

Although much effort has been placed on studying job satisfaction, job-related stress and employees' health status or well-being internationally, the studies conducted in Greece either focus on similar dimensions, e.g. burnout, anxiety (Montgomery, Panagopolou, & Benos, 2006; Tselebis, Gournas, Tzitzanidou, & Panagiotou, 2006) or on the same dimensions from the perspective of a specific category of health care workers e.g. nurses (Antoniou, Cooper, & Davidson, 2008; Antoniou, 2006; Antoniou, Davidson, & Cooper, 2003). The primary objective of the present study was to evaluate the correlations between HRQoL and factors of job stress and job satisfaction in a representative sample of all staff categories of Greek hospital employees (administrative, medical doctors, nurses, technical and auxiliary personnel). A secondary aim was to report the distribution of factors of job stress and job satisfaction between occupational categories. Last but not least, the interrelationship between factors of job stress and job satisfaction was assessed.

Methods

Sampling and Procedure

The survey took place in 2000, in six hospitals (both public and private) within the

wider Athens area. All six hospitals were the first members of the Hellenic Network of Health Promotion Hospitals (HNHPH). The study sample was drawn after a two-stage proportional stratification was explored; the first stage was based on a workplace criterion (stratification according to the hospital each one employee was working) while the second stage was based on a professional criterion (stratification according to the occupational group each one employee belonged to) (Tountas, Manios, Dimitrakaki, & Tzavara, 2007).

After that, the stepwise technique was applied by the use of employees' alphabetical lists, which led, in turn, to the drawing out of a study sample according to the proportion of the number of employees in each hospital and professional category (stepwise technique). The final stratified random sample consisted of 345 employees who represented the following professional categories: administrative, medical, nursing, auxiliary and technical personnel. The technical category included all technical personnel (mostly engineers but not blue collar workers), while the auxiliary category included all manual hospital workers. In each hospital the questionnaires were distributed to the participants and then collected by the hospital representative of the HNHPH during a three months period. A total of 272 participants (161 female and 101 male) returned the questionnaires.

Assessment of Health Related Quality of Life

Health Related Quality of Life (HRQL) was measured with the widely used generic SF-36 questionnaire (Greek standard version 1.0). In the SF-36, one item is designed to assess perceived change in health status and each of the remaining 35 items contributes to a score on one of eight scales or else eight 'health concepts': physical functioning (PF), role limitations due to physical health problems (RP), bodily pain (BP), general health perception (GH), vitality (VT), social functioning (SF), role limitations due to emotional health problems (RE), and general mental health (MH). All raw scale scores are linearly converted to a 0 to 100 scale, with higher scores indicating higher levels of functioning. Scores on these eight scales can be used to compute a summary index of physical health (PCS-36) and a summary index of mental health (MCS-36). In present study the SF-36 was self-administered. Missing values were treated according to procedures suggested in the SF-36 manual.

Assessment of job satisfaction

A purpose-made self-administered questionnaire measuring job satisfaction was administered to employees. The questionnaire was composed of the following five

questions, rated on a 3-point Likert scale (0= unsatisfied; 1= somewhat satisfied; 3= very satisfied): "How satisfied do you feel with your work environment?", "How satisfied do you feel with the relationships with your managers/superiors?", "How satisfied do you feel with the relationships with your colleagues?", "How interesting do you find your job?", and "In general, how satisfied are you with your work?". A summary score of the responses was used to evaluate job satisfaction.

Assessment of work stress

A purpose-made self-administered questionnaire measuring work stress was administered to the employees. The questionnaire was composed of nine items measuring occupational stress and seven items measuring stress flows from working conditions. The responses to the questions concerning occupational stress were (1= yes) or (0= no) and a summary score of the responses was used to evaluate work stress. The responses to the questions concerning stress from working conditions were made on a 4-point scale (1= not important at all; 2= not very important; 3= important; 4= very important) and a summary score of the responses was used to evaluate environmental stress.

Risk factors and illness profile

To control for potential confounding factors, further information regarding selected behavioral and biological risk factors such as age, gender, smoking status, body mass index (kg/m^2), and sleep problems were collected by employees. Additionally, respondents were asked whether they suffered from diabetes, hypertension, hypercholesterolemia or other chronic illnesses. If a respondent had any of the above conditions, he/she was categorized as having a somatic morbidity.

Statistical analyses

The relationship between job satisfaction with occupational stress and stress flows from working conditions was explored using Pearson correlation coefficients (r). Pearson's correlation coefficients were also used in order to explore the bivariate association of HRQL dimensions with job satisfaction, occupational stress and stress flows from working conditions. The association between HRQL and job satisfaction, occupational stress and stress flows from working conditions was modeled using multiple linear regression analyses. All models were adjusted for sex, age, smoking status, somatic morbidity, occupation, sleep problems and body mass index. Regression coefficients (β) with their standard errors (SE) were computed from the results of the linear regression analyses. All reported p values are two-tailed. Statistical signi-

ficance was set at 0.05, and analyses were conducted using SPSS statistical software (version 13.0).

Results

Table 9.1 presents descriptive data for all major socio-demographic and health risk variables. The majority of respondents were females, belonged to the age group of 30-49 years old, and were mainly medical doctors, nurses or administrative personnel. More than 40% of the participants were daily smokers and a 30.7% was categorized as suffering from somatic illness. Additionally, 17% of the respondents reported experiencing sleep problems more than one night per week.

The percentages of the positive responses to the questions concerning occupational stress are shown in Table 9.2. "Psychological strain" (43.9%) and "Time pressure" (37.2%) were the most common complaints, following by "Physical fatigue" (34.2%) and "Role ambiguity" (30%). "Management control" (8.6%) and "Boring position" (8.2%) were the less common occupational stress items. Table 9.3 shows the mean scores for the responses to the questions concerning stressful working conditions. "Ventilation problems" accompanied with "Untidiness and dirty rooms", "Dangerous working conditions" and "Dangerous equipment" achieved the greatest mean scores and reflected to be the most common stressful working conditions. All the SF-36 scales we-

Table 9.1 Sample characteristics

	<i>n</i>	<i>(%)</i>
Gender		
Male	101	36.5
Female	161	58.1
Age		
20-29	35	12.6
30-39	121	43.7
40-49	80	28.9
>50	30	10.8
Mean (SD) body mass index (kgr/m ²)	25.5	(11.1)
Smoking status		
Never	146	52.7
Less than 10 cigarettes per day	46	16.6
More than 10 cigarettes per day	72	26.0
Sleep problems		
Never	145	52.3
Less than one time per week	79	28.5
More than one time per week	47	17.0
		2
Somatic morbidity		
Yes	85	30.7
No	179	64.6
Occupation		
Administrative personnel	66	23.8
Medical doctors	82	29.6
Nurses	82	29.6
Technical personnel	15	5.4
Auxiliary personnel	22	7.9

Table 9.2 Percentage of positive responses to the questions concerning occupational stress (in order of importance)

Occupational stress	Yes n (%)
Psychological strain	122 (43.9)
Time pressure	103 (37.2)
Physical fatigue	95 (34.2)
Role ambiguity	83 (30.0)
Too many responsibilities	82 (29.7)
Work schedule	49 (17.8)
Decision making	36 (13.0)
Management control	24 (8.6)
Boring position	23 (8.2)
Total score, mean (SD)	2.3 (1.9)

re negatively correlated with occupational stress score (Table 5), while stress flows from working conditions was negatively correlated with the scales BP, GH, PCS-36, RE, MH and MCS-36.

The percentages of the very satisfied responders concerning Job satisfaction factors are shown in Table 9.4. The lowest proportion of very satisfied employees was found for satisfaction from work environment (24.9%). Job satisfaction score was significantly positively correlated with all SF-36 dimensions (Table 9.5). The correlation of job satisfaction score with occupational stress ($r = -0.42$, $p < 0.001$, Figure 9.1) and score on stress flows from working conditions ($r = -1.18$, $p = 0.023$)

was significant indicating that increased work stress is accompanied with lower levels of job satisfaction.

No differences were found concerning job satisfaction score according to occupation (ANOVA, $p = 0.642$). Medical doctors had significant greater mean score on stress flows from working conditions (mean = 13.6; SD = 5.9) compared to nurses (mean = 10.4; SD = 5.5, $p = 0.023$). Furthermore, nurses had significant greater occupational stress (mean = 3.1; SD = 2.1) compared to medical doctors (mean = 2.0; SD = 1.7, $p = 0.002$) and administrative personnel (mean = 1.9; SD = 1.8, $p = 0.001$).

Table 9.3 Mean scores for the responses to the questions concerning stressful working conditions (in order of importance)

Stressful working conditions	Mean (SD)
Ventilation problems	3.20(1.0)
Untidiness and dirty rooms	3.12(1.01)
Dangerous working conditions	3.09(1.06)
Dangerous equipment	3.0(1.12)
Intolerable noise	2.92(1.07)
Limited working space	2.88(1.05)
Intolerable Temperature	2.86(1.05)
Total score	21.2 (6.0)

Table 9.4 Percentage of very satisfied responders concerning Job satisfaction items (in order of importance)

	N(%) of very satisfied
How satisfied do you feel with your work environment	69 (24.9)
In general, how satisfied are you with your work	104 (37.5)
How satisfied do you feel with the relationships with your managers/superiors	110 (39.7)
How satisfied do you feel with the relationships with your colleagues	128 (46.2)
How interesting do you find your job	170 (61.4)
Total score, mean (SD)	11.8 (2.0)

Tables 9.6 and 9.7 presents the results from multiple linear regression analysis with dependent variables the dimensions of SF-36 and independent the Job satisfaction score, the occupational stress score and the score reflecting stressful working

Table 9.5 Correlation coefficients of HRQL dimensions with scores on occupational stress, stressful working conditions and job satisfaction

SF-36 scales	Occupational stress	Stressful working conditions	Job satisfaction
PF	-0.15*	-0.02	0.18**
RP	-0.22**	-0.03	0.25**
BP	-0.34**	-0.14*	0.22**
GH	-0.29**	-0.14*	0.26**
PCS-36	-0.35**	-0.16*	0.32**
VT	-0.37**	-0.02	0.34**
SF	-0.40**	-0.03	0.31**
RE	-0.31**	-0.15*	0.24**
MH	-0.26**	-0.15*	0.21**
MCS-36	-0.32**	-0.14*	0.34**

Spearman rho is calculated as correlation coefficient.

*indicates significance level (P value) <0.05. **<0.001

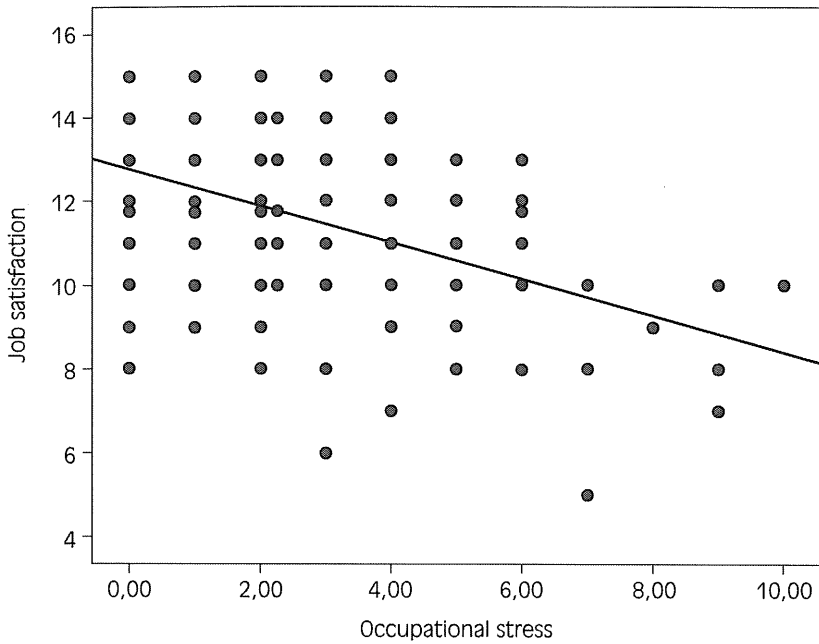


Figure 9.1 Association of job satisfaction with occupational stress.

conditions. Adjustment was made for sex, age, smoking status, somatic morbidity, occupation, sleep problems and body mass index. Job satisfaction score was significantly associated with RP, BP, GH dimensions. Also, Job satisfaction score had a signi-

Table 9.6 Multivariate linear regression models: regression coefficients \pm standard errors for dimensions of health status related to physical health

	PF $\beta \pm SE$	RP $\beta \pm SE$	BP $\beta \pm SE$	GH $\beta \pm SE$	PCS-36 $\beta \pm SE$
Job satisfaction	0.68 \pm 0.74	3.25 \pm 1.27*	1.55 \pm 0.77*	1.46 \pm 0.63*	2.05 \pm 0.55***
Occupational stress	-1.82 \pm 0.75*	-1.39 \pm 1.38	-2.02 \pm 0.86*	-1.54 \pm 0.68*	-1.59 \pm 0.61*
Stressful working conditions	-0.20 \pm 0.29	-0.76 \pm 0.52	0.15 \pm 0.31	-0.75 \pm 0.26**	-0.44 \pm 0.22*

Notes: All regression coefficients reported are adjusted for sex, age, smoking status, somatic morbidity, occupation, sleep problems and body mass index. All variables were entered in the model and only significant variables are shown.

*indicates significance level (P value) <0.05. **<0.01 ***<0.001

Table 9.7 Multivariate linear regression models: regression coefficients \pm standard errors for dimensions of health status related to physical health

	VT $\beta \pm SE$	SF $\beta \pm SE$	RE $\beta \pm SE$	MH $\beta \pm SE$	MCS-36 $\beta \pm SE$
Job satisfaction	1.52 \pm 0.60*	1.69 \pm 0.79*	1.97 \pm 1.25	1.28 \pm 0.64*	1.33 \pm 0.55
Occupational stress	-2.16 \pm 0.66**	-3.2 \pm 0.87***	-4.81 \pm 1.38**	-1.71 \pm 0.68*	-2.64 \pm 0.61***
Stressful working conditions	-0.09 \pm 0.25	-0.58 \pm 0.32	-1.01 \pm 0.50*	-0.66 \pm 0.25*	-0.55 \pm 0.22*

Notes: All regression coefficients reported are adjusted for sex, age, smoking status, somatic morbidity, occupation, sleep problems and body mass index. All variables were entered in the model and only significant variables are shown.

*indicates significance level (P value) <0.05. **<0.01 ***<0.001

ficant positive association with most of the mental health components (VT, SF, MH).

The association of Job satisfaction score with the general indexes PCS-36 ($\beta=2.05$, $SE=0.55$, $p<0.001$) and MCS-36 ($\beta=1.33$, $SE=0.55$, $p<0.05$) was also significant indicating that higher levels of job satisfaction indicates greater scores on physical and mental health. Occupational stress was negatively associated with most of the physical health dimensions (i.e. PF, BP, GH) and with all the mental health dimensions. Furthermore, multiple analysis revealed a significant association of occupational stress score with indexes PCS-36 ($\beta=-1.59$, $SE=0.61$, $p<0.05$) and MCS-36 ($\beta=-2.64$, $SE=0.61$, $p<0.001$), indicating that increase of occupational stress is accompanied with lower levels of health related quality of life.

As it concerns, score on stressful working conditions the results of multiple analysis indicated a significant association with GH dimension ($\beta=-0.75$, $SE=0.26$, $p<0.01$), RE dimension ($\beta=-1.01$, $SE=0.50$, $p<0.05$) and MH dimension ($\beta=-0.66$, $SE=0.25$, $p<0.05$). Score on stressful working conditions was also correlated with PCS-36 and MCS-36 in multiple analysis.

Discussion

The current study represents one of the first attempts to identify the relationship between the physical and mental health status and various factors of job satisfaction and occupational stress among non-clinical population of hospital employees in Greece, with an ultimate goal of providing evidence and information that could guide

policy actions, as well as helping managers to redirect their interest towards work-related health promotion initiatives. In addition, it can be viewed as a baseline study that assesses the interrelationship between factors of job satisfaction and occupational stress in the health care workplace field, setting the ground for further research in Greece.

Regarding Job Satisfaction, the most significant finding of the study was the strong association revealed between job dissatisfaction and HRQoL measured by the SF-36 questionnaire. Greek public health hospital employees reporting low job satisfaction also reported experiencing poor perception of their general and mental health, role limitations due to physical and emotional health problems, low vitality, increased bodily pain and low poor physical and social functioning. In general, low job satisfaction was a significant predictor of low HRQoL scores in all health care professional groups studied. This finding comes to support previous research in the health care field that suggests that job satisfaction is positively correlated with employee's health, longevity and wellbeing (Barrios-Choplin, McCraty, & Cryer, 1997; Buciuniene et al., 2005; Cass et al., 2003; Cheng, Kawachi, Coakley, Schwartz, & Colditz, 2000; Kisa & Kisa, 2006; Whalley et al., 2006).

Although most of these findings derive from studies focused on specialised staff, mainly registered nurses, medical doctors and general practitioners and reflect the use of various indicators of self-rated health, such as the GHQ, and of different job satisfaction measurements, their conclusion is that job satisfaction is strongly linked to mental and physical health. A current meta-analysis on the relationship between job satisfaction and health also confirms that job satisfaction level is an important factor influencing the health of workers (Fragher, Cass, & Cooper, 2005).

Concerning Job-related stress, it was addressed via assessment of work per se-related factors (occupational stress) and of factors related to working conditions/conditions of employment (stress flows from working conditions). Psychological strain, Time pressure, Physical fatigue and Role ambiguity were the most frequently reported factors by the respondents as a total, indicating that working in a hospital setting is highly demanding in physical, psychological and emotional resources. Previous research has also supported this finding (Montgomery et al., 2006; Sveinsdóttir, 2006).

Numerous studies mainly on general practitioners, physicians and nurses have indicated the aforementioned factors as key job stress factors, together with work overload, lack of participation in decision-making, poor social support, unsupportive leadership, lack of communication/feedback, staff shortages or unpredictable staffing, scheduling or long work hours and conflict between work and family demands

(Demerouti, Bakker, Nachreiner, & Schaufeli, 2000; Kisa & Kisa, 2006; RCGP, 2005; Richardsen & Burke, 1991; Vanagas & Bihari-Axelsson, 2004; Whalley et al., 2006; Yassi & Hancock, 2005). Furthermore, research suggests that these stress factors are related to ill health among HCWs, have a direct impact on their psychological well-being (Pappas, Alamanos, & Dimoliatis, 2005; Richardsen & Burke, 1991; Yassi & Hancock, 2005) and are correlated with the quality of care delivered to patients (Mokkink, van Eijk, Beek, Mesker, & Mesker-Niesten, 1985; Nicklin & McVeety, 2002; Rogers, Hwang, Scott, Aiken, & Dinges, 2004; Suzuki et al. 2004).

In addition, the physical environment of the Greek hospitals examined in the present study was indicated as a source of occupational stress in its own right. "Ventilation problems", "Untidiness and dirty rooms", as well as "Dangerous working conditions and equipment" emerged as the most common sources of stress from working conditions. Results from the Fourth European Working Conditions Survey (2007) have also demonstrated that workers from the health care sector report substantial levels of biological and chemical risks. Although it has already been well established that noise, lighting, extremes of temperature, polluted air and ergonomic factors in combination with exposure to specific factors in work environment may result in occupational stress (Wu, Zhu, Wang, Wang, & Lan, 2007), this is one of the very sparse findings indicating specific employment conditions in the Greek healthcare workplace field. In combination with the low percentage of the employees (approximately 25%) who reported to be satisfied with the work environment, the assumption that the working conditions in Greek hospitals are highly strenuous may be safely extracted.

Regarding group differences, it was found that the medical personnel reported the greatest stress flows from working conditions, while, on the other hand, the nursing staff demonstrated the highest levels of stress related to work itself. Numerous earlier studies have pointed out that "nursing is considered to be inherently stressful" (Demerouti et al., 2000; Kawano, 2008; Pappas et al., 2005; Royal College of General Practitioners, 2005; Sveinsdóttir, 2006; Wu et al., 2007), whereas Rees & Cooper (2006) in their recent study in a large health authority in the UK indicated that the highest levels of pressure were reported by the nursing staff. In Greece, however, this finding is highlighted by the remarkable low supply of nurses (Mossialos, Allin, & Davaki, 2005; OECD, 2008), which itself intensifies the stressful conditions of the occupation (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Lang, Hodge, Olson, Romano, & Kravitz, 2004; Sveinsdóttir, 2006; Yassi & Hancock, 2005).

From the view of the medical personnel, it is hypothesized that, due to the intense feeling of responsibility that medical doctors experience towards their patients'

health on the one hand, and the threat of malpractice litigation on the other, combined with the long working hours, patients' lists and night/emergency shifts, they become particularly vulnerable to inappropriate working conditions of the physical environment. They are expected to respond to the high psychological and physical demands of their profession in a work environment which is considered far from helpful, since their job resources are often insufficient to cope effectively with these demands (Demerouti et al., 2000; Elit, Trim, Mand-Bains, Sussman, & Grunfeldd, 2004; Thomas & Valli, 2006).

As regards the correlation with the HRQoL, as measured with the SF-36 questionnaire, it was derived from the study that increased work stress, as measured in the present study by the occupational stress score and the stress flows from working conditions score, is accompanied with lower levels of health related quality of life. Although both of these scales were purpose-made and by no means exhaustive, our finding is confirmed by earlier studies that have indicated that chronic job-related stress factors (environmental factors included) affect physical and mental health (Bartley, Sacker, Schoon, Kelly, & Carmona, 2005; European Science Foundation, 2003; Kenny, 2000). Current research on the field of job strain, which encompasses the notion of job-related stress, have confirmed its impact on health functioning and sense of wellbeing, whereas previous studies have linked job strain to hypertension, cardiovascular disease, cigarette smoking, psychosomatic symptoms, depression, and adverse birth outcomes (Cheng et al., 2000; Niedhammer, Chastang, & David, 2008; Pappas et al., 2005).

The last finding of the present study was the strong correlation of job satisfaction score with occupational stress and score on stress flows from working conditions, which demonstrated that increased work stress is accompanied with lower levels of job satisfaction. Although all of the above three dimensions were assessed by purpose-made tools, the outcome is in line with previous extended research (Chun Wah & Fong, 1990; Judkins & Rind, 2005; Moore et al., 1997; Richardsen & Burke, 1991; Van Ham, Verhoeven, Groenier, Groothoff, & De Haan, 2006; Visser, Smets, Oort, de Haes, 2003; Zangaro & Soeken, 2007).

The present study exhibits several limitations which should be noted. The first limitation concerns the use of purpose-made scales for the assessment of job satisfaction and job-related stress and their psychometric properties. However, Wanous, Reichers, & Hudy, (1997) has found adequate levels of reliability even in single-item measures of overall job satisfaction, whereas job satisfaction single-item measurements have been documented as quite satisfactory and less sensitive to sociocultural differences (Sveinsdóttir, 2006). Furthermore, measures were obtained from self-re-

ports and may, therefore, reflect bias in reporting. It is speculated that people who are satisfied with their work are more likely to respond to such a survey (Chun Wah & Fong, 1990; Wu et al., 2007) or have a tendency to respond in a social desirable fashion.

The main objective of the study was to set the foreground for the investigation of the interrelationship of HRQoL, job satisfaction and job-related stress in the Greek public hospital workplace setting. It generally highlights practical problems of the health care staff and the inadequate conditions in the Greek hospitals. Although it is acknowledged that different types of health care groups experience their own specific work stressors and sources of job satisfaction (and dissatisfaction), this was beyond the aims of the present study. A comparison between the different occupational groups with regard to dimensions of occupational stress, the levels of job satisfaction, as well as the coping strategies they use, may provide a more comprehensive understanding and a more global view of the critical issue of occupational stress and job satisfaction in the health service.

Further studies should also shed more light to the correlation of the above dimensions with demographic factors, such as gender, age, professional level, specialty or department of work, marital status since available research has already documented a possible impact (Cass et al., 2003; Kawano, 2008; Smith et al., 2000; Tovey & Adams, 2001). What is more, issues like work-life balance and life satisfaction should also be involved in the research (Rode, 2004), in the effort to clarify the factors contributing to the retention and development of the health care workforce, as a critical component of any strategy for maintaining an equilibrium between enhanced quality of health care and contained cost (Harris et al., 2007).

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