

Well-Being among Italian Medical Oncologists: An Exploratory Study

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Key Words

Oncologists · Physicians · Psychology · Quality of life · Well-being

Abstract

Background: Recently, attention has been focused on physicians' stress and quality-of-life improvement. Due to their relationship with patients, oncologists in particular are overloaded physically, emotionally and psychologically. Previous studies showed that training of communication skills improves the satisfaction and well-being of physicians and patients. **Aims:** Our research investigates the relationship between work stress and engagement and personal well-being in physicians working in Italian hospitals. **Materials and Methods:** 176 physicians were included. Doctors filled out self-report questionnaires to evaluate work stress and coping strategies, personal well-being, work engagement and two purpose-built scales to measure the degree of perceived organizational support and the level of specific training of social and relational skills. Descriptive statistics were used to analyze data, as well as correlation analysis (Pearson's *r*), hierarchical regression analysis (enter step) and analysis of variance (one-way ANOVA). **Result:** Positive and significant correlations were found between variables. Moreover, phy-

sicians who obtained higher levels of specific training on social and relational skills reported lower levels of stress. Oncologists experienced greater stress than other physicians in terms of maladaptive coping and lack of additional training. **Conclusions:** The study suggests that physicians' well-being is mediated by professional aspects, such as social skills in relationships with patients.

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Introduction

Work-related stress may have consequences for a person's general health and it may interfere on quality of life [1, 2]. The helping professions in general and healthcare in particular are very stressful jobs because workers carry the weight of important responsibilities every day and are often subject to long hours and a fast pace. Thus, doctors are in a high-risk category and oncology is one of the medical fields with the greatest psychological demands [3–6]. Dealing with patients who have life-threatening diseases as well as the limited effectiveness of treatment may contribute to a high pressure environment, emotional drain, exhaustion of staff, depersonalization, sense of reduced professional satisfaction and lower self-es-

Table 1. Field studies showing the relationship between job characteristics and well-being of employees

References	Participants, n	Relation with
Bakker et al. [29], <i>J Vocat Behav</i> , 2012	144	Active learning, performance and work engagement
Ben-Zur et al. [30], <i>Soc Work Health Care</i> , 2007	249	Burnout, social support and coping
Dunn et al. [31], <i>J Gen Intern Med</i> , 2007	22–32*	Burnout, work competences, physician satisfaction, well-being and organizational health
Fernet et al. [32], <i>Work & Stress</i> , 2012	586	Work motivation, exhaustion and commitment
Freeborn [33], <i>West J Med</i> , 2000	608	Satisfaction, commitment and psychological well-being
McNearney et al. [34], <i>J Clin Rheumatol</i> , 2008	938	Job satisfaction, emotional exhaustion and personal accomplishment
Pienaar et al. [35], <i>Tourism Management</i> , 2008	150	Burnout, engagement, coping and general health
Shen [36], <i>Stress and Health</i> , 2009	530	Self-efficacy, social support and stress-coping strategies
van der Colff et al. [37], <i>SA J Industrial Psychol</i> , 2009	818	Occupational stress, sense of coherence, coping, burnout, work engagement and well-being
Voltmer et al. [38], <i>Int Arch Occup Environ Health</i> , 2012	414	Job stress, job satisfaction, effort and reward
Xanthopoulou et al. [39], <i>J Pers Psychol</i> , 2013	163	Work engagement and self efficacy

* During the study physicians numbers has grown from 22 to 32.

teem [7–9]. The literature has shown that job characteristics can have a profound impact on well-being of employees [10] (table 1). For instance, some studies have found an association between work-related psychosocial risk factors and stress symptoms [11–16]. In particular, Nieuwenhuijsen et al. [17] have shown strong evidence for the relationship between high job demands, low job control, low co-worker support, low supervisor support, low procedural justice, low relational justice and high effort-reward imbalance and the occurrence of stress-related disorders. Other studies have found that social support is a form of protection against stress [18]. Another factor has recently been recognized as a form of protection against stress: psychosocial training and the ability to communicate [19]. A recent study indicated the difficulty perceived to inform patients that they have little time left to live, because the doctors are insufficiently trained, or they are afraid of the patient's possible reaction or because of the explicit request of the patient's relatives [20].

On the basis of the literature, it is important to understand the prevalence, causes and consequences of work-related stress among physicians in order to improve their quality of life and the treatments offered. Thus, we have

identified some personal and environmental characteristics that they could be considered antecedents of work stress in order to verify the impact of these variables on work-related stress of physicians. Moreover, in the present study, we have given more attention to the level of psychosocial additional training that we have considered as a protective factor of work-related stress. This aspect could be useful to manage stress via more adequate training courses for physicians.

Aims of the Study

The goal of this research is to study variables associated to work-related stress considering some specific factors: extent of special training in managing relationships, coping strategies, perception of self-efficacy in social-relational competence and structural supports given by the organization. In addition, we propose to highlight some differences between oncologists and doctors working in other fields. Our hypotheses are:

(H1) The perception of workplace stress will be positively correlated with maladaptive coping strategies; in contrast, it will be negatively correlated with the use of

adaptive coping strategies, perception of general well-being, self-efficacy in social-relational competence, structural support by the organization, work engagement and the extent of special training in managing relationships.

(H2) The extent of special training (in terms of managing relationships, coping strategies, the perception of self-efficacy in social-relational competence and structure of organizational support) predicts doctors' workplace stress.

(H3) The risk level of the disease predicts workplace stress in oncologists.

(H4) There are significant differences between the scores of oncologists and doctors working in other fields.

Materials and Methods

Three hundred physicians (150 oncologists and 150 other physicians) working in Italian hospitals were invited to participate in this investigation. In total, 176 (59%) physicians decided to participate. Although the number of physicians participating is low, it is sufficient to conduct significant statistical analysis.

The doctors filled out a self-report questionnaire designed to measure perceived stress, coping (Health Professions Stress and Coping Scale) [21], degree of personal well-being (Manual of the General Health Questionnaire: GHQ-12) [22] and degree of work engagement (Utrecht Work Engagement Scale) [23–26]. In addition, an ad hoc scale was created to measure the degree of perceived support by the organization and the subject's degree of self-efficacy [27]. Sociodemographic data were recorded by 15 items, i.e. demographic variables, age, occupation, role in the department, daily work schedule, activities performed, experience and quantity of time spent with patients. The questionnaire also recorded the level of training in managing some specific situations (e.g. communication of the diagnosis and handling the patient's reaction). The level of training is examined both by questions about credentials and also by using an index (reported training level) obtained through seven questions about the topics covered during training and considered specific to medical practice. The 'risk level' was determined by asking the doctors to label the mortality risk of the disease as low, medium or high.

In most cases, the questionnaire was administered after a meeting, where doctors were encouraged to participate and an explanation about goals of the study was provided.

Descriptive statistics were used to analyze the data, as well as correlation analysis (Pearson's r), hierarchical regression analysis (enter step) and analysis of variance (one-way ANOVA); regression coefficients are indicated using nonstandard β confidence intervals; whenever both the upper and lower limits express the same sign, we can accept the alternative hypothesis (with $p < 0.05$) that the effect of the variable is statistically significant. The frequency distribution analysis shows that most variables have an index of skewness and kurtosis ≥ 1 . This means that the distribution of the variables has an abnormal tendency. Even though the normality of the variable distribution is not assumed by the regression, that condition could threaten some of the assumptions such as the linearity of the relationships.

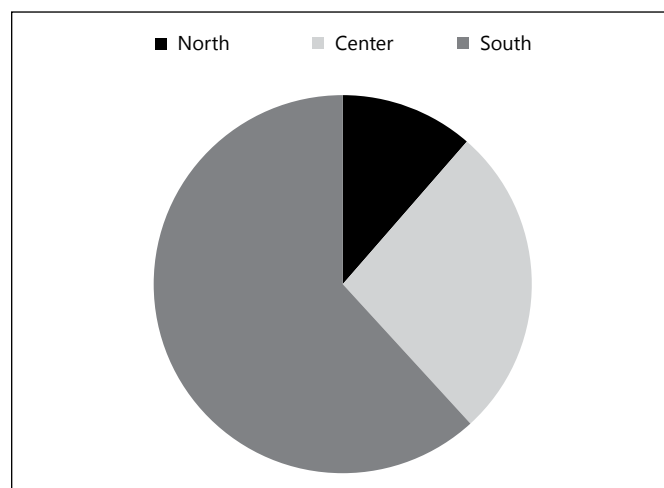


Fig. 1. Geographic range of participants.

Results

This research studied 176 doctors (89 males and 84 females; 3 were not specified) who work in various places in Italian hospitals (north = 11.4%, center = 26.8% and south = 61.8%; fig. 1).

Age ranged from 25 to 70 years (mean: 38.56, SD: 11.48). Oncologists make up 65.3% of the study participants, and doctors working in other fields make up the remaining 34.7%. In detail, 10% of the doctors are department heads, 31% are physicians, 3% are head of the hospital and 37% are interns (specialists in training/fellows), and 10% are medical associates (not specified: 9.1%; fig. 2).

Almost all of the subjects (80.1%) are in clinical practice, while 3.4% are instructors or researchers (not specified = 16.5%). In terms of experience, 33.6% of the subjects have experience from 0 to 5 years, 9.7% have 6–10 years, 19.3% have 11–20 years and 11.8% have >20 years (not specified = 25.5%). The average number of work hours per day is 8.46 (SD: 1.75); hours spent in contact with patients are from 3 to 60 h weekly (mean: 31.67, SD: 13.23). In 65.3% of the departments, there is a psychologist present; out of these, 82.4% are departments of oncology and 17.6% are other fields.

Bivariate Correlation Analysis

Table 2 presents descriptive statistics (mean and SD) and correlations between variables examined to further clarify the nature, intensity and direction of the existing relationships between the constructs considered. As can be seen in table 2, the perception of total stress correlates positively and significantly with coping strategies related

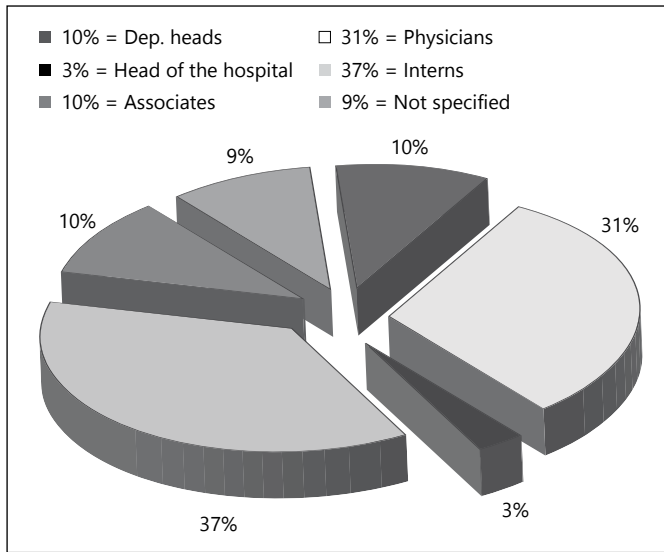


Fig. 2. Distribution of the participants on the basis of the role in the organization.

to requests for social support ($r = 0.26, p < 0.01$) and emotional stress ($r = 0.31, p < 0.01$); such reactions are also confirmed for the single stress scales. Specifically, problematic relationships with patients correlate positively with the strategy of avoiding the problem ($r = 0.18, p < 0.05$) and negatively with competence in empathy and listening ($r = -0.22, p < 0.01$). The extent of special training in managing relationships correlates negatively and significantly with the perception of stress ($r = -0.26, p < 0.01$) and with the single stress scales, which becomes even more evident regarding special training in psychosocial aspects ($r = -0.29, p < 0.01$). The negative correlation is also evident for the coping strategy of emotional focus ($r = -0.16, p < 0.05$).

Regression Analysis

A hierarchical regression analysis was performed to verify the hypothesis about factors that possibly influence workplace stress (table 3). The criterion used is the perception of workplace stress as an indicator, and the predictors are the variables relative to the extent of special training in managing relationships, coping strategies, perception of self-efficacy in social-relational competence and the structure of organizational support.

The insertion of several independent variables in the regression steps is as follows: first the control variables such as age and work experience, for example, and then the causes related to the individual followed by the causes related to the environment.

Table 2. Means, standard deviations and correlations among the study variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
(1) Add. training	4.23	4.16	1																				
(2) Add. Tr. (ps-soc aspect)	3.23	3.09	0.965**	1																			
(3) Stress	40.20	17.26	-0.265**	-0.290**	1																		
(4) Personal attack (...)	12.89	5.75	-0.263**	-0.283**	0.931**	1																	
(5) Clinical emergency	7.06	3.24	-0.292**	-0.297**	0.855**	0.707**	1																
(6) Facing death	8.38	4.11	-0.258**	-0.289**	0.925**	0.779**	0.812**	1															
(7) Probl. relat. patients	4.99	2.59	-0.184*	-0.195*	0.847**	0.734**	0.677**	0.805**	1														
(8) Personal criticism	6.96	3.51	-0.194*	-0.231**	0.885**	0.830**	0.672**	0.762**	0.657**	1													
(9) Problem solving	52.01	9.82	-0.173*	-0.193*	0.049	0.086	-0.045	0.042	-0.069	0.144	1												
(10) Req. for assistance	30.22	13.29	-0.098	-0.113	0.262**	0.249**	0.212**	0.276**	0.215**	0.240**	0.181*	1											
(11) Emotional focus	19.78	10.72	-0.164*	-0.159	0.317**	0.287**	0.263**	0.311**	0.319**	0.239**	-0.122	0.536**	1										
(12) Problem avoidance	15.11	8.67	-0.005	0.009	0.097	0.066	0.052	0.116	0.184*	0.061	-0.192*	0.409**	0.581**	1									
(13) UWES	77.20	18.05	0.127	0.007	0.099	0.122	0.005	0.088	0.062	0.012	0.292**	-0.038	-0.185*	-0.265**	1								
(14) GHQ	35.43	5.67	0.049	0.048	-0.122	-0.073	-0.105	-0.121	-0.142	-0.113	0.236**	-0.118	-0.328**	-0.192*	0.328**	1							
(15) Organiz. support	13.49	6.41	0.138	0.127	-0.08	-0.06	-0.081	-0.037	-0.078	-0.081	0.279**	0.132	-0.056	0.012	0.296**	0.234**	1						
(16) SRC empathy-list.	13.06	3.26	-0.001	-0.016	-0.059	-0.055	-0.054	-0.032	-0.221**	0.007	0.176	-0.191*	-0.175*	-0.198*	0.230**	-0.021	0.103	1					
(17) SRC emot. control	15.18	3.97	-0.017	-0.063	-0.079	-0.064	-0.014	-0.109	0.033	0.183*	-0.141	-0.340**	-0.173*	0.289**	0.184*	0.235**	0.621**	0.621**	1				
(18) SRC persp. taking	10.71	2.70	0.027	-0.013	-0.023	-0.003	-0.027	0.001	-0.135	0.053	0.206**	-0.122	-0.314**	-0.242**	0.337**	0.103	0.235**	0.669**	0.765**	1			
(19) SRC trust and pers.	7.70	2.07	-0.017	-0.055	-0.015	-0.016	-0.03	-0.004	-0.089	0.024	0.145	-0.143	-0.250**	-0.208**	0.248**	0.083	0.188*	0.568**	0.672**	0.739**	1		
(20) SRC separ. of borders	6.95	2.55	-0.002	0.163	-0.141	-0.141	-0.134	-0.102	-0.098	-0.127	0.074	-0.094	-0.208**	-0.029	0.152*	0.236**	0.399**	0.631**	0.554**	0.566**	0.566**	1	

SRC = Social-relational competence. * $p < 0.05$, ** $p < 0.01$.

Table 3. Hierarchical regression analysis

	β	Confidence interval (nonstandard β)	
		lower limit	upper limit
<i>Step 2</i>			
Age	-0.129	-1.191	0.775
Experience	0.062	-0.906	1.124
Role	0.059	-2.489	4.079
Additional training	-0.308**	-2.807	-0.628
R ² adjusted = 0.082**			
Δ R ² = 0.081**			
<i>Step 3</i>			
Age	0.093	-0.879	1.180
Experience	-0.109	-1.204	0.820
Role	0.077	-2.115	4.207
Additional training	-0.252*	-2.488	-0.325
Problem solving	0.109	-0.206	0.637
Request for assistance	0.011	-0.314	0.342
Emotional focus	0.377**	0.201	1.067
Problem avoidance	-0.041	-0.595	0.431
R ² adjusted = 0.164*			
Δ R ² = 0.082*			
<i>Step 4</i>			
Age	0.234	-0.695	1.451
Experience	-0.189	-1.370	0.702
Role	0.122	-1.576	4.888
Additional training	-0.229*	-2.364	-0.189
Problem solving	0.134	-0.176	0.704
Request for assistance	0.032	-0.288	0.370
Emotional focus	0.325*	0.071	1.022
Problem avoidance	0.005	-0.515	0.534
SRC empathy, listening	-0.142	-2.352	0.649
SRC emotional control	0.111	-1.060	2.023
SRC perspective taking	0.023	-2.191	2.513
SRC trust and pers.	0.071	-1.874	3.144
SRC separ. of borders	-0.287*	-3.739	-0.300
R ² adjusted = 0.183			
Δ R ² = 0.019			
<i>Step 5</i>			
Age	0.216	-0.727	1.425
Experience	-0.198	-1.386	0.689
Role	0.098	-1.984	4.639
Additional training	-0.212*	-2.290	-0.077
Problem solving	0.153	-0.146	0.750
Request for assistance	0.032	-0.289	0.370
Emotional focus	0.327*	0.074	1.027
Problem avoidance	0.008	-0.510	0.540
SRC empathy, listening	-0.169	-2.557	0.528
SRC emotional control	0.136	-0.968	2.156
SRC perspective taking	0.038	-2.102	2.628
SRC trust and pers.	0.062	-1.961	3.074
SRC separ. of borders	-0.264*	-3.616	-0.107
Organizational support	-0.097	-0.987	0.360
R ² adjusted = 0.182			
Δ R ² = -0.001			

SRC = Social-relational competence. * $p < 0.05$, ** $p < 0.01$.

Table 4. Differences between oncologists and other physicians

	Other physicians (n = 61)		Oncologists (n = 115)		F	p
	mean	SD	mean	SD		
Request for assistance	27.44	13.67	31.70	12.91	4.15	0.04
Problem avoidance	16.90	9.77	14.16	7.91	4.07	0.04
Organizational support	12.07	6.47	14.25	6.28	4.73	0.03

The hierarchical regression analysis of workplace stress highlights some significant evidence. In the first step of the regression, there are no significant values. In the second step, the variable of extent of special training has a negative correlation with stress ($\beta = -0.308$, $p < 0.01$). The variance explained by the inserted variable in this step is equal to 12% ($p < 0.01$). In the third step, there is a positive correlation between emotional focus and stress ($\beta = 0.377$, $p < 0.01$), while the extent of special training has a negative correlation ($\beta = -0.252$, $p < 0.05$). The variance explained by the insertion of the variables in the third step is equal to 23% ($p < 0.05$). In the fourth step, there are negative correlations between stress and extent of special training ($\beta = -0.229$, $p < 0.05$) and perception of self-efficacy in the separation of borders ($\beta = -0.287$, $p < 0.05$), while there is a positive and significant correlation between stress and the coping strategy of emotional stress ($\beta = 0.325$, $p < 0.01$). The variance explained by the variables inserted in the fourth step is equal to 29% (nonsignificant difference). In the fifth step, the introduction of the perception of social support does not affect the values.

In the third step, the change in significance of the β weight of the extent of special training indicates a possible mediator: the relationship between stress and the extent of special training in managing relationships becomes less significant compared to the previous step. In other words, the predictor decreases significantly because of the effect of the introduction of the coping strategy. In order to confirm the hypothesis that the risks in disease influence workplace stress, a regression analysis was done, but no significant difference was found ($\beta = 0.054$, $R^2 = -0.014$).

Analysis of Variance

There are significant differences between oncologists and doctors in other fields ($p < 0.05$) in the scores obtained for request for assistance, organizational support and problem avoidance (table 4).

Discussion

The results of the analyses confirm some of the hypotheses. H1 postulates the existence of significant correlations between the perception of workplace stress and some personal and organizational variables: there is a positive correlation with the use of emotional focus as a nonadaptive coping strategy but no correlation with other variables. Those results indicate that doctors who use a coping strategy focused on an emotional response to events perceive even more workplace stress, presumably because of little ability to adequately manage one's own emotions. There is a negative correlation between level of stress and the level of extent of special training in managing relationships. Those results indicate that having adequate training, especially in managing relationships, will have a positive impact on the perception of stress. Hence, it seems evident that to reduce the perception of workplace stress it would be useful to add specific training in managing relationships alongside traditional medical training. No correlation was found between work engagement and the perception of stress. There are positive correlations between the perception of general well-being and the perception of organizational support, self-efficacy in social-relational competence (emotional control and separation of borders) and the use of problem-solving as an adaptive coping strategy. Those results indicate that if the worker has great confidence in his own ability to stay calm and peaceful when confronting dangerous situations and to separate emotionally his professional from his private life, as well as being able to utilize resources and personal experience to confront workplace problems, they will experience a greater sense of general well-being. Our first hypothesis is partially confirmed.

Regarding H2, it may confirm that a low level of special training in managing relationships can cause stress, or rather, those who spend little time in special training to improve their ability to manage relationships are more stressed. Conversely, those with more training in managing relationships are less stressed than other doctors. In addition, some coping strategies may be considered a cause of workplace stress, specifically the tendency to react emotionally when confronting problems and the inability to manage one's own emotions. It is possible that the use of dysfunctional coping strategies such as emotional focus might mediate the relationship between extent of special training and workplace stress. In other words, our data suggest that feeling unable to manage one's own emotions despite special training might be a risk factor for stress, but further confirmation is needed.

A lack of self-confidence in one's ability to maintain a natural balance to deal with tensions in the workplace in the helping professions may also be considered a source of workplace stress. We did not confirm that a lack of organizational support is a cause of workplace stress.

H3 postulated that the risk of mortality in oncology is a source of stress for doctors, and this hypothesis was not confirmed. More specifically, the data did not confirm that oncologists who work with patients at high risk of mortality were more stressed than doctors with patients having a better prognosis.

H4 postulated the existence of significant differences between the scores of oncologists and doctors in other fields. The data show significant differences between these groups of variables: request for assistance, problem avoidance and organizational support. Specifically, oncologists utilize counseling and help from others as an adaptive coping strategy more than other doctors, while the latter utilize reactive avoidance of problem situations as a coping strategy. Oncologists also perceive that they receive more help from the organization.

Conclusions

There are some indications which are important in order to prevent stress and overcome specific conditions that can compromise the performance and well-being of doctors over time. It is possible to improve the perception of well-being and hence quality of life [28]. Specifically, well-being in the workplace is closely related to having adequate social-relational competence and training in managing relationships. In addition, doctors who have more difficulty in managing their own emotions are more at risk of workplace stress, which highlights the importance of the quality of doctor-patient relationships during treatment. Doctors who have good relationships with patients perceive more satisfaction and well-being.

In clinical practice, technical competence and availability of adequate treatment is required but also good relationships, which reaffirms the importance of training courses in psychosocial aspects with specific attention to managing communication and relationships with patients as well as supervisory meetings with psychologists in order to express and share the doctor's emotions, to better manage difficult and stressful periods. Adequate attention to the emotional life of individuals and groups is important to cultivate a sense of well-being in the workplace. It is also important to encourage effective strategies to manage stressful events.

A limit of this study is that translation of the results of this geographically nonrepresentative sample to the general population is problematic. Therefore, our results need confirmation and extensive analysis by future studies in a more representative sample of the national popu-

lation. Another limitation of this study is the exclusive use of self-reporting. Objective data sources would be more reliable. However, despite the limitations, this study contributes to our understanding of workplace stress in the health field and indicates variables related to stress.

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