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## ORIGINAL PAPER

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# ASSESSING FACTORS THAT AFFECT COPING STRATEGIES AMONG NURSING PERSONNEL

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## ABSTRACT

**Introduction:** The nursing profession is characterized as one of the most stressful professions. A significant number of international surveys prove that nurses experience anxiety that often is accompanied by intense symptoms that negatively affect their work performance and their psychological mood. **Aim:** To evaluate the ways of coping in stress adopted by the nursing staff and their relationship with sociodemographic and job characteristics. **Methodology:** A cross-sectional, quantitative study was conducted in seven hospitals of Peloponnese Region, Greece. The study took place between April 2013-June 2013 and 395 nurses completed the Ways of Coping questionnaire. Socio-demographic, educational and job characteristics of nurses were, also, recorded. **Results:** Strategies focused on the problem were adopted to a greater extent more by postgraduate nurses, head nurses, and nurses with greater working experience. Intensive Care Unit nurses mainly adopted the strategy of denial while strategies focused on emotions were mostly adopted by females. Age and marital status did not affect significantly the choice of coping strategies. **Conclusions:** According to our findings several demographic factors that affect coping in stressful situations can be investigated and such an investigation could offer useful research findings for consideration.

**Key words:** nurses' stress, ways of coping, nurse-patient ratio, clinical department effect, educational level.

## 1. INTRODUCTION

The nursing job is identified as one of the most stressful jobs and it is characterized as "high intensity profession" (1-4). When exercising the nursing profession, role conflicts is often created both with other related professions and between themselves (5). Five main stressors affecting the level of satisfaction among nurses are identified such as (6): lack of communication, job requirements, professional development, problems with patients, and balance between personal and professional life. In addition, the persistent exposure to stressful events, such as death, pain, and grief can lead to reduced productivity and development of negative emotions (7,8). Stress is known to cause emotional exhaustion in nurses and lead to negative feelings toward those in their care. Greek nurses experience burnout due to environmental or individual factors. Work environment factors encompass lack of staff, exhausting shifts, lack of autonomy and authority, numerous requirements from the patients and their relatives, lack of support from supervisors and colleagues, use of technology and, finally, frequent exposure to death. Among individual factors the personality of the worker, mo-

tives that led him choose his profession, expectations from his job and the way of perceiving and reacting to stressful situations are included (9-13).

Addressing of stress situations is attributed in the literature to the English-language term "coping" (14,15). The same term is also used in other languages, except English, as it is comprehensive and encompasses a number of diverse activities and behaviors. Lazarus and Folkman (1984), who are considered the founders of the related research, defined coping as "ongoing cognitive and behavioral efforts to manage specific (external and/or internal) demands that are appraised as taxing or exceeding the resources of the individual." (16).

Several dimensions have been suggested for the classification of coping strategies in stress situations (11). Some researchers, using an individual's direction of actions as classification criteria, discriminate the ways of coping strategies (WCS) between: problem and emotion focused (11, 17), approach and avoidance (18) engagement and disengagement (19), active and avoidance (20), primary and secondary control (21), cognitive and behavioral (22) neurodegeneration

and mature (23) energetic strategies which are adequate (with regard to environmental requirements) (24).

In all these cases, the primary function of WCS is to facilitate the adjustment of the individual. The extent, to which these WCS are effective, has been the subject of many studies due to the interest to human mental health.

Under the pressure of the aforementioned stressors, nurses try to maintain their professional performance by adopting strategies for dealing with stress. Literature review highlights many WCS used by nurses. The most frequently used ways by nurses are the positive strategic approach and positive reassessment, problem based solution, planning work and priority setting in the work (25-34) while less frequently used strategies are those focused on emotion (35,26,27,30-32) such as avoidance, humor, refusal, self-blame and acceptance of responsibilities. Seeking social support has also been a stress coping strategy according to several researchers (24,26,27,30,35,36), while self-control is reported in fewer studies (26,27,31-34). Finally, passive strategies such as invoking to God are reported less frequently (25,35).

The originality of this research study is the fact that nurses originate from regional hospitals rather than hospitals of large urban cities. Moreover, this study provided the possibility of participation from all nurses. Finally, this survey assessed "coping" among Greek nurses, a study that is not extensively assessed in Greece.

## 2. METHODS

The aim of this quantitative, cross-sectional study was the investigation of the stress coping strategies adopted by nursing staff and their relationship with sociodemographic and job characteristics.

All 430 nurses in the broader area of Peloponnese were asked to take part in this study conducted from April 2013–June 2013. The nurses came from all Clinical Departments and Units of the following Hospitals: a) General Hospital of Argos, b) General Hospital of Kalamata, c) General Hospital of Korinthos, d) General Hospital of Sparta, e) General Hospital of Molaoi, f) General Hospital of Pyrgos and g) General Hospital of Tripoli. Although it was attempted for all nurses to participate in the present study, finally, the response rate was 92% (395 nurses returned the questionnaire).

The Greek version of the Ways of Coping Questionnaire (revised) (WCQ) (37), composed of 38 items, was used to explore the WCS. Sociodemographic data, educational and job characteristics were recorded. The scale consisted of five factors: a) Positive approach (11 items), including positive re-evaluation and problem solving, b) Seeking social support (6 items), c) Prayer / Daydream (8 items), including prayer and searching for divine intervention, d) Avoidance / Escape (9 items), including resignation and denial, and e) Assertive problem solving (4 items). Items were rated on a four-point Likert scale, where 0 = never, 1=rarely, 2=sometimes and 3= often. Higher scores indicated that the WCS is regularly used. The Greek version of the WCS was used after the permission of Professor Karadimas (1998). In the present study, Cronbach's coefficient alpha ranged from 0.506 to 0.868.

This study met the fundamental ethical principles that govern the conduct of a research. Particularly, full con-

fidentiality was kept with regard to information on the participants, the safety of the material was retained, the anonymity of the participants was protected and the results obtained were used only for the purposes of this research study. The study protocol is in compliance with the Helsinki Declaration and was approved by the Scientific and Ethical Committees of all participating hospitals.

Descriptive statistics (mean and standard deviation) were calculated to describe quantitative variables. Absolute and relative frequencies were used to describe quantitative variables (demographic characteristics and ways of coping strategies). The parametric t-test and the non-parametric Mann-Whitney test were used to determine whether there was a difference in mean scores between two independent groups. The correlation between quantitative variables was assessed through the Pearson's r. For the statistical analysis, the IBM SPSS Statistics v22 was used and the level of statistical significance was set up to 5%.

## 3. RESULTS

In this study 395 nurses participated. The demographic characteristics of the nurses participated in the study are shown in Table 1. The relationship between the factors and gender is presented in Table 2. A statistically significant relationship was detected between gender and the following factors: "Prayer / Daydream" ( $p=0.004$ ), "Prayer" ( $p=0.019$ ), "Searching of divine intervention" ( $p=0.008$ ), "Avoidance / Escape" ( $p=0.029$ ) and "Denial" ( $p=0.043$ ). Age and marital status did not affect significantly any of the factors while educational level affected the factors "Prayer / Daydream" ( $p=0.004$ ) and "Prayer" ( $p=0.009$ ) (Table 3). The possession of a postgraduate degree affected significantly the following factors: "Positive approach" ( $p=0.006$ ), "Positive re-evaluation" ( $p=0.015$ ), "Problem solving" ( $p=0.003$ ), "Seeking social support" ( $p=0.145$ ), "Prayer / Daydream" ( $p=0.005$ ), "Prayer" ( $p=0.001$ ) και "Assertive problem solving" ( $p=0.039$ ) (Table 4). With the exception of the factors "Prayer / daydream" and "Prayer", individuals with a postgraduate degree achieved a higher score. The job position affected significantly the factors "Positive approach" ( $p < 0.001$ ), "Positive re-evaluation" ( $p=0.001$ ), "Problem solving" ( $p=0.001$ ) and "Denial" ( $p=0.001$ ) (Table 5). In all cases, the nurses reached lower scores. Head nurses had higher score in factors "Problem solving" and "Denial" while Deputy Head Nurses in clinical departments scored higher in factors "Positive approach" and "Positive re-evaluation". The Nursing Department affected significantly the factors "Prayer / Daydream" ( $p < 0.025$ ), "Prayer" ( $p=0.004$ ), "Avoidance/Escape" ( $p=0.021$ ) and "Denial" ( $p=0.045$ ) (Table 6). In all cases, the Laboratory Department had lower scores. Surgical Departments reached the highest score in all factors, except for "Denial", where nurses in Intensive Care Units (ICU) achieved the highest score. The "Positive approach" and the "Positive re-evaluation" was significantly correlated with the number of patients of morning shift (Pearson's  $r=0.130$ ;  $p=0.017$  and Pearson's  $r=0.117$ ;  $p=0.032$  respectively) and night shift (Pearson's  $r=0.138$ ;  $p=0.022$  and Pearson's  $r=0.157$ ;  $p=0.009$  respectively). The "Problem solving" was significantly correlated only with the number of patients of morning shift (Pearson's  $r=0.129$ ;  $p=0.018$ ) while "As-

Demographic data	Frequency	Percentage (%)
<b>Gender</b>		
Female	364	92.2%
Male	31	7.8%
<b>Age(years)</b>		
20-30	67	17.0%
31-40	153	38.7%
41-50	155	39.2%
>51	20	5.1%
<b>Marital status</b>		
Married	260	65.8%
Unmarried	122	30.9%
Divorced	11	2.8%
Widowed	2	0.5%
<b>Number of children</b>		
None	173	43.8%
1	50	12.7%
2	153	38.7%
3	18	4.6%
>3	1	0.3%
<b>Educational level</b>		
Technological Educational Institute	370	93.7%
University	25	6.3%
<b>Postgraduate degree</b>		
Yes	35	8.9%
No	360	91.1%
<b>PhD degree</b>		
Yes	3	0.8%
No	392	99.2%
<b>Type of employment</b>		
Full time	391	99.0%
Part time	4	1.0%
<b>Hospital</b>		
Argos	53	13.4%
Kalamata	86	21.8%
Korinthos	66	16.7%
Molaoi	11	2.8%
Pyrgos	61	15.4%
Sparta	58	14.7%
Tripoli	60	15.2%
<b>Job position</b>		
Director of Nursing Service	4	1.0%
Director of Nursing Sector	6	1.5%
Head nurse of Clinical Department / Unit	45	11.4%
Deputy Head Nurses of Clinical Department / Unit	39	9.9%
Nurse	301	76.2%

Table 1. Participant demographics

sertive problem solving" was significantly correlated only with the number of patients of afternoon shift (Pearson's  $r = 0.116$ ;  $p = 0.041$ ).

The working experience, in years, was significantly correlated with the factors "Avoidance / Escape" (Pearson's  $r = 0.099$ ;  $p = 0.050$ ) and "Denial" (Pearson's  $r = 0.112$ ;  $p = 0.027$ ).

#### 4. DISCUSSION

This study was aimed to assess the ways of coping strategies among 395 nurses from seven hospitals of Peloponnese region in Greece. The WAYS of Coping Questionnaire was used for the first time by Karadimas (1998) and then

Factors	Women (N=364)	Men (N=31)	p-value
Positive approach	2.06 (0.512)	2.17 (0.522)	0.149
Positive re-evaluation	2.16 (0.537)	2.24 (0.543)	0.290
Problem solving	1.90 (0.573)	2.06 (0.622)	0.117
Seeking social support	1.94 (0.546)	1.83 (0.594)	0.303
Prayer / Daydream	1.81 (0.575)	1.45 (0.753)	0.004'
Prayer	1.84 (0.697)	1.52 (0.772)	0.019'
Searching of Divine intervention	1.64 (0.761)	1.23 (0.960)	0.008'
Avoidance/Escape	1.70 (0.486)	1.48 (0.576)	0.029'
Resignation	1.70 (0.556)	1.48 (0.606)	0.070
Denial	1.70 (0.593)	1.48 (0.674)	0.043'
Assertive problem solving	1.43 (0.547)	1.51 (0.534)	0.464
Mean (SD) * significant in 5% (Mann-Whitney test used)			

Table 2. The effect of gender on the factors

Factors	Technological Education (N=370)	University (N=25)	p-value
Positive approach	2.07 (0.516)	2.06 (0.485)	0.673
Positive re-evaluation	2.16 (0.538)	2.12 (0.536)	0.511
Problem solving	1.91 (0.582)	1.95 (0.510)	0.874
Seeking social support	1.93 (0.548)	1.93 (0.603)	0.880
Prayer / Daydream	1.80 (0.596)	1.48 (0.544)	0.004'
Prayer	1.84 (0.708)	1.49 (0.625)	0.009'
Searching of Divine intervention	1.63 (0.790)	1.36 (0.667)	0.072
Avoidance/Escape	1.69 (0.498)	1.63 (0.468)	0.608
Resignation	1.69 (0.564)	1.59 (0.540)	0.476
Denial	1.68 (0.605)	1.68 (0.571)	0.944
Assertive problem solving	1.43 (0.542)	1.58 (0.589)	0.249
Mean (SD) * significant in 5% (Mann-Whitney test used)			

Table 3. The effect of education level on the factors

Factors	Possession (N=360)	No possession (N=35)	p-value
Positive approach	2.05 (0.515)	2.30 (0.441)	0.006'
Positive re-evaluation	2.14 (0.539)	2.36 (0.473)	0.015'
Problem solving	1.89 (0.579)	2.18 (0.491)	0.003'
Seeking social support	1.92 (0.550)	2.04 (0.556)	0.145
Prayer / Daydream	1.80 (0.598)	1.53 (0.543)	0.005'
Prayer	1.85 (0.711)	1.47 (0.580)	0.001'
Searching of Divine intervention	1.62 (0.791)	1.50 (0.720)	0.367
Avoidance/Escape	1.69 (0.493)	1.64 (0.530)	0.707
Resignation	1.69 (0.556)	1.61 (0.621)	0.539
Denial	1.68 (0.600)	1.67 (0.629)	0.989
Assertive problem solving	1.43 (0.549)	1.59 (0.492)	0.039'
Mean (SD) * significant in 5% (Mann-Whitney test used)			

Table 4 The effect of the possession of a postgraduate degree on the factors

it was adopted by other, Greek researchers (38,39). It was constructed in order to explore the interaction between the individual and its environment. In this study, the impact of socio-demographic, educational and job characteristics to coping strategies was investigated. According to the findings of the present study, gender, educational level, job position, nursing department and the number of patients in morning and afternoon shifts can affect the ways of coping.

Factors	Head Nurses (N=45)	Deputy Head Nurses (N=39)	Nurses (N=301)	p-value
Positive approach	2.25 (0.435)	2.28 (0.430)	2.01 (0.522)	<0.001*
Positive re-evaluation	2.32 (0.463)	2.37 (0.478)	2.10 (0.547)	0.001*
Problem solving	2.13 (0.505)	2.12 (0.493)	1.84 (0.581)	0.001*
Seeking social support	2.00 (0.396)	2.06 (0.592)	1.90 (0.562)	0.054
Prayer / Daydream	1.72 (0.527)	1.87 (0.683)	1.79 (0.598)	0.313
Prayer	1.73 (0.670)	1.93 (0.822)	1.82 (0.703)	0.243
Searching of Divine intervention	1.58 (0.802)	1.68 (0.867)	1.62 (0.776)	0.747
Avoidance/Escape	1.80 (0.425)	1.75 (0.529)	1.66 (0.499)	0.072
Resignation	1.70 (0.511)	1.68 (0.619)	1.69 (0.564)	0.980
Denial	1.92 (0.499)	1.85 (0.655)	1.63 (0.596)	0.001*
Assertive problem solving	1.56 (0.429)	1.52 (0.548)	1.41 (0.562)	0.074

Table 5 The effect of job position on the factors

Factors	Internal Medicine Departments (N=132)	Surgical Departments (N=134)	ICU(N=42)	Laboratory Departments (N=34)	Outpatient clinics (N=44)	p-value
Positive approach	2.08 (0.509)	2.08 (0.515)	1.98 (0.525)	2.04 (0.508)	2.04 (0.528)	0.670
Positive re-evaluation	2.17 (0.548)	2.18 (0.533)	2.09 (0.564)	2.12 (0.522)	2.13 (0.538)	0.676
Problem solving	1.92 (0.546)	1.91 (0.582)	1.81 (0.584)	1.90 (0.594)	1.88 (0.614)	0.840
Seeking social support	1.96 (0.520)	1.91 (0.554)	2.00 (0.588)	1.90 (0.650)	1.88 (0.536)	0.885
Prayer / Daydream	1.79 (0.597)	1.86 (0.630)	1.86 (0.563)	1.56 (0.548)	1.61 (0.536)	0.025*
Prayer	1.80 (0.746)	1.94 (0.704)	1.93 (0.623)	1.51 (0.681)	1.63 (0.622)	0.004*
Searching of Divine intervention	1.67 (0.729)	1.66 (0.838)	1.60 (0.825)	1.46 (0.667)	1.45 (0.863)	0.468
Avoidance/Escape	1.70 (0.484)	1.76 (0.501)	1.72 (0.406)	1.51 (0.451)	1.58 (0.533)	0.021*
Resignation	1.68 (0.533)	1.79 (0.571)	1.70 (0.585)	1.58 (0.466)	1.55 (0.587)	0.078
Denial	1.72 (0.625)	1.74 (0.584)	1.75 (0.503)	1.42 (0.550)	1.61 (0.646)	0.045*
Assertive problem solving	1.47 (0.539)	1.46 (0.565)	1.46 (0.574)	1.30 (0.583)	1.39 (0.475)	0.456

Table 6 The effect of nursing department on the factors

Regarding the influence of gender upon the selection of coping strategies, women were found to outweigh men concerning the choice of specific strategies. In particular, it was found that women systematically manifest the ways focused on emotion (search of divine intervention" and "prayer / daydreaming"). This finding is in accordance with the findings of other researchers (4,21) where they revealed that women implement more often strategies focused on the regulation of emotion while men often use strategies focused on solving the problem. Although these findings were expected, significant differences between sexes are not reported in other studies (26,40) which can be attributed to cultural differences.

The influence of educational characteristics on the choice of strategies indicated that nurses graduated from Universities were using to a significantly lower extent the strategies "Prayer/Daydream" , and "Searching of Devine intervention" and to a significantly higher extent the strategy "Problem solving" compared to nurses with inferior academic status. Therefore, the increase of knowledge due to university postgraduate programs can provide nurses with more confidence (37). However, other researchers (41) highlight that the choice of coping strategies is depended mainly on the individual's personality. As far as the clinical department is concerned and its effect upon the selection of coping strategies it was revealed that the strategy of denial was used more regularly by Intensive Care Unit (ICU) nurses. In contrast, other researchers (30,42) concluded that ICU nurses often select a strategy focused on the problem. In

the present study, nurses from surgical sector achieved high scores in all factors except "Denial". In contrast, in another study "Denial" and "Avoidance/Escape" are referred as the most preferred techniques by surgical nurses.

Regarding the effect of patient-nurse ratio, it was found that the number of patients in the morning shift influenced significantly the selection of coping strategies. In particular, as the number of patients increases, the greater the number of nurses that use strategies focused on the problem. Therefore, nurses who work under stress conditions work more effective and organize their efforts to solve the problems. In contrast to our findings, the study of Laal & Aliramaie (2010), among 100 nurses in Iran, showed that the number of patients per shift did not affect the selection of coping strategies(43).

Job position influenced significantly the selection of coping strategies. In particular, the present research showed that head nurses chose significantly more often the strategies "Positive re-evaluation", "Problem solving" and "Positive approach" than nurses themselves. This finding may be due to the fact that nursing directors confront a great amount of administrative and organizational problems (44). Also, the heads nurses adopt significantly more often the strategy "Denial" than nurses. Consequently, it is concluded that it is more likely for Head nurses to refuse or to transfer their resolving

of a stressor situation.

The effect of working experience upon the choice of coping strategy indicated that nurses with greater working experience use the strategies of "Avoidance/Escape." This finding may be explained by the fact that in Greece the levels of nursing burnout are high due, mainly, to the lack of nursing staff (45). No other statistically significant correlations were found between stress coping strategies and demographic or job variables.

## 5. CONCLUSIONS

Therefore, having reviewed the literature, we propose the design of interventions focused on promoting physical and mental health for nurses working in clinical settings with increased requirements. Furthermore, training in the management of anxiety symptoms and learning relaxation techniques can be aimed to the proper functioning of the body. It is, also, recommended to implement psychological support programs by establishing support and counseling groups for problem solving techniques (46). Extensive investigation of stress and its effects as well as data collection regarding the way of stress identification through personal experience is essential. Ultimately, continuing education for updating the knowledge and familiarity with the technological equipment is proposed for the reduction of stress levels.

The present study was aimed at nurses of all clinical departments. The evaluation of the findings of this research study showed the existence of statistically significant interactions between the coping strategies to stressful situ-

ations and the demographic or job characteristics (gender, educational level, job position, number of patients). The results allow us to compare the stress levels between different population such as doctors and other health care professionals. For these reasons, therefore, widespread use in future studies of similar content is suggested by using the WAYS questionnaire.

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