



ORIGINAL RESEARCH

**Burnout and optimism among health workers
during the period of COVID-19**

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Abstract

Aim: The investigation of the level of burnout and optimism as well as the effect of socio-demographic and other factors on the above two variables among health workers during the period of covid-19.

Methods: The following two psychometric tools were used to collect the research data: the Maslach Burnout Inventory to assess burnout and the Revised Life Orientation Test (LOT-R) to assess the level of optimism.

Results: In the present study 10 men (24.4%) and 31 women (75.6%) participated. The majority of them were between 36-45 years (36.6%), married and unmarried (48.8% and 48.8% respectively), holding bachelor degree (61.0%) and with 11-25 years of work experience (53.7%). Very high levels of exhaustion and especially emotional exhaustion and depersonalization were observed with also a high degree of personal achievement. The levels of optimism were high. There were statistically significant differences between the two genders in terms of burnout (only the dimension of emotional exhaustion) with women showing higher rates. Employees aged 25-35 years and those who had 1-10 years of work seemed to have higher levels of emotional exhaustion (all differences were considered statistically significant for $p < 0.05$). Finally, a statistically significant correlation took place between burnout and optimism ($p < 0.05$).

Conclusions: The level of burnout among health workers seems to be high during the period of covid-19. In addition, various socio-demographic and occupational factors appear to influence burnout.

Keywords: Burnout, professional; burnout, psychological; optimism; COVID-19; health personnel; psychological tests; psychometrics.

Conflicts of interest: None.

Introduction

Burnout may be defined as a state of physical, emotional and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding. A great deal of research has been devoted to the understanding of factors contributing to burnout and to its consequences for individuals and their health. Research indicates that stress and burnout are significant factors in the development of both physical and psychological illness (1). Further research findings show that burnout is correlated with numerous self-reported measures of personal distress (2,3).

The first time that the term burnout was used by healthcare provider was back in 1975 by Herbert Freudenberger in his effort to describe the physical and emotional state that he, and his colleagues, were experiencing. This group of people was working intensively in the free clinic movement of the late 1960s and early 1970s (4). According to Freudenberger the term burnout is used in order to define the state of fatigue or frustration brought about by devotion to a way of life, or relationship that has failed to produce the expected reward (5). Since then and up to time there have been conducted researches regarding burnout and the effects that can have in a variety of professions as teachers (6), doctors (7), and nurses (8). The nursing profession is considered to be one of the harder professions globally and is characterized by great workloads, fast pace and intensity of work. Nurses occupy a central role in the delivery of health care in all countries, though countries may have different health care systems and methods of payment options. Unfortunately, studies of the work experiences and satisfactions of nurses in several countries indicate that the satisfaction of nurses is modest. Many of them report negative attitudes and diminished psychological and physical well-being, and several would like to leave

the profession (8). According to researches so far burnout does not occur in the short term, but gradually escalating, thereby creating long-term problems, such as feelings of hopelessness, distress and failure to work requirements, which have an impact on all areas of human life (9). In the process of time, many demographic varieties have been investigated in order to get fully aware about burnout such as age, gender, working experience. Furthermore, the differences between various wards of the hospitals such as psychiatric wards, intensive care units and operating rooms which are considered to be high demanding wards, have been studied in association with burnout several times (10).

The health care profession is always physically and emotionally demanding, sometimes requiring decision-making on life and death issues in a very short space of time with limited resources. During disasters such as terror attacks, war or natural catastrophes this situation intensifies since these medical teams must manage the scenario in a state of overall chaos. The health care teams are faced with enormous challenges and are endangered by emotional upheaval. There are human strengths that reinforce mental fortitude acting as buffers against mental illness, such as courage, future-mindedness, optimism, interpersonal skills, faith, work ethics, hope, honesty, perseverance and capacity for flow and insight (10).

In general, researchers have proved that optimism has the power to improve morbidity outcomes, and enhance team and organization performance during crisis (11). According to Seligman, optimism is 'the way we explain events and outcomes to ourselves, and it is a learnable approach to life and an invaluable motivator' (12). People who see desired outcomes as attainable continue to strive toward those outcomes, even when progress becomes difficult or slow (13). Weinstein used the term 'Unrealistic Optimism' to describe a

cognitive bias which lays in early perceptions of personal vulnerability to health threatening situations (14).

Knowing the potential benefit of optimism, the World Health Organization (WHO) included recommendations providing social and psychological support for health care workers (HCWs), patients and communities (15). Also, the Centers for Disease Control and Prevention (CDC), pointed out the importance of strengthening psychological resources such as coping abilities, self-efficacy, mastery, perceived control, self-esteem, hope and optimism before and during a disaster (16). According to Seligman a clear set of coping skills, including how to think optimistically and how to approach problems and adversities can help the HCWs. Gaining the skill of optimism can assist in confronting stress or setback, can help to overcome failure in particular events, and strengthen self-efficacy and resilience. This will increase the HCW's overall sense of well-being, helping them to be more beneficial to their society (12).

Aim

The aim of the present study was to investigate the level of burnout and optimism as well as the effect of socio-demographic and other factors on the above two variables among health workers during the period of covid-19.

Apart from the fact that several studies have been conducted regarding the assessment of burnout, there is a limited number of studies in Greece investigating the relation between burnout and optimism as well as the impact of specific variables on the level of them (burnout and optimism).

Methods

This is a cross sectional study including the variables of burnout, optimism and sociodemographic factors (e.g. gender, age, education, marital status etc). The

dependent variables are burnout and optimism while the independent are all the sociodemographics.

A sample of 50 healthcare workers was recruited. From this set, 41 healthcare workers provided full data on the variables studied, while the remaining 9 healthcare workers were excluded, having incomplete data.

In the present study 10 men (24.4%) and 31 women (75.6%) have participated working in two public general hospitals. The inclusion criteria included the characteristics of the sample presented below:

1. >18 of age
2. Ability to communicate in Greek
3. Working in the health sector

The data were obtained with a Greek version of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) (17). The questionnaire consists of twenty - two items that provide a measure of perceived burnout. The response format of frequency was used. Items can be answered on a seven-point Likert - scale, ranging from 1 (Never) to 7 (Everyday). According to Maslach et al. (22) the instrument is made up of three subscales: Personal Accomplishment (PA) (8 items), Emotional Exhaustion (EE) (9 items), and Depersonalization (DP) (5 items). It is preferred to examine relationships with subscale scores as continuous variables and outcomes. Scale scores are calculated by averaging the item scores. Higher score of these 3 subscales shows more personal accomplishment, emotional exhaustion and depersonalization respectively.

The Life Orientation Test (LOT) is a standard psychological tool for measuring optimism. Initially created by Michael Scheier and Charles Carver in 1985, this test underwent a few revisions, and eventually, the improved version of the LOT, known as LOT-Revised or LOT-R gained more popularity for personal and professional

purposes. The first version of the Life Orientation Test had twelve questions, each measuring optimism and pessimism objectively. The respondents needed to answer each item on a 5-point Likert Scale where – 0 means ‘*Strongly Disagree*’ and 4 implies ‘*Strongly Agree*.’ The LOT uses questions that are relatable to all individuals irrespective of their age or background and investigates simple elements of life that we all contemplate at some point in life. The Life Orientation Test includes (18):

- Statements about how we feel about ourselves, others, and life in general.
- Statements about how we feel about ourselves, others, and life under stress.
- Statements about how we feel about ourselves, others, and life during happy times.

The questions, however simple, are deep and probe the individual to explore parts of the mind that are sometimes untouched and unheard. The interpretation and analysis of the scores provide valuable understanding of where we are standing in life and how we can overcome pessimistic or negative contemplations to move ahead. Due to such criticisms, a modified version of the LOT, called the LOT-R or Life Orientation Test-

Revised was created by Scheier and Carver 1994. The LOT-R is a shorter version of the LOT but is more objective and specialized than the original test. There are only ten questions that are evaluated in the questionnaire with a response system that is similar to the original version of LOT (5-point Likert Scale). A written consent statement for voluntary participation was taken. The survey was done between September and November 2020. All valid data was entered into a spreadsheet format, and analyses were performed using Statistical Package for Social Sciences, version 25.0. The results indicated that the variables examined showed normality according to Kolmogorov – Smirnov test which was conducted.

Results

In the present study 10 men (24.4%) and 31 women (75.6%) participated. The majority of them were between 36-45 years (36.6%), married and unmarried (48.8% and 48.8% respectively), holding a bachelor degree (61.0%) and with 11-25 years of work experience (53.7%). All the characteristics of the sample are presented in table 1.

Table 1. Sociodemographic and working characteristics of the sample		
N	41	
gender		
(men) n (%)	10	24.4
(women) n (%)	31	75.6
education		
Secondary n (%)	4	9.8
University - bachelor n (%)	25	61.0
Master degree	7	17.1
PhD degree	5	12.2

age		
25-35 n (%)	9	22.0
36-45 n (%)	15	36.6
46-55 n (%)	12	29.3
>55 n (%)	5	12.2
marital status		
Single n (%)	20	48.8
Married n (%)	20	48.8
Divorced n (%)	1	2.4
Professional affiliation		
Nursing staff n (%)	19	46.3
Medical staff n (%)	10	24.4
Administrative staff n (%)	7	17.1
Medical laboratory technologists etc n (%)	1	2.4
Other n (%)	4	9.8
Years of work		
1-10 n (%)	14	34.1
11-25 n (%)	22	53.7
>25 n (%)	5	12.2

	N	Minimum	Maximum	Mean	Std. Deviation
Optimism total	41	13	30	21.68	4.62
Depersonalization	41	5	32	13.87	7.40
Personal achievement	41	14	56	42.76	9.86
Emotional exhaustion	41	12	59	30.95	12.95

Based on the results in Table 2, the mean values of the optimism and burnout were 21.68 (optimism), of Depersonalization

13.87, of Personal achievement 42.76 and of Emotional exhaustion 30.95.

Tables 3. Cut-off points for optimism and three dimensions of burnout			
	Frequency (n)	Percent (%)	Meaning
Optimism cut-off points			
≤ 13	1	2.4	Low
14-18	15	36.6	Moderate
≥ 19	25	61.0	High
Total	41	100.0	
Depersonalization (DP) cut-off points			
≤ 6	6	14.6	Low
7-12	15	36.6	Moderate
≥ 13	20	48.8	High
Total	41	100.0	
Personal achievement (PA) cut off points			
≥ 39	24	58.5	Low
22-38	16	39.0	Moderate
≤ 21	1	2.4	High
Total	41	100.0	
Emotional exhaustion (EE) cut off points			
≤ 16	5	12.2	Low
17-26	13	31.7	Moderate
≥ 27	23	56.1	High
Total	41	100.0	

As seen in Table 3, the majority of the participants presented high level of optimism (n=25, 61%) while 15 participants (36.6%) indicated moderate optimism. The majority of the participants presented high level of Depersonalization (n=20 or 48.8%) while 15 participants (36.6%) indicated moderate level of depersonalization. The

majority of the participants presented high level of Personal achievement (24, 58.5%) while 16 participants (39.0%) indicated moderate Personal achievement. The majority of the participants presented high level of Emotional exhaustion (23, 56.1%) while 13 participants (31.7%) indicated moderate Emotional exhaustion.

Table 4. Correlations between optimism and burnout				
		Depersonalization	Personal achievement	Emotional exhaustion
Optimism total	Pearson Correlation	-0.359	0.555	-0.369*
	Sig. (2-tailed)	0.027*	<0.001**	0.022*
	N		41	41
Depersonalization	Pearson Correlation		-0.068	0.588

	Sig. (2-tailed)		0.684	<0.001**
	N		41	41
Personal achievement	Pearson Correlation			-0.209
	Sig. (2-tailed)			0.207
	N			41

* Correlation is significant at the $p=0.05$ level (2-tailed)

** Correlation is significant at the $p=0.01$ level (2-tailed)

As seen in Table 4, a positive and statistically significant correlation took place between optimism and personal achievement ($r= 0.555$, $p<0.001$). A negative and statistically significant

correlation was observed between optimism and depersonalization ($r= -0.359$, $p=0.027$) as well as with emotional exhaustion ($r= -0.369$, $p=0.022$).

	Gender	Mean	Std. Deviation	p-value
Optimism total	Female	21.52	4.87	0.695
	Male	22.22	3.90	
Depersonalization	Female	14.38	7.86	0.452
	Male	12.22	5.76	
Personal achievement	Female	42.79	8.53	0.974
	Male	42.67	13.97	
Emotional exhaustion	Female	33.62	13.10	0.020*
	Male	22.33	8.06	

* t-test is significant at $p=0.05$ level (2-tailed)

As seen in Table 5, females presented more burnout and specifically emotional exhaustion in comparison to males (33.63 vs. 22.33, $p=0.020$). There was no other statistically significant difference between these two groups. Regarding the effect of age, the results indicated that individuals of 25-35 years old showed higher scores of emotional exhaustion (38.77) in comparison to 36-45 (34.86), 46-55 (22.77) and >55 years old (19.80) ($p=0,004$). Regarding the effect of the years of working experience, the results indicated that

individuals working 1-10 years showed higher scores of emotional exhaustion (35.21) in comparison to those working 11-25 (31.31) and >25 years (17.60) ($p=0.028$). No statistically significant differences were observed regarding marital status, education level and category of personnel.

Discussion

The aim of the present study was the investigation of the level of burnout and optimism as well as the effect of socio-demographic and other factors on the above

two variables among health workers during the period of covid-19. The concept of burnout has been under investigation frequently especially in the social sciences who are dealing with the structure society; moreover, experts in administration and organization became fully aware of the importance of the syndrome and the effects which has to the individual, the economy and general production as well. Through years, burnout syndrome has been in the center of research among health care professionals due to the impacts on their lives. Very high levels of exhaustion and especially emotional exhaustion and depersonalization are observed in the present study with also a high degree of personal achievement. This is a result which corresponds to previous findings but we must point out that in previous studies most participants suffered from emotional exhaustion, although at a low level (19). This could be explained that our study took place during the period of covid-19 providing the health workers with more burden. The levels of optimism are observed to be high in the context of the current study. This is also a result which is in agreement with other studies showing that all of the participants had high expectations that fulfilling the recommended measures could mitigate the impact of the pandemic (20). Moreover, there is a close relation between burnout and optimism. Suñer-Soler et al. (21) in Spain in their research compared the levels burnout, quality of life and mental health among nursing and healthcare personnel and had the same associations between the levels of burnout and mental health. There are also differences between the two genders in terms of burnout (dimension of emotional exhaustion) with women showing higher rates. This finding is in agreement with other similar results indicating that women present a worse mental wellbeing compared to males in health population or chronic disease patients (22,23). Employees aged 25-35 years and those who had 1-10 years

of work seem to have higher levels of emotional exhaustion. The research conducted by Douvanas and associates in 2011 among nursing personnel in Greece had indicated the above factors to be related to burnout (24). The same demographic factors had been indicated and in other researches in Greece (25-29). Further, there is a close relation between the variables of optimism and burnout indicating a positive association of optimism with personal accomplishment, which is a term with a positive meaning. On the other hand, the findings show a negative relation of optimism to the subscales of emotional exhaustion and depersonalization which are two terms with a negative meaning. Burnout is related to the work environment, but its effects extend into the personal lives of health professionals. The physical, psychological, and interpersonal/social effects of stress and burnout among these professionals can vary from those felt in the general workforce. Professional consequences of burnout have serious implications not only for the health and well-being of health workers but also for the health and safety of patients. Therefore, a well supportive social network can affect positively in the work life of them and those positive effects can expand to health and quality of life in general.

Limitations

Limitations of the research should be noted to put the findings into a broader context. The sample of the health workers in this study was small. It was impossible to determine the representativeness of those individuals that participated. Future research needs to involve a larger and representative sample of health providers drawn from several different hospitals.

Declaration

We confirm that this manuscript has not been published elsewhere and is not under consideration by another journal.

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