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Research Article

General Health, Fatigue and Social Support among Health Professionals: The Contribution of Sociodemographic and Occupational Variables

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Abstract: Health professionals are the base of the healthcare systems in all societies. Their daily contact with the patient in a context of demanding and difficult working conditions affect their general health. This research was carried out to describe the levels of general health among health professionals and their perceived levels of fatigue and social support. Additionally, the purpose of this study was to examine the above three variables in relation to demographic (education, gender) and employment factors (working hours, department). The research was conducted in 165 health professionals working in hospitals in the region of Eastern Macedonia-Thrace and in the urban centers of Athens and Thessaloniki. The General Health Questionnaire (GHQ-28), the Fatigue Assessment Scale (FAS) as well as the Multidimensional Scale of Perceived Social Support (MSPSS) were used to measure the research variables. The processing and statistical analysis of the data was done using IBM SPSS. The majority of health professionals presented a high score in GHQ-28 subscales indicating low general health (avg 8.59≥5). One hundred thirty nine out of 165 health professionals (84%) were tired and 15 out of 165 (9%) were too tired. The perceived social support was at high levels (avg 5.57). Health professionals exhibit high fatigue and low levels of general health and quality of life. Instead, they receive high social support. Existence of circular hours and work in heavy part worsens the levels of fatigue and quality of life. Measures are needed to increase the number of health professionals and organizational and structural measures to improve their working conditions and strengthen their social work.

Keywords: General Health, Fatigue, Social Support, Health Professionals

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1. Introduction

While there is an abundance of research and studies on the quality of life of patients of various categories, there is not a correspondingly large sample of studies on those who take care of their rehabilitation, the health professionals. The quality of life of medical, nursing and paramedical staff has been little studied in the Greek area. Studies have shown that life satisfaction and perceived good quality of life increase when there is also satisfaction and pleasure from work and the quality of life in it [1]. Correspondingly and according to Chang et al. [2], ensuring a high level of job satisfaction by nurses, through improving the quality of work life, gives nurses a sense of well-being with a positive impact on their quality of life and high-quality care for patients. This conclusion concerns the basic institution of health professionals, nurses, but it can well be extended to other health professionals who, due to relevance, deal with the same or similar situations, regardless of perhaps the lesser frequency and intensity. In a survey carried out in a Greek

public hospital, a low professional satisfaction of 51% of 151 health workers was recorded [3], while a corresponding study of health workers in public hospitals in Jamaica showed that more than half of the workers are dissatisfied with the working conditions them [4]. Correspondingly in larger scale surveys, with samples of 11,032 public hospital health professionals in Serbia [5] and 1218 public hospital health professionals in five African countries, dissatisfaction was captured in relation to work parameters such as salary, professional development, education and training [6].

Shift work and shift work are much more tiring than fixed morning work [7]. Recovery from work is limited with immediate and long-term effects on health [8]. The cyclic schedule and night work are related to sleep disorders and difficulties in their social functioning health professionals, increased accidents and social isolation [9]. In a Greek study, the burden on the social and physical functionality of women who practice the nursing profession was found, with 96% reporting that their social life is negatively affected [3].

Fatigue is a phenomenon that affects many healthcare workers, negatively affecting their performance [10]. Fatigue in healthcare professionals has many negative aspects that affect their work performance. Performance for example of nurses suffering from acute or chronic fatigue is lower and they themselves present themselves as less able to provide patient care [11]. Health professionals may also experience compassion fatigue, which occurs when a person is unable to participate in caring relationships and services due to exhaustion [12].

Social support from health professionals or from friends and colleagues contributes to the prevention and management of burnout. The employee should seek support and help from friends, relatives and health professionals because this will work therapeutically for him. Encouragement and encouragement are important elements in dealing with and preventing burnout [13]. Expressing their feelings and concerns and sharing them with other people is one of the most important ways of managing the stressful conditions they experience [14]. Researches emphasize that the support a person receives from his environment reduces both the stress he experiences and the chances of getting sick [3]. In a survey of nursing staff conducted in Iran in 2014, social support was associated with levels of occupational stress [8]. The conclusion was that social support is a predictor of burnout and stress in the workplace [3]. In a similar study in nursing institutions in the same state, with similar results, perceived social support from family and friends was shown to be a predictor of burnout and fatigue [15].

This research was carried out to describe the levels of general health among health professionals and their perceived levels of fatigue and social support. Additionally, the purpose of this study was to examine the above three variables in relation to demographic (education, gender) and employment factors (working hours, department).

2. Method

The sample is simple and random and consists of 165 health professionals of which 144 are women and 21 are men. The sample size exceeds the minimum number of 30 individuals required for quantitative research. Health professionals work in public or private nursing institutions in the wider area of the Region of An. Macedonia and Thrace, while there is also a small percentage of nursing institutions in the urban centers of Thessaloniki and Athens. The entry criteria for the selection of participants in the research sample were as follows: 1. Health professionals over the age of 18. 2. Health professionals with more than one year of experience. 3. Health professionals who speak the Greek language. 4. Health professionals working in public or private nursing institutions. The main exclusion criteria were the existence of disability, chronic disease and psychiatric disorder. The above exclusions were made because the quality of life, fatigue and social support variables of this research are directly affected by these diseases. The research health professionals are doctors, microbiologists, psychologists, nurses, midwives,

paramedics. No statistics were kept on the type of health professionals nor on their city of work. The above selection was made for the random and easy coverage of the sample from various types of health professionals and from different regions, with the aim of the general validity of the results [16].

The distribution of the questionnaires and the conduct of the survey took place in the period January-April 2021. The subjects participated in the survey with their consent and their anonymity and the confidentiality of their answers were ensured. Completion of the questionnaires required approximately 10 minutes and no comments or markings were reported on the questions.

Appropriate questionnaires related to the subject of the research were used to collect the research data and capture the personal perceptions, opinions and experiences of the respondents on the questions. The questionnaires are four in number and were given to the participants as a single research research instrument divided into four sections. Each section represents a questionnaire. The above selection was made for the convenience of the participants and the comprehensive collection of information. The following questionnaires were used: 1. Questionnaire with demographic data of the respondents. 2. The General Health Questionnaire-GHQ-28 (General Health Questionnaire-GHQ-28), in its Greek version. 3. The fatigue assessment questionnaire (Fatigue Assessment Scale-FAS), in its Greek version. 4. The questionnaire of received social support (Multidimensional Scale of Perceived Social Support-MSPSS), in its Greek version.

The General Health Questionnaire (GHQ-28) has been evaluated for translational accuracy and validity [17]. The FAS and MSPSS questionnaires have undergone translation and cultural adaptation [3].

3. Results

One hundred sixty-five people participated in the research, of which 21 are men and 144 are women. The majority of participants belong to the age group of 31-40 (36%), followed by the age groups of 41-50 (33%), 20-30 (19%) and 51-60 (12%). The average age is 40.18 years. 65% are married and 28% are single, while there is also 11% who are divorced. The percentage of those who have children is 67%. It is typical that of the 108 married health professionals, 105 have children. The majority of health professionals in the survey have a technological education (57%), followed by university graduates with 27% and DEs (16%). In the total sample of 165 people, 14 people declare with a postgraduate degree or Master (8.5%). In detail, the basic elements of the participating health professionals are presented in Table 1.

The majority of health professionals in the research (30%) have been working for 11-15 years. The next largest percentage (24%) are young people in the health sector, who have been working in nursing institutions for the last 5 years. Health professionals with 16-20 years of service (14%), 20-25 years (12%) and 6-10 years (10%) follow with similar percentages. Finally, there are also a number of old and of experienced health professionals with 25-30 years of service (5%) and 30 or more (5%). 35% have stated that they work in a moderate department and 62% in a heavy department. Just 6 people (1%) have stated that they work in a light department. The overwhelming percentage of 78% has declared that they permanently follow circular hours, while 15% do not. Finally, there is also a percentage of 3% who follow the circular schedule occasionally. The work characteristics of the participating health professionals are analyzed in detail in Table 2.

From the analysis of the responses of the 165 participants, the following data emerged, which are presented in detail in Table 3. In the category of physical symptoms, we have an average value of 2.60. In the anxiety and insomnia category the average value is 2.96, while in social dysfunction we have the value 2.12. Finally, in the category of severe depression, the average value is much lower than the other categories, with a value of 0.91. The total mean value for all the categories of the EGY-28 is 8.59 with a standard

deviation of ±6.57, a value that is above the limit of 5 that determines the existence of a mental problem.

Table 1. Basic demographic characteristics of participants.

	N	%
Gender		
Male	21	12,7
Female	144	87,3
Age		M. 40,18
20-30	32	19
31-40	59	36
41-50	54	33
51-60	20	12
Marital Status		
Married	108	65
Single	46	28
Divorced	11	7
Widowed	0	0
Children		
Yes	111	67
No	54	33
Education		
Secondary	26	16
Technological	94	57
University	45	27
Other	14 Master	8,5 of the aggregate sample

Table 2. Work characteristics of participants.

		N	%
Years of Work			
	1-5	40	24
	6-10	16	10
	11-15	50	30
	16-20	23	14
	20-25	19	12
	25-30	9	5
	>30	8	5
Departmental Gravity			
	Heavy	102	62
	Moderate	57	35
	Light	6	3
Circular Hours			
	Yes	129	78
	No	25	15
	Occasionally	11	7

Table 3. General Health Categories

	M	SD
Physical symptoms	2,60	2,30
Anxiety - insomnia	2,96	2,32
Social dysfunction	2,12	2,02
Severe depression	0,91	1,46
Total score	8,59	6,57

Additionally, 109 people (66%) have a score ≥5, which based on the EGY-28 indicates some form of mental disorder. The remaining subjects (34%) have a score of ≤4, which indicates the absence of psychological problems. Detailed numerical data are presented in Table 4.

Table 4. Assessment of a psychological problem of participants.

	N	%
Absence of a psychological problem≤4	56	34
Presence of a psychological problem≥5	109	66

High levels of fatigue were found in most of the sample of 165 health professionals. In particular, the overwhelming percentage of 85% (141 people) shows fatigue, while a percentage of the order of 8% (13 people) shows excessive fatigue. People who, based on the FAS score, do not show fatigue represent only 7% (11 people). In detail, the measurement of perceived fatigue and the ranking of the participants is presented in Table 5. Regarding the descriptive characteristics of fatigue, the mean value of the overall perceived fatigue is 27.52 with a standard deviation of 5.

We observe that the mean value moves to the levels of the existence of fatigue in each case. Characteristically, the maximum rating of the average value of perceived fatigue reaches the number 42, well above the threshold of excessive fatigue (≥35). Accordingly, the minimum rating of the average value of perceived fatigue reaches the number 19, very close to the limit of no fatigue (<22). Regarding the individual categories of fatigue, physical fatigue has an average value of 14.42 (SD 2.68) with a maximum value of 21 and a minimum of 9. Similarly, mental fatigue presents an average value of 13.10 (SD 2.96) with a maximum value of 22 and a minimum of 8. Detailed fatigue descriptive characteristics are presented in Table 6.

Table 5. Classification of participants according to fatigue levels.

Perceived Fatigue Measurement	N	%
Non-fatigue(<22)	11	7
Fatigue (≥22)	139	84
Excessive fatigue(≥35)	15	9

Table 6. Descriptive features of fatigue.

Types of Fatigue	MAX	MIN	M	SD
Physical fatigue	21	9	14,42	2,68
Mental fatigue	22	8	13,10	2,96
Overall fatigue	42	19	27,52	5,00

The mean value of the received social support of the 165 health professionals who participated in the research is 5.57 with a standard deviation of 0.97. This value reflects

the existence of appreciable social support for health professionals. The maximum value of total social support captured is the absolute one present in the questionnaire, i.e. 7. The minimum displayed is the value of 2.92. In the individual sources of social support, it seems that significant others play a very important role. The average value of the support of health professionals from them is 5.74 with a standard deviation of 1.09. The maximum value is an absolute 7 while the minimum is 2.25. Similarly, friends provide support with an average value of 5.24 with a standard deviation of 1.15. The maximum value for this source of support is 7 and the minimum is 1.75. Finally, support from the family is also at high levels with an average value of 5.74 and a standard deviation of 1.21. The maximum value is also in this case 7, but the minimum reaches the absolute 1. Detailed numerical data of social support are presented in Table 7.

Table 7. Social support figures.

Measure of Social Support	MAX	MIN	M	SD
Friends	7	1,75	5,24	1,15
Family	7	1	5,74	1,21
Important others	7	2,25	5,74	1,09
Overall social support	7	2,92	5,57	0,97

The majority of health professionals in the survey follow a circular schedule. Fatigue is increased in every case (yes-no-occasionally) but the average value of fatigue levels and its maximum absolute values reflect the effect of circadian rhythm on fatigue levels (Table 8). Considering as a qualitative variable the permanent existence of circular hours or not and as a quantitative variable the levels of fatigue and applying hypothesis testing (T - Test) we find that the variations between circular hours or not are equal (Levene's Test, Sig.>0.05). Therefore, based on Tables 9 and 10, the difference in the average values of fatigue levels in the two cases is statistically significant ($t(163)=2.675$, $p=0.008$). In conclusion, the existence of circular hours increases the already increased levels of fatigue of health professionals with a very high statistical significance. The majority of health professionals in the survey work in a heavy department. Table 11 shows the distribution of fatigue levels in relation to the type of part. Fatigue and overfatigue are clearly seen in health professionals working in moderate and heavy workloads. On the contrary, the majority of those who work in a light department show no fatigue. The sample of subjects in the light divisions is too low to properly generalize the conclusion, nevertheless there is a statistically significant correlation (Pearson Chi Square <.0.01). All the details are listed in Table 11. In our research, technological education graduates hold the majority, followed by University and Secondary. Using Test Anova, Table 12 is obtained. The average value of social support in EDs is higher as well as the thresholds. But statistical significance is not enough to draw this conclusion. It is clear from Table 13 that the category of education does not statistically and significantly determine the levels of fatigue. The average values of the fatigue levels as well as the maximum and minimum values are almost identical in the individual training categories and there are no significant statistical differences. The average value in the GHQ-28 for those who follow a circular schedule is high (9.13) with a significant difference from the categories of health professionals who do not follow a circular schedule (6.00) or occasionally (8.00), demonstrating the reduced general health in those who follow the circular schedule compared to the rest. Also, the maximum and minimum values as well as the upper and lower limits confirm this trend. But this trend does not show a statistically significant correlation. In detail, all numerical data, with the elements of ANOVA, are listed in Table 14.

Table 8. Differences between employees with cyclical hours or not, in terms of perceived fatigue.

Descriptives								
Fatigue								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Yes	129	28,0620	4,83437	,42564	27,2198	28,9042	20,00	42,00
No	25	25,9200	5,52962	1,10592	23,6375	28,2025	19,00	37,00
Occasioanlly	11	24,8182	4,53471	1,36727	21,7717	27,8646	22,00	34,00
Total	165	27,5212	5,00803	,38987	26,7514	28,2910	19,00	42,00

Table 9. Hypotheses testing T-test

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Fatigue	Equal variances assumed	,880	,350	2,675	163	,008	2,47868	,92675	,64869	4,30867
	Equal variances not assumed			2,565	53,029	,013	2,47868	,96651	,54013	4,41724

Table 10. Statistics of fatigue and cyclical hours.

Group Statistics					
	Circular	N	Mean	Std. Deviation	Std. Error Mean
Fatigue	**Yes**	129	28,0620	4,83437	,42564
	No-Occasionally	36	25,5833	5,20645	,86774

Table 11. Fatigue levels regarding the work department.

FAS						
		Non-Fatigue	*Fatigue*	*Excessive Fatigue*	*Total*	*Pearson Chi Square*
Department	*Heavy*	4	89	9	102	<,0.01
	Moderate	3	49	5	57	
	Light	4	1	1	6	
Total		11	139	15	165	

Table 12. Social support in relation to education category.

Descriptives								
Social Support *Sig.=0,179*								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Min**	**Max**
					High limit	**Low limit**		
University	45	5,5482	1,09195	,16278	5,2202	5,8763	2,92	7,00
Technological	94	5,4966	,93566	,09651	5,3050	5,6882	3,00	7,00
Secondary	26	5,8950	,86228	,16911	5,5467	6,2433	4,17	7,00
Total	165	5,5735	,97450	,07586	5,4237	5,7233	2,92	7,00

Table 13. Levels of fatigue in relation to category of education.

Descriptives								
Fatigue *Sig.=0,128*								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval forMean**		**Min**	**Max**
					High limit	**Low limit**		
University	45	27,3333	5,24404	,78174	25,7578	28,9088	20,00	42,00
Technological	94	27,6915	4,98174	,51383	26,6711	28,7118	19,00	41,00
Secondary	26	27,2308	4,85228	,95161	25,2709	29,1906	21,00	37,00
Total	165	27,5212	5,00803	,38987	26,7514	28,2910	19,00	42,00

Table 14. General health levels regarding rolling hours

Descriptives								
GHQ 28 *Sig.=0,087*								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					High limit	Low limit		
Yed	129	9,1395	6,83368	,60167	7,9490	10,3300	,00	27,00
No	25	6,0000	4,92443	,98489	3,9673	8,0327	,00	15,00
Occasionally	11	8,0000	5,53173	1,66788	4,2837	11,7163	,00	15,00
Total	165	8,5879	6,56858	,51136	7,5782	9,5976	,00	27,00

4. Discussion

The purpose of the work was to assess the general health and quality of life of health professionals by recording their fatigue levels and the social support they receive as a resource to cope with their daily lives. The research focused on 165 health professionals who mostly work in nursing institutions in the wider region of Eastern Macedonia and Thrace. The sample was also enriched with the number of employees in hospitals in the urban centers of Thessaloniki and Athens. A characteristic of this research is that the majority of participating health professionals follow a cyclic schedule and work in a heavy department. This demonstrates the capture of results in a sample of 'frontline' health professionals.

The conclusions of the present research largely coincide with the results of similar research in individual branches of health professionals (nurses, doctors, social workers). Fatigue, reduced quality of life, health deterioration, low levels of job satisfaction, stress, burnout and general dissatisfaction are phenomena that have concerned health professionals for decades. Especially the health professionals of the Greek health system and in particular the workers in nursing institutions experience the above phenomena to the greatest extent. From the results of this research, useful conclusions are drawn and questions and concerns arise regarding the improvement of the fatigue levels and the quality of life of health professionals. Social support is at high levels, acting as a compensatory factor in fatigue, and interventions in it are not imperative. The priority is to find solutions to reduce fatigue, increase job satisfaction and improve the quality of life of healthcare professionals. In the last decade and on the occasion of the economic crisis, in the Greek health system the professional was forced to work more, with less supplies and equipment, less remuneration and less rest [18]. The reduction of already reduced human resources from retirements and reduced recruitment burdened health professionals with additional responsibilities and contributed to increased levels of fatigue and stress. The above, combined with the lack of infrastructure and logistical equipment and labor problems, strain the general health levels of the health personnel resulting in a general deterioration of their quality of life. In addition, and based on the results of other researches, health professionals in nursing institutions are dissatisfied with their earnings and to remain in the health sector they must be satisfied in terms of salary [19]. Findings of studies in health professionals of public hospitals in Serbia and African advanced countries, demonstrate dissatisfaction with salaries, professional development and continuous training [6]. On the contrary, the same studies and some others, reflect satisfaction from relationships with colleagues and third parties, a fact that is linked to social support and is also evident in the present research. Finally, the lack of substantial, organized and manned primary health care creates huge gaps in the flow of health care for the general population, as a result of which health professionals in nursing

institutions are forced to cope with a huge workload, grueling hours and become mentally and physically exhausted. The above fact, combined with the reduced recognition of their work and their low salaries, creates two-speed health professionals, professional burnout phenomena and tendencies to avoid work and run away from it.

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