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The occupational stress, depression and job satisfaction of health professionals in public hospitals in Greece

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Abstract

Background: Occupational stress is a key determinant of work efficiency. It is a universal element that transcends the sex, age, level of education or hierarchical position of the worker and touches a variety of dimensions of his-her work behavior. The link between occupational stress is also the factor of job satisfaction. This study will investigate and evaluate occupational stress and how this is correlated with the professional satisfaction of health professionals in public hospitals.

Methods: This research is descriptive, cross-sectional-epidemiological, using a questionnaire, as the characteristics of a given situation were captured. The study was conducted in public hospitals in Greece, from January 2019 until September 2019. The total number of health professionals is two hundred and seventy (N=207).

Results: There is substantial substantiated research evidence that high levels of occupational stress are strongly associated with low levels of self-reported health and well-being. As regards the relationship between stress, depression, anxiety, occupational satisfaction, self-esteem, work characteristics with the health care control center, there was a statistically significant positive correlation of low tension between the control-chance center with stress and negative correlation with self-esteem. Also a statistically significant positive low-tension correlation between the control-chance center, depression, and the overall score of D.A.S.S. In addition, there is a statistically significant positive correlation of weak intensity between the control center-powerful others with depression, with anxiety, but also with the overall score of D.A.S.S.

Conclusions: The research findings of this study highlight the need for measures to reduce occupational stress and increase the professional satisfaction of health professionals.

Key words: occupational stress, depression, anxiety, job satisfaction, health professionals, hospitals

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Introduction

In order to cause occupational stress, researchers have demonstrated from time to time a variety of work factors that could act as stressors and may affect the psychological or emotional functioning of the individual, even their physical health. The sense of injustice, the collegial climate, the concern about the prospects of evolution, the relationship with the boss, and the very description of the position in which the person is employed are some of the most common causes of occupational stress. All these factors, depending on their intensity and duration, can also cause the corresponding harmful effects on the psychological, physical and mental health of the subjects. Prolonged exposure of the working person to stress by responding to excessive work requirements is likely to lead the person into a state of lack of professional satisfaction and consequently a burnout **[1,2]**.

More specifically, the factors related to the creation of occupation stress are: the duration and extent of the physical and mental effort, the mental and emotional state of the individual, responsibilities, conflicts, social relations, the organizational characteristics of the work, the working environment climatic conditions, lighting, noise, application of ergonomic rules in the design of the workplace) and poor physical condition: illness, pain, circadian rhythm disturbance, sleep loss, inadequate diet[2].

Health professionals are more prone and vulnerable to occupational stress and burnout than other workers, as studies have shown that they are responsible for human lives rather than impersonal objects-services, as their acts or omissions have a significant impact on people in relation to other occupational sectors. The individual characteristics of health professionals that potentially lead to occupational stress are: unrealistic expectations, sensitivity, strong ideological elements, low self-esteem, severe self-criticism, fear of failure, the way the individual perceives the stressful situations and how he reacts to them, the inability of the health professional to communicate with the patient, but also with family members, and the exposure of the health professional to the pain of the patient and the sorrow of his relatives **[3].**

Research results show that more stressful work is caused by excessive demands and pressure that does not correspond to the knowledge and skills of health professionals and for which there is no choice or control or support by other colleagues **[4].** A large number of research data have associated occupational stress with endocrine, cardiovascular and immunological changes leading to mental and physical diseases such as depression, schizophrenia, frequent infections and peptic ulcer **[5-11].** Also, chronic work stress appears to be directly related to the decrease in serotonin levels in the brain[11]. Frequent behavioral reactions (drug abuse, alcoholism, tobacco abuse), cognitive reactions (difficulty concentrating, learning difficulties, amnesia, inability to make decisions), and emotional reactions (aggressive behavior, cynicism, restlessness, sleeping disorders, alienation, disrupted interpersonal relationships, occupational exhaustion, problems in family and interpersonal relationships in general) **[12,13].**

Research studies show that there is a difference between healthcare professionals in terms of developing occupational. In particular, specialties such as oncologists, surgeons **[14]**, cardiologists **[15]**, psychiatrists **[16]** and psychologists **[17]** have been clinical populations with chronic work stress symptomatology, which is often transferred to their personal lives and their family environment. Tesser et al (1971), with psychological tests, showed that doctors reporting the bad news (e.g. oncologists) show nervousness, decreased professional satisfaction, increased sense of responsibility and lack of self-confidence, while there are few times hesitation to communicate negative news about relatives **[18]**. Also, an important note on the differentiation between physicians in the onset of occupational stress was made by Olkinuora et al (1990), who concluded that physicians working in Hospitals are more exposed to stressful situations than their colleagues (eg private practice, research institutes, etc.) **[19].**

As McCormick & Ilgen (1995) mentions, occupational satisfaction is viewed both as a general attitude of workers towards their work and as a factor that includes the individual attitudes of workers towards factors such as: the nature of the subject matter, the supervisors, colleagues, potential clients, the organization with the specific working conditions prevailing in it, the salary, the opportunities they have for promotion **[20].**

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The importance of professional satisfaction is undoubtedly great, as it plays an active role in the extent to which people attach to their work **[21].** Many research studies demonstrate that professional satisfaction affects the emotional and physical well-being of a subject **[22-23].** On the other hand, job dissatisfaction is associated with work-related stress and occupational burnout, and reduced professional satisfaction is associated with a range of potentially harmful symptoms that act as a blowout agent **[24-25].**

Professional satisfaction is a global concept that consists of several dimensions. The study of work satisfaction is particularly important as it relates to job performance, job absenteeism, retirement, work-related exhaustion, but also labor stress **[26].**

Job satisfaction is the opposite of occupational stress. Davis & Wilson (2000) argue that high levels of job satisfaction are associated with low occupational stress. Mental health practitioners practicing a highly humanitarian profession are subject to oxidative stress, and are therefore considered by the professions with high to very high levels of stress. Otto (1986), in his research, states that occupational stress is at particularly high levels among dissatisfied mental health practitioners, while McCormic (2005) pointed out the negative correlation between occupational stress and job satisfaction **[27-29].**

Methodology

Design of the study

This research is descriptive, cross-sectional-epidemiological, using a questionnaire, as the characteristics of a given situation were captured. The study was conducted at the Public Health Institutions of the Healthcare Regions of Attica, Thessaloniki and Achaia, from January 2019 until September 2019. The research was carried away under the supervision of the Postgraduate Program "Science of Stress and Health Promotion" of Medical School in National and Kapodistrian University of Athens. All personal information and data gathered are anonymous and all health professionals involved in the study have been individually and fully informed about the purposes and procedures of the survey.

Number of participants

The total number of healthcare professionals from Greece's Health Regions is two hundred and seven (N = 207).

Measuring tools

The measurement of the present occupational stress and job satisfaction study in relation to various factors such as type of work, age, sex, type of employment, personality, working conditions, etc. More analytically, the measurement tools used in the research study are as follows:

Multidisciplinary health locus of control: Measurement of health outbreak. The questionnaire of 18 Health Locus of Control HLoC questions was used by Waltson BS and Waltson KA **[30].** Health professionals were asked to respond to 18 suggestions as to whether they agree with them on a Likert type scale (1 = I disagree strongly to 6 = I agree very much). Three subclasses of the 8 questions are calculated: The first (HLC1) measures the degree that the person feels he is in control of his or her health, the second (HLC2) measures which person believes that others control their health and the third (HLC3) measures the degree that the individual believes his health is a matter of luck. The questionnaire is weighted in Greek with low internal coherence (Cronbach alpha 0.72) **[31].**

Perceived Stress Scale (P.S.S.): The P.S.S. is a questionnaire that assesses the person's perception of stressful experiences by asking the respondent to evaluate his / her frequency, that is, he / she assesses the feelings and thoughts about the stressful events and the events that occurred in the last month. The scale of perceived stress consists of 14 queries with two sub-scales, one subscale consisting of seven queries (1, 2, 3, 8, 11, 12, 14) considered negative, and another sub-scale composed of the other seven queries 4, 5, 6, 7, 9, 10, 13) with positive. The first sub-scale represents the perceived incompetence of the respondent and the second sub-scale the self-efficacy of the respondent. The respondent states the degree to which he considers he represents each of the sentences using a Likert type five-digit scale (from 0 = never, to 5 = very often). The scoring is done after the positive feedback has been reversed and then the results are summarized, the larger the total score (measuring scale from 0

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to 56), the greater the perceived stress of the respondent. The psychometric properties are in terms of the credibility of internal consistency (Cronbach's index α) for the total of the questionnaire proposals is α = 0,82. This scale has been weighted in Greek and is short-quick in completion **[32,33].**

Depression Anxiety Stress Scale-21 (D.A.S.S.-21): The D.A.S.S.-21 scale is a questionnaire which has 3 sub-scales: depression, anxiety and stress. Each sub-scale includes 7 questions that the respondent is asked to respond to through a five-point Likert-type scale (from 0 = not applicable to me, as 3 = was for me too or most of the time) and reported during the previous week. Each score is multiplied by 2, as suggested by the completed form of D.A.S. 42, so as to determine the mild, moderate, severe, and severe condition of each sub-scale. As the score increases, the greater the levels of depression, anxiety and stress experienced by the individual. This scale has been weighted in Greek. The rationale for choosing this scale is that it is short and quick to fill, weighs in Greece, is governed by limits on the severity of each disorder, and it is comprehensive, ensuring a reliable three-dimensional measurement of the psychological state of the individual **[34,35].**

Employee Satisfaction Inventory (E.S.I.): Employee Satisfaction Inventory (E.S.I.) was selected to measure the professional. This questionnaire consists of 24 items and explores the various aspects of professional satisfaction, such as working conditions and the working environment, earnings, opportunities for promotion and career advancement, supervision, and equality in the treatment of employees from the administration. The participants were asked to rate each of the questionnaire proposals using Likert five-step scales from one (1) to five (5), one meaning "absolutely disagree", the two "disagree", the three "I'm not sure the four "I agree" and the five "I totally agree". Confirmatory analysis of factors using EQS 4.02 showed very good adaptation of a new sample (N2 = 516) to the original model (N1 = 212): CFI = 0.85, x2 (232) = 584. The Cronbach's benchmark for working conditions was α = 0.80, for the direct expectant α = 0.82, for the salary α = 0.79, for the nature of the work α = 0.77, for the organism as a total α = 0.76 and for the opportunities for promotion α = 0.62 **[36,37].**

Social Readjustment Rating Scale (S.R.R.S.): This list belongs to the environmental stress approach. It has been manufactured by Holmes & Rahe and has at least 9397 bibliographic-research reports. The list consists of 43 stressful events that the person is called to recognize as stressors he has experienced in the past year. The researcher has three scale-editing options: 1. The study of people who have experienced a stressful event (which is of interest to the researcher) compared to those who do not report this stressful event in the last year; 2.

The simple summation of (maximum score 43) and 3. The addition of life change units (LCU) for each stressful event reported by the individual. According to the latest approach, the following limits exist for the possibility of developing stress-related health problems (publications for: myocardial infarction, fractures, diabetes, multiple sclerosis, tuberculosis, pregnancy and childbirth complications, low academic performance, absence from work etc.): <149 very low probability (<30%), 150-300 moderate probability (about 50%),> 300 points high probability (about 80%). The simplicity of the scale and its widespread use (in populations such as Japan, Latin America, Europe, Malaysia, etc.) makes it an ideal tool for detecting stressful events **[38].** The statistical processing was done with the help of the Statistical Package for Social Sciences (IBM PSP.S.S. 22) software. Descriptive techniques were used to analyze work-related stress and occupational satisfaction, as well as parametric methods of induction statistics (t-test, X2) after their application criteria were met, but non-parametric tests (e.g. Mann Whitney, etc.). Descriptive statistics techniques were used to capture-present all parts of the questionnaire. Inductive statistics were used to control research cases. In particular, Spearman's rho and Kruskal Wallis were used. Checking the regularity of the data was examined with the Shapiro wilk test.

Results

According to Table 1, 40.9% of health professionals have a moderate and high risk of life-threatening illness, 32.5% have a high or very high risk of illness in the near future and the remaining 26.6% has low to moderate disease probability.

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Table 1: *Life events*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low to moderate disease probability	54	26,1	26,6	26,6
	moderate to high probability of illness	83	40,1	40,9	67,5
	high or very high stress-related disorder in the near future	66	31,9	32,5	100,0
	Total	203	98,1	100,0	
	Unanswered	4	1,9		
Total		207	100,0		

Based on Table 2, we see for the internal control center values above average, while for the chance and the powerful others below the average (the average value of the scale is 21). As for the perceived stress, we see a moderate level (the mean value of the scale is 28). In terms of stress, depression and anxiety their level is well below average (mean value of 21). Still, in terms of working conditions, satisfaction is moderate (the average is 15), while below the average is the satisfaction of the salary and the body as a whole (the average of the scale is 12) and the promotion (the average value of the scale is 9). Even above the average is the satisfaction of the nature of the job and the boss (the average value of the scale is 12). In addition, we see above-average the level of self-esteem (the average of the scale is 15), while we see a low level in terms of labor characteristics.

Table 2: *Psychometric characteristics*

	N	Minimum	Maximum	Mean	Std. Deviation	Scale range
Internal	204	10,00	36,00	25,1078	4,40534	6-36
Chance	204	6,00	34,00	16,4069	5,85508	6-36
Powerful Others	204	7,00	33,00	20,5882	5,60937	6-36
Perceived stress	205	8,00	44,00	26,6244	6,30362	0-56
Stress	204	,00	38,00	14,5392	8,47851	0-42
Depression	204	,00	42,00	9,2745	8,76081	0-42
Anxiety	204	,00	34,00	8,5784	8,23298	0-42
Total score DASS	204	,00	104,00	32,3922	23,45025	0-126
Working conditions	205	5,00	25,00	15,1024	4,02130	5-25
Salary	205	4,00	20,00	8,5561	3,65993	4-20
Promotion	202	3,00	15,00	6,9802	2,49369	3-15
The nature of work	205	4,00	20,00	15,1073	3,04994	4-20
Head	205	4,00	20,00	15,0537	3,71827	4-20
The body as a whole	205	4,00	20,00	9,5756	3,22375	4-20
The meaning of work as a living or a visa	201	19,00	45,00	34,0995	5,09412	9-45
Greater responsibility	201	3,00	15,00	9,5622	2,42226	3-15
Knowing the outcome of this work each	201	3,00	15,00	9,1841	2,72598	3-15
MPS	201	525,00	9675,00	3186,3930	1835,96755	81-10125
Self esteem	202	7,00	30,00	21,5347	4,67993	0-30

According to Table 3, there is a statistically significant negative correlation of a slight intensity between work satisfaction and stress (rho = - 215, p <.01), depression (rho = - 252, p <.01) and the overall score of the DASS questionnaire (rho = - 235, p <.01).

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Table 3: *Correlation of stress, depression and anxiety with job satisfaction*

Spearman's rho	Work conditions	Salary	Promotion	Working conditions	Head	The meaning of work as a living or a visa
Perceived stress	-,146*	-,186**	-,071	-,110	,015	-,091
Stress	-,129	-,049	,071	-,215**	-,100	-,017
Depression	-,077	-,046	,104	-,252**	-,051	,055
Anxiety	-,094	-,085	,053	-,167*	-,085	,004
Total score DASS	-,116	-,060	,072	-,235**	-,089	,009

According to Table 4, there is a statistically significant positive tension correlation between the stress control center and the stress (rho =. 231, p <.01) and negative correlation with self-esteem (rho = - 253, p <.01). There is still a statistically significant positive low-tension correlation between the chance control center with depression (rho =. 306, p <.01), the anxiety (rho =. 305, p <.01), but also with its overall score Dass (rho =. 307, p <.01). In addition, there is a statistically significant positive correlation of low intensity between the control center powerful others with depression (rho =. 206, p <.01), stress (rho =. 206, p <.01), but also with the overall rating of DASS (rho =. 206, p <.01).

Table 4: *Correlation of stress, depression, anxiety, job satisfaction, self-esteem, work characteristics with the health care control center*

Spearman's rho	Internal	Chance	Powerful Others
Perceived stress	-,028	,192**	,020
Stress	,101	,231**	,186**
Depression	,134	,306**	,205**
Anxiety	,142*	,305**	,206**
Total score DASS	,129	,307**	,205**
Working conditions	-,107	-,034	-,143*
Salary	-,009	,029	,003
Promotion	,060	-,020	,167*
The nature of work	-,015	-,078	-,060
Head	,021	-,020	,067
The body as a whole	-,032	,081	,072
The meaning of work as a living or a visa	-,058	-,144*	-,155*
Greater responsibility	-,092	-,166*	,015
Knowing the outcome of this work each	,047	-,008	,008
MPS	-,037	-,103	-,034
Self esteem	,010	-,253**	-,135

Discussion

There is substantial substantiated research evidence that high levels of occupational stress are strongly associated with low levels of self-reported health and well-being **[39]**, which was also confirmed by health professionals and this research. The above analysis showed that the internal control center is above average, while for the chance and the powerful others below the average. As for the perceived stress, there is a moderate level, while in terms of stress, depression and anxiety their level was well below average. That is, the greater work-life stress is translated as a worse quality of life that is related to the health of health professionals.

Occupational stress, therefore, can be considered as a predictive indicator of both the physical and mental health status of health professionals. In addition, there is a statistically significant difference between the categories that represent the likelihood of health professionals' illnesses, the chance control center, perceived stress, stress, depression, anxiety, overall score D.A.S.S. and work characteristics. In all possible cases, it is observed that the more likely one is to be a patient, that is, he belongs to a higher risk group, he / she has higher values for the chance control center, perceived stress, stress, depression, anxiety and overall rating. The

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exact reverse image is observed in terms of work characteristics. This study concluded that work-related stress is a predictor of the development of a symptom of physical and mental health disorders, and consequently of non-professional satisfaction.

Conclusion

This research will be able to act as a signaling fuse for new investigations and for the detection of factors associated with these symptoms, as well as the preparation of management plans and strategies to deal with them. The research findings of this research aim to contribute to a better understanding of the correlation of work-related stress and professional satisfaction with the aim of creating stress reduction programs for healthcare professionals and consequently increasing occupational satisfaction and productivity of the workforce in order to improve health and reduce the pharmaceutical or other costs associated with occupational stress of health professionals. However, these findings should be further studied in order to clarify the exact correlation of these variables and to identify any other additional mediating factors.

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