

Risk of Psychiatric Morbidity among the Medical and Nursing Staff of a Greek Public General Hospital

Aristotelis Koinis¹, Stratou Elpida¹, Charonis George², Kalampalis Michael³, Floros Sotirios⁴, Wozniak Greta^{5*}, Saridi Maria⁶

¹Psychiatric Department, General Hospital of Argolida, Argos, Greece

²Nursing Department, University of Peloponnese, Sparta, Greece

³Department of Health Visitor, General Hospital of Argolida, Argos, Greece

⁴Cardiology Department, General Hospital of Argolida, Argos, Greece

⁵Medical School, University of Cyprus, Nicosia, Cyprus

⁶Nursing Management Department, General Hospital of Korinthos, Korinthos, Greece

*Corresponding author: Greta Wozniak, Assistant Prof, PhD, Medical School, University of Cyprus, Nicosia, Cyprus, Tel: 0035722895221; E-mail: greta@ucy.ac.cy

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Abstract

Background: Psychiatric morbidity follows a slow and gradual course, resulting in chronic psychiatric conditions among healthcare professionals, such as professional burnout. A significant number of healthcare professionals suffer from some kind of mental illness, and sometimes a very serious one. The aim of the present study was to investigate the risk of psychiatric morbidity among the medical and nursing staff of a public medium-sized general hospital.

Methods: One medium-sized local general hospital took part in the study. A total number of 201 medical and nursing professionals aged 21-58 years comprised the sample of the study. A research protocol was submitted to the scientific committee of the Hospital, which in its turn granted approval. A questionnaire that investigates psychiatric morbidity, its Greek standardized version that is, was used as our instrument of choice and it was tested for validity and reliability which were found to be satisfactory (Cronbach's $\alpha = 0.883$). Strict anonymity was observed. The SPSS 16.0 was used for the statistical analysis.

Results: Psychiatric morbidity can have an impact on people's quality of life; elements of anxiety are the main risk factor in all four quality of life Domains included in the WHOQOL-BREF instrument. Somatization is also a risk factor regarding Domain 1 (physical health and level of independence). Elements of stress and distress are nothing but common in the medical/nursing staff that participated in this study.

Conclusions: All relevant studies eventually aim at developing appropriate psychosocial interventions, both preventive and supportive, for this particular group of professionals.

Keywords: Psychiatric morbidity; anxiety; quality of life; Somatization; WHOQOL-BREF

Introduction

It is widely accepted that when healthcare professionals have a chance to operate within an environment that enhances their expectations and visions, they tend to offer high quality services. However, there are some factors, individual, demographic and especially environment-related, that can put a burden on healthcare professionals, resulting in symptoms of psychiatric morbidity.

The literature review has shown that psychiatric morbidity does not have a sudden, short-span onset, but it builds up gradually; hence, it can give rise to chronic psychiatric conditions, such as professional burnout, depression, anxiety disorders, or even make people resort to anti-anxiety medication, conditions that have an impact on every aspect of their lives [1-3]. A significant number of doctors and nurses suffer from some kind of mental disease, sometimes a pretty serious one. According to a study, 10% of senior medical students at the John

Hopkins University (USA) had shown signs of severe psychiatric morbidity [4]. According to other studies, 25% of physicians have some kind of psychiatric morbidity [5]. Moreover, Firth-Cozens has found that 1/3 of nurses worldwide show symptoms of occupational burnout even from the beginning of their career, while it seems that nurses are a high-risk group for severe mental disorders [6-8]. Moreover, psychiatrists and nurses seem to have the highest rates of suicides and alcohol abuse [2].

Female doctors and nurses suffer more often from depression than males, a finding that reflects the well-established higher incidence of depression in females in the general population. According to Hsu and Marshall, the chance for depression in female doctors is 1.5 times higher, and 8 times higher than males as far as severe depression is concerned [9]. Female doctors have different risk factors for depression compared to other females. In their case, the main risk factors are: professional failure, confusion of roles and workplace harassment [10].

Working conditions of medical/nursing staff, excessive working hours, bad or poor relationships with other colleagues (especially

when they are interns), and also lack of sleep, can lead to the development of psychiatric symptoms that could result in depression in the long run [11]. More specifically, lack of adequate sleep has been linked to anxiety, frustration, moodiness and sadness [12]. It is noteworthy that healthcare professionals are more prone to mental disorders, because on one hand they are responsible for other people's lives, and on the other because their actions (or lack of action) can have a severe impact on the patients [13]. Some other factors that could make medical/nursing staff more prone to depression are: a conflict between career and personal life; responsibilities entailed by their occupation; decision-making on important issues; possible errors and subsequent legal malpractice actions [14].

Medical and nursing staff has high stress levels in the workplace, since they often have to cope with pain and death. More specifically, ER nurses find the following factors to be very stressful: picking up too many shifts too often; role conflicts; non-stop communication with different people; insecurity when their contracts are about to expire; excessive workload; severity of incoming cases; dealing almost daily with death. At the same time they have to deal with their own family issues, which add to their stress levels and are transferred in the workplace [15].

In Greece, recent studies have shown high rates of stress, anxiety, depression and lack of professional fulfillment. Other recent studies have shown that a high percentage (22-46%) of doctors in residency programs have clinically significant levels of psychiatric morbidity [16-18].

The aim of the present study was to investigate the risk for psychiatric morbidity in the medical/nursing staff of a medium sized local general hospital and its impact on their quality of life. The main research objective of our study is to investigate the quality of life of health at professionals.

The null hypothesis was: Quality of life of healthcare workers not affected by psychiatric morbidity that can display it.

Methods

Study sample

Our study sample consisted of 201 healthcare workers from a 240-bed general hospital, in a prefecture of Greece, aged 21-58 years, from whom 29% were males and 71% were females. Two hundred and twenty two questionnaires were handed out, and 201 were returned (response rate: 91.36%).

In this study all healthcare staff that had contacts with patients was included (doctors, nurses of all grades, nursing assistants, other professionals). Moreover, all departments were included (Internal Medicine Division, Division of Surgery, Units). Only professionals who were on sick leave due to mental disorders were excluded.

A research protocol was drawn up, which was granted approval by the hospital's scientific committee. Then, department chiefs and chief nurses were informed about the study, and the questionnaires were distributed along with written instructions. All participants completed and signed written informed consent forms. Stratified random sampling was the method of choice, so that all professional groups would be included in the sample.

The present study took place under the supervision of the University of Athens Medical School as part of a Master's Thesis from July 2010 to October 2010; it is a descriptive correlational study.

Questionnaires

The questionnaire used as a tool to investigate psychiatric morbidity was the Greek standardized version of 'The Falk Self-reporting Questionnaire (SRQ-F)' [19]. The author granted permission to use the instrument for this study. It is a 28-item self-reference questionnaire. It includes the original 24-item WHO scale with four more items regarding participants from different cultures (immigrants and refugees) in order to detect psychiatric morbidity within primary care. The instrument includes four domains, namely anxiety, depression, somatization and psychotic signs. It is a questionnaire to investigate the possibility of appearance of psychiatric morbidity in primary health care. It is an instrument for the investigation of suspected mental or psychological problem that can help the primary care doctor to refer patients for psychiatric evaluation.

The first twenty items investigate neurotic symptoms, while the rest detect psychotic symptoms. Factor analysis highlighted the following factors for the Greek sample: physical symptoms, depressive mood, low energy, psychotic signs and cognitive elements. It takes 10-15 minutes for the questionnaire to be filled out. This test can be administered only to male or female adults [20,21].

The instrument of the study was anonymous questionnaire investigating quality of life and which is used worldwide by (WHO) Questionnaire of the World Health Organization [22]. Its Greek standardized version [23,24] that is and it was tested for validity and reliability, which were found to be satisfactory (Cronbach's $\alpha = 0,873$). The questionnaire consists of 30 questions. Examined four areas of Quality of Life (QOL): 1. Physical Health Level Independence (9 questions), 2. Psychological Health and Spirituality (6 questions), 3. Social Relations (5 questions) and 4. Environment (8 questions). The scores on each factor, ranging from 4-20 degrees. The higher the score for each factor, the better the quality of life of the individual to that agent. There is a total score of factors, and there is an overall assessment of QOL, which results from two additional questions (Overall QoL and Health Status).

For this study a separate questionnaire was created for demographics. More specifically, the following information was included: gender, age, family status, education level, place of residence, profession and years of employment in the hospital.

Reliability and Validity of the Questionnaires

1) Questionnaire (SRQ-F)

Cronbach's alpha and Standardized Item Alpha were used to check internal cohesion validity, which was found to be (for all items) $\alpha=0.883$, and Standardized Item Alpha = 0.867. Cronbach's alpha was satisfactory for almost all variables except the one regarding psychotic elements where it was found to be somewhat low ($\alpha=.142$), which is unsurprising since no psychotic patients were included in the sample, something that would increase Cronbach's alpha.

2) Questionnaire WHOQOL-BREF

Cronbach's alpha and Standardized Item Alpha were used to check internal cohesion validity, which was found to be (for all items) $\alpha = 0.873$, and Standardized Item Alpha = 0.877. Cronbach's alpha was satisfactory for almost all variables of the questionnaire administered.

Statistical Analysis

After the data were codified, a preliminary test was used in order to check if the data were suitable for parametric statistical analysis. Explore and Frequencies procedures showed equal variance between comparison groups and that normal distribution applied. Since the sample was randomized, parametric statistical tests were employed for hypotheses and for the comparison of means.

T-Test Groups were used for analyzing hypotheses about two independent groups and also dispersion analysis (One-Way Anova). Null hypotheses were tested by linear regression, using quality of life as the dependent variable, and psychiatric morbidity as the explanatory variable. Demographics were tested for correlation with quality of life by using Pearson's r .

The SPSS v.16 was used for data analysis.

Results

The socio-demographic profile of the participants was as follows: Almost three out of four females ($n=109$, 77.3%) lived with someone

else, and only one out of four ($n=32$, 22.7%) was living alone. Pearson's χ^2 showed a statistically significant difference among those two groups ($P=0.004$). As far as family status was concerned, married males ($n=27$, 46.6%) and females ($n=76$, 53.2%) outnumbered single males/females. Fisher's Exact Test did not show any significant difference ($P= 0.587$).

Regarding education level, ($n= 65$, 45.8%) of female and only ($n=9$, 20%) of male participants were higher level graduates. Male participants were for the most part ($n=34$, 58.6%) university graduates (Table 1).

Fisher's Exact Test showed a significant difference among the two groups ($P=0.001$). Most females were higher-level nurses ($n=63$, 44.6%), while most males were doctors ($n=34$, 58.6%). Fisher's Exact Test showed a very significant difference regarding education level between the two groups ($P=0.001$).

Lakeelihood Ratio test also showed a significant difference among workplaces between males and females, since ($n=18$, 12.7%) of female participants were working at the Blood Donation Department, while only ($n=1$, 1.7%) of males were working at that Dept. Participants showed heavier emotional burden regarding physical symptoms (Table 2), while psychotic symptoms remained lower compared to the general population [25,26].

Sex	Percentage			
Female N (%)	142 (71)			
Male N (%)	58 (29)			
Total N (%)	200 (100.0)			
Level of education				
Primary graduate	0 (0)	0 (0)	0 (0)	L.R.=35.399 P= 0.001
High School graduate	1 (0.7)	0 (0)	1 (0.5)	
Lyceum graduate	8 (5.6)	0 (0)	8 (4)	
Technological training graduate	36(25.4)	13 (22.4)	49 (24.5)	
Professional Institute of Technoligy Graduate	65 (45.8)	9 (15.5)	74 (37)	
Higher education graduate	23 (16.2)	25(43.1)	48 (24)	
Master Degree	9 (6.3)	11 (19.0)	20 (10)	
Profession				
Nurses secondary education	35 (24.6)	7(12.1)	42 (21)	Fisher's Exact Test=30.817 P= 0.001
Nurses Technological education	63 (44.6)	12 (20.7)	75 (37.5)	
Nurses University Education	3 (2.1)	0 (0)	3(1.5)	
Doctors	26 (18.3)	34 (58.6)	60 (30)	
Paramedical	14 (9.9)	5 (8.6)	19 (9.5)	
Students	1 (0.7)	0 (0)	1(0.5)	

Type of employment				
Full-time	122 (17.0)	53 (16.3)	175 (16.6)	Fisher's Exact Test=1.456 P= 0.428
Part time	16 (37.0)	5(40.7)	21 (38.8)	
Students	4(46.0)	0 (43.1)	4 (44.5)	
Health problems reported				
No	98 (22.0)	37 (33.2)	135(27.6)	χ ² P=0.512 P= 0.474
Yes	44 (78.0)	21 (66.8)	65 (72.4)	
Marital status				
Single	42 (29.6)	16 (27.6)	58 (29)	Fisher's Exact Test=2.853 P= 0.587
Married	76 (53.5)	27(46.6)	103 (51.5)	
Divorced	3 (12.7)	2 (20.7)	5 (15)	
Widower	3 (2.1)	1(1.7)	4 (2)	
Separated	18 (12.7)	12 (20.7)	30 (15)	
Living with others				
Yes	109 (77.3)	33(56.9)	142(71.4)	χ ² p=8.374 P=0.004
No	32 (22.7)	25(43.1)	57 (28.6)	
Children				
Yes	86 (60.6)	31 (53.4)	117(58.5)	χ ² P=0.857 P= 0.354
No	56 (39.4)	27 (46.6)	83 (41.5)	
Department of labour				
Pathological	30 (21.1)	12 (20.7)	42 (21)	L.R 19.407 P= 0.022
Surgeon	20 (14.1)	11 (19)	31 (9.5)	
Blood donation unit	18 (12.7)	1 (1.7)	19 (9.5)	
Emergency department	14 (9.9)	5 (8.6)	19(9.5)	
Pediatrics	9(6.3)	2 (3.4)	11(5.5)	
Cardiology	6 (4.2)	8 (13.8)	14 (7)	
Orthopedics	9 (6.3)	6 (10.3)	15 (7.5)	
Dialysis unit	20(14.1)	4(6.9)	24(12)	
Intensive care unit	13 (9.2)	9 (15.5)	22 (11)	
Social services	3 (2.1)	0(0)	3(1.5)	
x= Average (Mean), SD= (Standard deviation), χ ² P= χ ² tou Pearson, t=T –Test L.R.= Indicator Likelihood Ratio				

Table 1: Socio-demographic characteristics

Mean values of the anxiety symptoms factor in the health professionals who argue that they have a health problem compared with the health professionals who claimed that they had no health problem (M(x)=6.5 SD=3.5 vs. M(x)=3.3 SD=2.8), showed a statistically significant variation (t=6.425, p=0.000). The mean values of the depression symptoms factor in the participants who argue that they have a health problem compared with the participants who

claimed that they had no health problem (M(x)= 0.9 SD=1.1 vs. M(x)=0.4 SD=0.7) showed a statistically significant variation(t=4.061, p= 0.000). The mean values of the somatization factor in the participants who argue that they have a health problem compared with the participants who claimed that they had no health problem (M(x)=2.1 SD=1.5 vs. M(x)=0.8 SD=0.9) showed a statistically significant variation(t= 6.155, p=0.000). The participants tendency to

claim they had no health problems is related to their higher scores at the emotional burden scale ($M(x)=4.8$ $SD=4.0$) and its three factors as indicated above (anxiety symptoms, depression symptoms, somatization) ($p<0.001$) (Table 2). The participants did not report any psychotic symptoms (Existing health problem (x)= 0.5 $SD=0.7$ vs. No health problems: $M(x)=0.4$ $SD=0.6$), ($p= 0.061$).

Widowed and divorced persons have a greater emotional burden (anxiety, depression and somatization symptoms) compared to married and single persons ($p=0.02$, $p=0.046$). Mean values of the anxiety symptoms factor in divorced persons compared to married persons ($M(x)=6.4$ $SD=3.8$ vs. $M(x)=3.9$ $SD=3.1$) and the mean values in divorced compared to single persons ($M(x)=6.4$ $SD=3.8$ vs.

$M(x)=3.6$ $SD=3.18$) showed a statistically significant variation ($p=0.003$, $p=0.002$). The mean values of the depression symptoms factor in widowed persons compared to single persons ($M(x)=2.0$ $SD=1.6$ vs. $M(x)=0.4$ $SD=0.6$) and the mean values in widowed persons compared to married persons ($M(x)=2.0$ $SD=1.6$ vs $M(x)=0.3$ $SD=0.7$) and the mean values in divorced persons compared to single and married persons($M(x)=1.0$ $SD=1.08$ vs. $M(x)=0.4$ $SD=0.6$ (single), $M(x)=0.3$ $SD=0.7$ (married)) showed a statistically significant variation ($p=0.004$, $p=0.002$, $p=0.046$, $p=0.005$). Finally the mean values of the somatization factor in divorced persons compared to married persons ($M(x)=1.9$ $SD=1.5$ vs. $M(x)=1.07$ $SD=1.2$) showed a statistically significant variation($p=0.025$).

Existing Health problem								
Variables	N	x	(SD)	N	No health problems x	(SD)	Difference test	p=
Anxiety symptoms	65	6.5	3,5	136	3.3	2,8	6.425*	0
Symptoms of depression	65	0.9	1,1	136	0.4	0,7	4.061	0
Somatization	65	2.1	1,5	136	0.8	0,9	6.155	0
Psychotic scale	65	0.5	0,7	136	0.4	0,6	1.894	0.061
Overall emotional burden scale	65	10.1	5,6	136	4.8	4,0	6.745	0

Table 2: t-test regarding health related problems according to the Greek edition of the SRQ-F

Regarding workplace and anxiety scores, those who worked at the Pediatrics Department had had the highest scores, compared to those at the Blood Donation Department ($M(x)= 7.0$ $SD=2.5$ vs. $M(x)=2.8$ $SD=2.4$)($t= -4.15$, $p=0.042$).

To examine the effect of psychiatric morbidity on the quality of health and the sub-factors, used the linear regression method (linear Regression Analysis -enter) (Table 3).

Initially the influence of psychiatric morbidity and quantitative variables correlated significantly with the parameters of health quality. Then added to the model as age, sex, marital status and education. From the original model emerged four models one for each sub factor quality of life.

Physical Health and Level of Independence (Standardized Coefficients-ST)			
Model	Beta	t	Sig.
(Constant)		14.425	0
Anxiety Symptoms	-0.528	-7.942	0
Somatization	-0.148	-2.48	0.014
Depressive Symptoms	0.002e	0.036	0.972
Psychotic Scale	0.043e	0.958	0.339
Sex	-0.179	-4.053	0
Presence of children	-0.078e	-1.784	0.076
R2= 0.640, F=68.856			000e
*e. Predictors: (Constant), Anxiety Symptoms, Somatization, Sex			
Psychological Health & Spirituality ST			
Model	Beta	t	Sig.
(Constant)		14.66	0

Anxiety Symptoms	-0.641	-13.093	0
Depressive Symptoms	-0.099c	-1.723	0.086
Somatization	-0.065c	-1.103	0.271
Psychotic Scale	-0.035c	-0.805	0.422
Presence of children	-0.041c	-0.979	0.329
health Problem	0.017c	0.363	0.717
R2= 0.658, F=125.659			0
c. Predictors in the Model: (Constant), Anxiety Symptoms			
Social Relationships ST			
Model	Beta	t	Sig.
(Constant)		10.273	0
Anxiety Symptoms	-0.6	-10.881	0
Depressive Symptoms	-0.115b	-1.78	0.077
Somatization	0.000b	-0.004	0.997
Psychotic Scale	-0.070b	-1.446	0.15
Presence of children	-0.053b	-1.114	0.267
Health Problem	-0.031b	-0.585	0.559
R2= 0.564, F=127.198			0
b. Predictors in the Model: (Constant), Anxiety Symptoms			
Environment ST			
Model	Beta	t	Sig.
(Constant)		64.956	0
Anxiety Symptoms	-0.601	-10.074	0
Depressive Symptoms	-0.019b	-0.27	0.787
Somatization	-0.065b	-0.844	0.4
Psychotic Scale	-0.078b	-1.411	0.16
Presence of children	-0.193	-3.44	0.001
Health Problem	-0.016	-0.259	0.796
R2= 0.441, F=51.374			0.000b
b. Predictors in the Model: (Constant), Anxiety Symptoms, Presence of children, Health Problem			

Table 3: Model regression to the Greek edition of the SRQ-F(EESYK) for the 4 factors of Quality of Life. **Note:** N= popylaion x= mean SD= standard deviation. test= non parametric Mann Whitney if indicated by #, otherwise t-test . p= p-value (bilateral).

The factors that contributed most to the prediction of physical health and level of independence, was the anxiety symptoms scale SRQ-F19-21, and somatization subscale of the SRQ-F [19-21] and gender explaining 64% of variance in the dependent variable (F=68.856, p=0.000, Adjusted R Square = 0.630). In the complex model of anxiety symptoms regression analysis explaining the largest proportion (54.6%) of the dimension of physical health and level of

independence. When added to the model and the remaining variables then explained an additional 3.1% of physical health and level of independence. The factors that contributed most to the prediction of Psychological Health and Spirituality was anxiety symptoms of SRQ-F [19-21].

In the complex model of anxiety symptoms regression analysis again illustrate the highest percentage (52.9%) of the dimension of

psychological health and spirituality. When added to the model and the remaining variables then explained an additional 5.2% of the dimension of psychological health and spirituality (R Square Change = 0.052) with the rate but the statistical significance of the model is reduced from 0.000 (the only independent variable stress symptoms).

The factors that contributed most to predict the scale of social relations (Social Relationships) was once again anxiety symptoms of SRQ-F [19-21].

In the composite model of regression analysis anxiety symptoms again illustrate the highest percentage (52.3%) of the dimension of social relations.

Finally the control of the fourth model of linear regression factors that contributed most to predicting scale environment (Environment) was only anxiety symptoms of SRQ-F [19-21] and demographic point of having children in the family to explain the 44.1% of the variance of the dependent variable (F=51.374, p=0.000, Adjusted R Square=0.433).

In the composite model of regression analysis anxiety symptoms once again illustrate the highest percentage (40.3%) of environment. When added to the model and the existence of children then explained a 3.8% extra dimension (R Square Change=0.038) with the proportion of the statistical significance of the model remains statistically significant (p=0.000).

The analysis of variance (ANOVA) showed that there is a significant difference among the groups. Regarding anxiety symptoms (F9, 190=27,661, p<0.0001), symptoms of depression (F3, 196=22,346, p<0.0001), somatization (F3,196 = 16,177, p<0.0001), and psychotic signs (F3, 196 = 3,771, p<0.012), a difference that is also present at the overall questionnaire scores (F3,196=30,316, p<0.0001). Specifically at self-reported health status regarding signs of anxiety, participants who reported that their health was bad had higher averages compared to those who reported that their health was very good.(M(x)=8.5 SD=2.2 vs M(x)=2.15 SD=2.11).

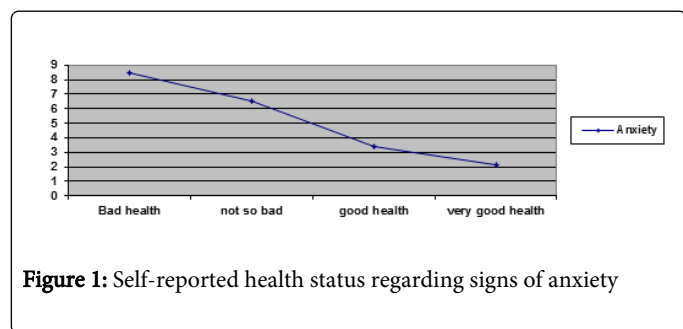


Figure 1: Self-reported health status regarding signs of anxiety

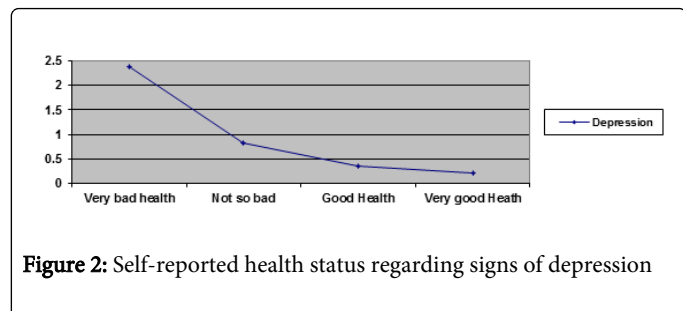


Figure 2: Self-reported health status regarding signs of depression

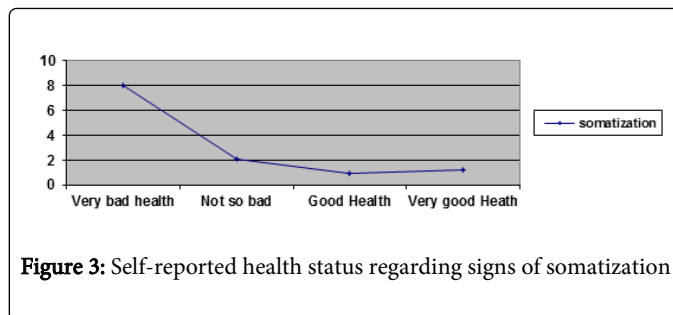


Figure 3: Self-reported health status regarding signs of somatization

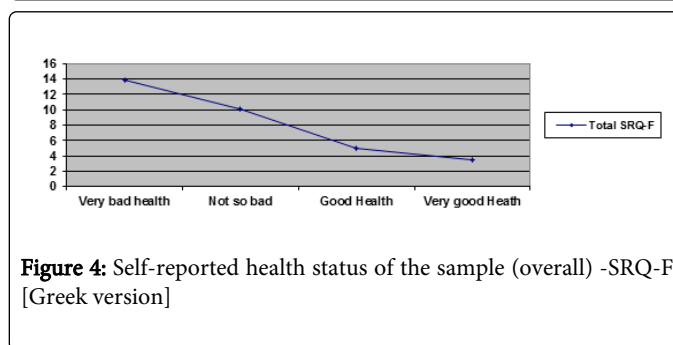


Figure 4: Self-reported health status of the sample (overall) -SRQ-F [Greek version]

Also at self-reported health status regarding signs of depression, participants who reported that their health was bad had higher averages compared to those who reported that their health was very good.(M(x)=2.3 SD=1.7 vs M(x)=0.2 SD=0.6). At self-reported health status regarding signs of somatization, participants who reported that their health was bad had higher averages compared to those who reported that their health was very good. (M(x)=2.2 SD=1.3 vs M(x)=0.7 SD=0.6).

Finally at the self-reported health status of the overall questionnaire, participants who reported that their health was bad had higher averages compared to those who reported that their health was very good.(M(x)=13.8 SD=4.5 vs M(x)=3.4 SD=2.8) (Figures 1-4).

Pearson's χ^2 did not show any significant differences between males and females regarding health issues (p=0.474), and Fisher's Exact Test did not show any differences if the participants had children or not, and if they worked full-time or not.

Discussion

The present study sought to investigate if there is a correlation between quality of life and psychiatric morbidity as assessed by the (Greek version of) SRQ-F [19-21]. The participants' response rate was quite satisfactory, since 91.36% of the questionnaires were returned completed. This response rate is similar to that of other international and Greek studies, where the response rates were 72-80% [27,28]. This percentage shows that healthcare professionals want to express their opinion about health issues that concern them. The emotional burden questionnaire is an instrument for investigation the psychiatric morbidity. Measure the incidence of psychiatric morbidity. The questionnaires can't provide information regarding the incidence of psychiatric disorders in the sample.

Our participants scored overall Mean(x)=6.5 and SD=5.2 regarding non-psychotic symptoms, and Mean(x)=0.4 and SD=0.6 on the psychotic signs scale; during standardization, the participants scored on average Mean(x)=4.58 with SD=4.1 on the physical symptoms scale, and Mean(x)=1.07 and SD=1.11 on the psychiatric sub-scale

[19-21], which shows a mild increase in medical and nursing staff compared to the rest healthy adults; moreover, no psychotic symptoms were found, something that can be attributed to the fact that the participants are working people with no psychotic disorders, or, as Pilowski and O'Sullivan [25] have found, doctors and nurses have a tendency to treat themselves and they would not reveal something like this in a questionnaire. People without any health problems scored higher in all scales about emotional burden and psychiatric morbidity. This finding is in agreement with a study from Finland which found that doctors and nurses prefer to treat themselves (80-84% for males, 72-74% for females) both for physical and psychiatric conditions. According to the same study, doctors (mainly males, older than 44 years old) take rarely sick leaves and prefer to work even when sick – compared to other healthcare professionals [29]. Education, nature of the work, and specific professional title (doctor, nurse, other) were not found to have an effect on any of the sub-scales of the questionnaire. Family status, on the other hand, had had an effect on all three non-psychotic factors (anxiety symptoms, depression symptoms and somatization). Cooper et al. [30] found similar results regarding family status and its effects. On the other hand, according to Demoula, Marvakis et al [31] working in a hospital affects the healthcare professionals' personal, family and social lives, especially of females and those who have been working for more than 10 years. There was a significant difference in the anxiety scale between those who were working at the Blood Donation Department and those who worked at the Pediatrics Department, the latter scoring the highest on the anxiety symptoms scale of the SRQ-F (Greek version) [19-21]. This finding is in agreement with another study by Laskari et al. [27], that took place in a Pediatric Hospital in Athens; according to that study, the participating pediatricians showed high levels of stress, anxiety and depression.

The way the participants perceive their health, by the only question about health status with five possible answers (very bad, bad, neither bad nor well, well, very well) seemed to affect all three non-psychotic factors of the questionnaire.

Pearson's *r* showed a significant negative correlation with all the sub-scales regarding emotional burden, something that shows that less symptoms of anxiety, depression and somatization entail better physical health as well.

Since anxiety symptoms are a risk factor for the total quality of life, we have to agree with all those studies that highlight the necessity to improve healthcare professionals' working conditions, and put emphasis on the stressful and exceptionally dangerous working environment, that plays an important role when they have to decide if they will stay at work or quit their job [31-33]. This finding is confirmed by Dacis et al. [34], who found that a large proportion of healthcare professionals do not seem to dismiss the thought of quitting their job because of the stress their current working environment creates to them.

The fact that no significant differences were found between the questionnaire factors and specific professional title could be attributed to the size of the sample and the fact that our participants came from one medium-sized local hospital. Future studies should use bigger samples, even more representative of each professional group, in order for any potential differences among doctors and nurses to be found.

Limitations of the Study

The present study limited itself to the examination of psychiatric morbidity in a sample of healthcare professionals from a medium-sized local hospital. Professionals that were absent, or on sick leave during sampling were excluded. This study features the following restrictions:

(a) The sample comes from only one hospital;

(b) The participants' sincerity cannot be assured. Clear instructions were given before and during the completion of the questionnaires. In order for the participants to feel freer to answer honestly, the members of the research group did not interfere with the completion of the questionnaires.

Conclusions

The regression analysis showed that the null hypothesis (that quality of life is not affected by psychiatric morbidity) should be rejected, consequently we accept that psychiatric morbidity does have an impact on quality of life, since signs of anxiety may be a risk factor for all four quality of life factors included in the WHOQOL-BREF [24], and signs of somatization can be a risk factor regarding Domain 1 (physical health and level of independence).

Finally, gender can be a risk factor that explains a part of the variation in physical health and level of independence; moreover, if there are children that could explain part of the variation regarding environment (WHOQOL-BREF) [24].

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