Mental health and coping strategies among nursing staff in public health services

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ABSTRACT

Purpose: The present study aimed to evaluate mental health and coping strategies among nursing staff in two public hospitals of Greece.
Materials and methods: This cross-sectional study was conducted on 318 nurses working in two public hospitals in Attica, Greece from February 2017 to May 2017. Data were collected using the Patient Health Questionnaire-2 (PHQ-2), the Generalized Anxiety Disorder Questionnaire (GAD-2) and the Greek version of the Ways of Coping Questionnaire. The data were presented as mean and standard deviation and analyzed through student tâ□"test, chi-square, and descript_ive statistics using SPSS Version 21.0. The significance level was accepted as P values <0.05.
Results: Data analysis revealed that 44% of nurses were suffering from depression and 40.3% from anxiety, with the type of hospital ($p \leq 0.001$) and marital status ($p = 0.031$) affecting stress levels.
Conclusions: Working in mental health hospital and married nurses were the main risk factors for manifestation of anxiety/depression symptoms among nursing staff. Individual nurse characteristics, such as working experience as well as working environment (general and mental health hospital) were found to be associated with the nurses' coping strategies in their attempt to deal with their work.
Keywords: Mental health, coping strategies, nurses, hospitals

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INTRODUCTION

Hospitals provide services to intensively stressed individuals and employees often faced with stressful and emotional situations, so the health care sector is considered a lot more stressful than other work environments [1]. Stress can be defined as the state or feeling that a person reaches when "demands exceed the personal and social resources that the individual is able to mobilize" [2]. According to the above definition, individuals experience stress when they subjectively appraise an event as being beyond their ability to cope. Coping involves altering cognitive and behavioral efforts to manage specific internal and/or external demands [3]. So, coping can be defined as "a process of change to manage specific demands that are appraised as exceeding the resources of the person" [2].

Nursing is generally related to intense pressure, because of its high demanding, challenging, and stressful professional characteristics [4]. Occupational stressors in nursing are linked to increased workload, low levels of support, and workplace factors, including psychosocial factors [5]. High job-related stress levels among nurses can lead to substance abuse, depression, anxiety, low job satisfaction, disengagement and decreased organizational loyalty, and increased intention to leave their job [6]. Those may affect patient care, leading to high administration costs and a disruption of smooth organizational functioning [7].

Consequently, nurses should adopt strategies to cope with stress so as not to run the risk of developing stress states. These strategies, called "coping strategies," are the means used by individuals to overcome stressful and difficult circumstances, and according to some authors those "coping strategies" have been defined as a set of cognitive and behavioral approaches used by individuals in order to handle specific situations (internal or external) [8]. Stress management and strategies to cope with stress are dependent on experiences of the individual in terms of the frequency, intensity, and characteristics of the stressor. Positive coping strategies could be the advantageous to an individual's psychological adaptation, and negative coping strategies could aggravate the body and mind to exhaustion [9].

The present study aimed to evaluate the coping mechanisms, demographic characteristics as well as work-related characteristics that contribute to the nurses' state of physical and mental health.

MATERIALS AND METHODS

This is a cross-sectional, analytical study with a quantitative approach, developed in two public hospitals in Attica, Greece. The first hospital is a general hospital, providing care to 10 thousand patients per month and the other is a mental health hospital and providing care for more than 2 million inhabitants at the time of the study.

The convenience sampling technique was used in the current study. The study population consisted of professional nursing staff who worked in the hospital for a period longer than three months. The sample consisted of 318 nurses working in the morning, afternoon, or night shift. Nursing professionals who were on vacation, on sick leave, or refused to participate in the study were excluded.

Data collection was carried out between February and May 2017 through a self-completed questionnaire. More specifically, the data collection tools consisted of three instruments. The PHQ-2 is a component of the longer Patient Health Questionnaire, and it offers psychologists concise, self-administered tools for assessing depression. The PHQ-2 inquires about the degree to which an individual has experienced a depressed mood and anhedonia over the past two weeks [10,11]. Also, Generalized Anxiety Disorder Questionnaire (GAD-2), a screening measure for anxiety, was implemented. The GAD-2 questionnaire has been proven to retain good psychometric properties of the extended version and to have similar discriminant capabilities [12,13]. The third questionnaire evaluates coping strategies, which comprised of 38 items covering thoughts and actions that people have/take to deal with the internal or external demands of a stressor. The items are divided into five factors, namely:

1. A positive approach, which includes
   - a positive re-evaluation
   - problem solving;
2. Seeking social support;
3. Prayer / Daydream, which includes
   - prayer
   - searching for divine intervention
4. Avoidance/Escape, which includes
   - resignation
   - denial
   - finally
5. Assertive problem solving.

Higher scores indicated that coping strategies were often used. The last questionnaire was developed by Karadimas in the Greek language [14].

After data collection, the Statistical Package for Social Sciences Version 21.0 was used to conduct the analysis. The qualitative variables were expressed as absolute (n) and relative frequency (%), and the quantitative variables in descriptive measures (mean value and standard deviation).

Student *t* –test was used to compare the scores of two independent groups. With this test, coping factors were compared with the variables:

gender, age groups, type of hospital, work experience, and responsible position. The analysis of variances test was used to verify if more than two independent groups differ among themselves. This test was used to compare the coping factors with the variables marital status and educational level. Chi square was performed in order to find differences between sociodemographic characteristics, PHQ-2 and GAD-2. P values of <0.05 were considered statistically significant. Data was analyzed using descriptive statistics and SPSS (Statistical Package for Social Sciences) software.

RESULTS

In relation to the sociodemographic data, 241 (75.8%) were female and 77 (24.2%) were male. The mean age was 43, ranging from 23 to 61 years of age. A total of 64.2% of the sample was married, 43.7% had completed tertiary education. The majority (74.8%) worked in the general hospital. Only 17.9% of the nurses were head or vice head of the nursing departments and 76.4% worked in shifts (Table1).

Table 1. Socio-demographic data

Gender		**No**	**Percentage**
	Male	77	24.2
	Female	241	75.8
Mean Age = 43 (S.D. 7.7)			
Family status	Unmarried	82	25.8
	Married	204	64.2
	Divorced	27	8.5
	Widower	5	1.6
Educational level	Compulsory	12	3.7
	Secondary	118	37.1
	Teritary	139	43.7
	Master - Phd	49	15.4
Type of Hospital	General	238	74.8
	Psychiatric	80	25.2
Mean of work experience =17.1 (S.D. 9)			
Responsible position	Yes	57	17.9
	No	261	82.1
Work shifts	Yes	243	76.4
	No	75	23.6

Mean PHQ-2 score was 2.3 (S.D. 1.5) and GAD-2 was 2.3 (S.D.1.6). The percentages of nurses who had depression (44%) and anxiety (40.3%) were high. Statistically significant differences were found between PHQ-2, GAD-2 and type of hospital. Nursing staff who worked in the mental health hospital were more likely to be depressed (61.2%) and anxious (55%), compared with those who worked in the general hospital (38.2%, 35.3%, respectively), ($p \leq 0.001$). Also, married nurses stated that they were more anxious (57.8%) than those who were unmarried (34.4%), divorced (7%), or widowed (0.8%) ($p = 0.031$).

As far as coping strategies, mean values and median are presented in Table 2. Internal consistency of coping strategy factors, measured by Cronbach's alpha coefficient, ranged from 0.407 to 0.803. According to the answers, the sample seems to use these coping strategies sometimes.

Statistically significant differences were found between the sociodemographic characteristics and five factors. More specifically, Table 2 presents the mean value of factors between gender & type of hospital. We observed that women used the examined factors more frequently than men. Older nurses (1.7±0.8) tended to apply searching for divine intervention more than the youngest (1.5 ±0.8, $p = 0.030$). It was also the most commonly used coping strategy by nurses who worked in the general hospital, compared with nurses working in the psychiatric hospital (Table 3).

Moreover, there was a significant association between work experience and some factors. Nurses with work experience of more than 15 years were more likely to use a positive approach, positive re-evaluation, problem solving, and searching for divine intervention compared with those who had less than 15 years' work experience (Table 4).

Table 2. Mean value of coping strategies

Factors	**Mean**	**SD**	**Median**	**Cronbach's alpha**
Positive approach	2.03	0.57	2.07	0.790
Positive re-evaluation	2.12	0.54	2.14	0.783
Problem solving	1.95	0.75	2.00	0.528
Seeking social support	1.90	0.57	2.00	0.746
Prayer / Daydream	1.71	0.64	1.73	0.803
Prayer	1.80	0.67	1.80	0.778
Searching of divine intervention	1.62	0.83	1.67	0.732
Avoidance/Escape	1.73	0.53	1.75	0.783
Resignation	1.72	0.59	1.80	0.699
Denial	1.73	0.59	1.75	0.595
Assertive problem solving	1.55	0.65	1.50	0.407

Table 3. Mean value of coping strategies between gender and type of hospital

Factors	Gender			Type of hospital		
	Male	Female	P value	General Hospital	Mental Health Hospital	P value
	Mean±SD	Mean±SD		Mean±SD	Mean±SD	
Positive approach	1.87±0.55	2.08±0.57	0.005	2.10±0.56	1.84±0.56	0.005
Positive re-evaluation	1.95±0.54	2.17±0.53	0.002	2.20±0.49	1.87±0.60	0.001
Problem solving	1.80±0.66	2.00±0.76	0.037	2.00±0.78	1.81±0.61	0.047
Seeking social support	1.74±0.60	1.96±0.56	0.005	1.96±0.54	1.74±0.64	0.003
Prayer / Daydream	1.51±0.65	1.78±0.62	0.001	1.80±0.62	1.46±0.64	0.001
Prayer	1.66±0.67	1.84±0.67	0.038			
Searching of Divine intervention	1.36±0.84	1.71±0.81	0.001	1.75±0.80	1.24±0.80	0.001

Table 4. Mean value of coping strategies between working experience

Factors	**until 15 years**		**more than 16 years**	
	Mean	**SD**	**Mean**	**SD**
Positive approach	1.95	0.47	2.1	0.63
Positive re-evaluation	2.04	0.51	2.18	0.55
Problem solving	1.86	0.53	2.02	0.88
Searching of Divine intervention	1.51	0.82	1.72	0.83

Nurses with management duties (charge/head nurse or vice-head nurse) had higher scores in the factors positive approach (2.26 ±0.74), positive re-evaluation (2.27±0.48), and problem solving (2.25±1.22) when compared with non-management nurses (1.98 ±0.51, p=0.001), (2.09 ±0.54, p=0.022), (1.88±0.57, p=0.001), respectively.

Furthermore, depression and anxiety influenced some coping strategy factors (Figures 1 and 2). Nurses who stated that they suffer from depression or anxiety tended to implement the abovementioned strategies more frequently.

There were no statistically significant differences between coping strategies, educational level, marital status, and work shifts.

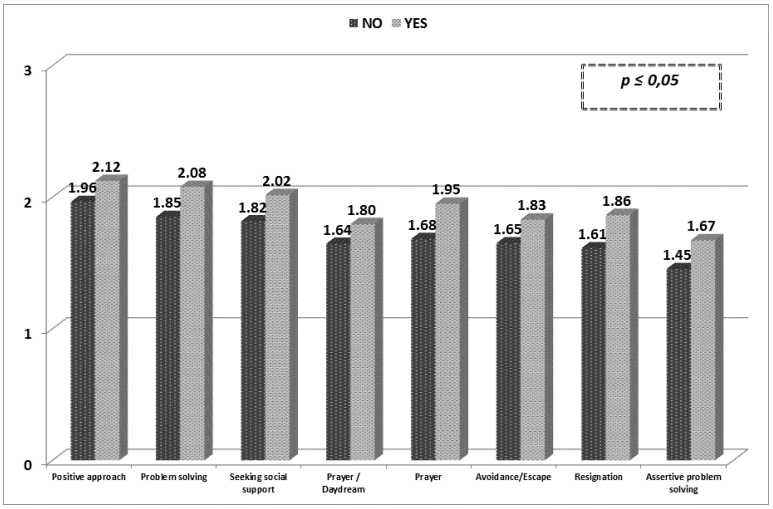

Figure 1. Mean value of coping strategies and depression

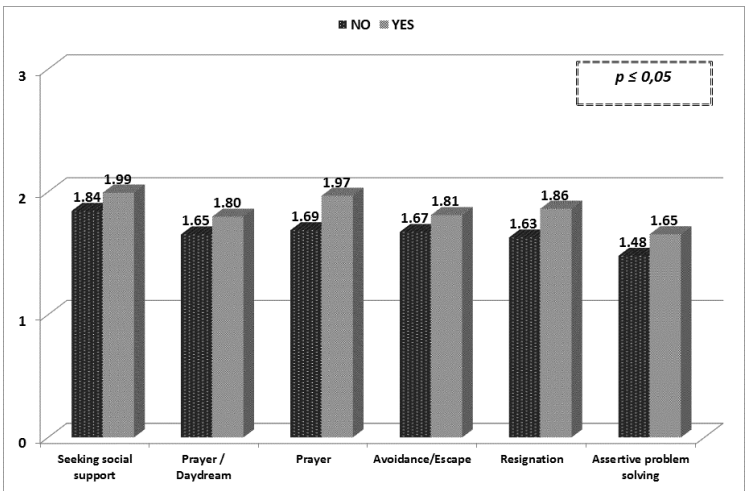

Figure 2. Mean value of coping strategies and anxiety

DISCUSSION

This study concluded that a high percentage of nursing staff suffered from depression or anxiety. Nursing staff are exposed to a variety of work-related stress that affects their productivity and their psychological health. Our results are in accordance with the study of Abbas et al., which indicated that nursing staff had symptoms of depression [15]. Also, Schmidt et al. [16] and Stathopoulou et al. [17] reported that the prevalence of depression among nurses is high. Similar results were found in other studies, which have mentioned a high prevalence of anxiety among nursing personnel [15,16].

Moreover, the type of hospital seems to be a significant parameter in terms of depression and anxiety. Nurses who work in the mental health hospital tend to feel more depressed and anxious. The hospital's work environment is considered highly stressful and loaded with factors that predispose to depression and anxiety among its workers [16]. Khodadadi et al. also found that Iranian nurses suffered from moderate levels of anxiety, stress, and depression with the hospital ward type having a relation with stress levels ($p<0.05$) [18].

Nurses often used various coping strategies in order to manage their stress in a highly complex environment with patients. Functional strategies, such as problem solving and positive reappraisal, are positive ways to cope with problems; whereas, dysfunctional strategies (escape-avoidance) are negative ways of coping [19,20]. The results of Görgen et al. (2014) and Ribeiro et al. (2015) are in concordance with the results of our study. More specifically, we found that nursing staff tend to use positive re-evaluation

and a positive approach often in order to cope with stressors. On the other hand, searching for divine intervention and assertive problem solving are factors that were rarely implemented by the nurses. Similarly, Deklava et al. (2014) found that the leading coping strategies among nurses were problem solving, self-control, positive reappraisal, accepting responsibility, and seeking social support, while the lowest values were displayed in two scales – escape/avoidance [21].

In addition, gender seems to be a significant parameter for coping strategies. Women are more likely to use these strategies than men. Similar research indicated that women were found to outweigh men concerning the choice of specific strategies [22]. Ribeiro et al. conclude that men are more likely to choose escape-avoidance strategies than women [20] and Laal found that gender was a significant factor (p=0.003) in relation to applying positive methods of stress management as well as to negative responses to stress (p=0. 003), with males being more argumentative and aggressive [23]. Gahromi et al. (2013) evaluated different coping strategies according to gender and workplace in nurses and concluded that gender and workplace were associated factors in terms of coping strategies in Iranian nurses [24].

The type of hospital was found to be a significant factor affecting the choice of coping strategies. Nurses who worked in the general hospital used coping strategies more frequently than nurses in the mental health hospital. The same finding was also reported in studies conducted with nurses working in different settings, such as general and specialized care units [25-27]. Work experience and management duties affected the use of coping strategies, where nurses with greater experience and those who have management duties chose the positive approach to deal with their problems. The findings of Zyga et al. (2016) [22] were in accordance with the differences observed in our study.

In addition, nurses who feel depression or anxiety, try to cope with their problems and use the examined strategies more. Blonna (2006) stated that effective use of coping mechanisms interferes with the experienced level of stress [28]; and Hasan et al. (2017) showed differences in the experienced stress and depression levels alongside the utilized coping strategy in relation to the nurse's demographic characteristics [29].

CONCLUSIONS

Nursing is a profession within the health care sector that faces increasing demands for high quality services. Nurses need to care for themselves before they can provide care for their patients. Recognizing the different factors affecting job-related stress and making use of effective coping methods play a vital role in reducing stress [30].

The results of the present study show that depression and anxiety seem to be affected only by the type of hospital. However, coping strategies are influenced by most sociodemographic characteristics of nursing staff as well as by hospital characteristics, such as gender, work experience, nurses' management duties, and type of hospital.

Considering the above findings of this study, hospital managers and nurses should recognize the high level of depression and anxiety in the nursing staff and identify coping strategies. It is important for managers to provide an appropriate environment for nurses and train them to cope with difficult situations. Our suggestion is that monitoring and listening to nurses, educational programs, and a space for discussion of work-related difficulties should be adopted by hospitals in order to improve the quality of nurses' work.

The small sampling size can be considered a limitation of this research. For this reason, it is recommended the study be repeated with a larger sample and investigation of other factors that might affect both mental health and coping strategies among nursing staff.

Conflicts of interest

None

Financial disclosure/funding

None

Ethical approval

The present study conforms to the provisions of the Declaration of Helsinki.

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