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Original Article

Compassion Fatigue in Chest Disease Clinicians: The Effect of Psychological Capital and the Relationship between Colleagues

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Abstract

OBJECTIVE: Compassion fatigue is representative of the cost of caring and is reported to have significant negative effects. Compassion fatigue needs to be better understood in order to define, prevent, and intervene. The aim of this study is to determine the level of compassion fatigue and possible predictors (demographics, vocational features, satisfaction, and psychological capital) in physicians and nurses working in chest diseases and thoracic surgery hospital.

MATERIAL AND METHODS: This cross-sectional study was conducted with 205 clinicians (83 physicians, 122 nurses) working face-to-face with in-patients. Data were collected with a semi-structured interview, the Professional Quality of Life Scale, and the Psychological Capital Scale.

RESULTS: The average age of the participants was 31.96 ± 8.60 years, most of them (67.3%) were women. The average compassion fatigue score was 20.15 ± 8.58 for the physicians and 17.16 ± 9.49 for the nurses, and the difference was found to be statistically significant ($P = .01$). However, in the regression analysis, it was determined that the profession did not have a significant effect, and that dissatisfaction with the colleagues increased the compassion fatigue 2.5-fold ($P = .03$). It was found that low resilience, one of the subscales of the Psychological Capital Scale, increased compassion fatigue 2.14-fold ($P = .007$). Other professional variables and demographic characteristics were not significantly related to compassion fatigue ($P > .05$).

CONCLUSION: The results of this study show the importance of the relationship and resilience among colleagues in the prevention of compassion fatigue. It also points out that physicians are at risk of developing compassion fatigue.

KEYWORDS: Chest diseases hospital, physicians, nurses, compassion fatigue, psychological capital
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INTRODUCTION

The diagnosis and treatment of diseases such as chronic obstructive pulmonary disease, asthma, and lung cancer, and the care of these patients, are all challenging. In such chronic and/or serious diseases, the patient's emotions are only half the story in the relationship between the healthcare professional and the patient. Physicians and nurses are constantly exposed to the pain and distress of the patients. Taking care of their well-being should be a central concern. In recent years, attention has been drawn to compassion fatigue, a combination of secondary traumatic stress and burn out.[1] Compassion fatigue represents the cost of care, resulting in physical, emotional, and psychological symptoms.[2] The continuous contact with patients reduces the quality of care and satisfaction, threatens the health of physicians and nurses, reduces general well-being, contributes to the decision to quit/leave the profession, and negatively affects team work.[1-3]

Compassion fatigue is defined as "the final result of a progressive and cumulative process that is caused by prolonged, continuous, and intense contact with patients, the use of self, and exposure to stress.[4]" In the meta-analysis study conducted by Zhang et al.[5] using data from 21 studies, many of which were focused on nurses, the compassion fatigue rate was found to be 52%. The phenomenon of compassion fatigue among physicians has been studied less, especially in our country. In recent years, in the study conducted by Racic[6] on family physicians, the compassion fatigue rate was found as 55.8%. Laor-Maayany et al.[7] in their study on compassion fatigue among oncologists, and Ghazanfar et al.[8] in their studies on cardiac physicians working in tertiary care cardiac hospitals, reported that compassion fatigue was high. In Turkey, there are a limited number of compassion fatigue studies investigating nurses working in general hospitals,[9] intensive care units,[10] and surgical clinics,[11] organ transplant coordinators,[12] and also physicians in the province of Muş.[13] The results are inconsistent. A study conducted in our country, where compassion fatigue was evaluated by physicians and nurses working in the same health care institution, could not be reached.

Compassion fatigue should be better understood to identify, prevent, and intervene before it becomes a problem.[2] The meta-analysis shows that studies evaluating the factors affecting compassion fatigue are mostly focused on demographic

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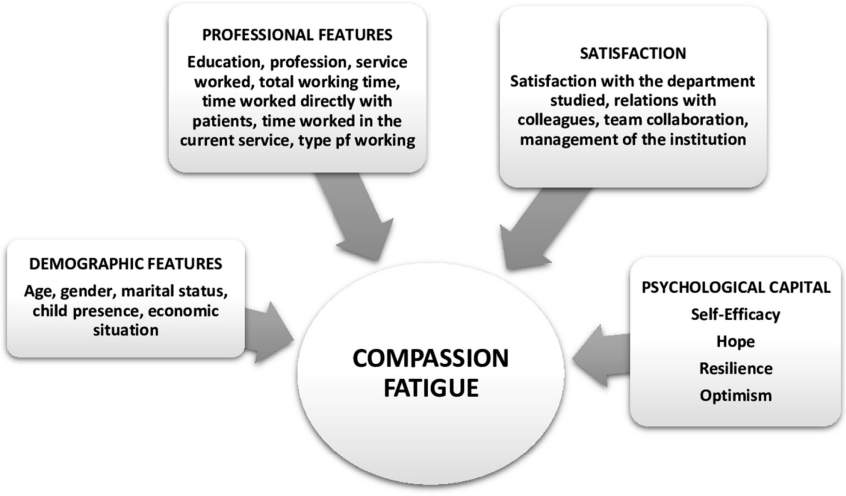

Figure 1. Hypothetical model of compassion fatigue.

and job-related variables.[14] Other variables examined include empathy[3] and personality traits,[15] and their relationship to compassion fatigue. The effect of demographic and professional variables on the level of compassion fatigue can be used to determine the population at risk. However, there is a need to examine the modifiable psychological variables, which can be effective in protecting against compassion fatigue.

Psychological capital (PsyCap), which includes hope, self-efficacy, resilience, and optimism, is different from personality traits, as well as positive, developable and measurable aspects of the individual.[16] It is based on positive psychology and positive organizational behavior approaches. Luthans et al.[17] defined it as "a positive state of mind that occurs during the growth and development of the individual." Although PsyCap represents a relatively new approach, the components that make up the structure are previously accepted concepts. It is based on Synder's work that defined hope as being able to change paths to goals; Bandura's theory that defined self-efficacy as self-confidence that one can make the necessary effort to accomplish challenging tasks; the theory of optimism attribution, which is defined as a positive imposition that one will succeed now and in the future. Resilience has been defined as being able to stand strong and be able to recover in order to be successful when faced with problems and difficulties.[16] Luthans mostly focused on the effect of PsyCap on job performance and satisfaction.[18] In the literature, there are studies conducted with nurses who reported a negative relationship between PsyCap and burnout.[19,20] A study examining the relationship between PsyCap and compassion fatigue that a negative correlation could be reached.[21] In addition, the effect of PsyCap on compassion fatigue was examined in physicians-nurses and in our country. This topic has received less attention so far, and the results are encouraging for new research.

Based on our observations and experiences, it was thought that satisfaction of the relationship with the colleagues could affect compassion fatigue in the healthcare professionals' working environment. The literature focuses on the impact of the relationship between healthcare professionals on patient outcomes and hospital performance.[22] Although the importance of the physician–nurse, nurse–nurse, and physician–physician relationships is known, its relationship with compassion fatigue has not been studied before. The study constitutes the grounds that compassion fatigue has not been investigated in chest disease clinicians, and can be used in reducing compassion fatigue because psychological capital and intra-team relationships can be improved. This study was aimed at determining the compassion fatigue level and possible predictors in physicians and nurses working in the same clinics of a chest diseases and thoracic surgery hospital. The hypothetical model is presented in Figure 1.

Main Points

- Compassion fatigue in physicians is not well studied, especially in our country.
- Physicians dealing with the treatment of many patients with chronic and/or severe pulmonary diseases are at risk of developing compassion fatigue. Physicians should also be more aware of the seriousness of this issue.
- To prevent or reduce compassion fatigue, it may be useful to implement interventional measures to improve peer relationship and increase resilience.

MATERIAL AND METHODS

Study Design

This cross-sectional study was carried out in a chest diseases and thoracic surgery training and research hospital in Istanbul. Between March 2017 and January 2018, 83 of 101 physicians and 122 of 134 nurses who worked face-to-face with in-patients agreed to participate in the study, and data were collected from a total of 205 healthcare professionals.

Data Collection

In collecting data, a semi-structured interview, the Professional Quality of Life Scale (ProQOL)'s compassion fatigue subscale, and the Psychological Capital Scale (PCQ-24) were used.

Semi-Structured Interview Form

It included demographic (age, gender, marital status, parental status, economic status) and vocational (educational status, occupation, current service, working time (in the profession,

face-to-face working with patients, current service)), and working style of the participants. In addition, there were questions about whether they were satisfied with the department they worked in, their relations with their colleagues, team collaboration, and the management style of the institution.

Professional Quality of Life Scale (ProQOL)

The scale, developed by Stamm,[23] which was tested for validity and reliability by Yeşil et al.[24] in our country, consists of 30 items, 6 Likert-type scales, and 3 subscales—compassion satisfaction, burnout, and compassion fatigue. In this study, the compassion fatigue subscale was used. It is recommended that employees who receive high scores receive support or assistance.[23,24] Cronbach's alpha value for compassion fatigue of the scale was 0.835[24] and Cronbach's alpha value for this research was 0.841.

Psychological Capital Scale (PCQ-24)

It is a scale that has 24 items to measure employees' positive psychological capital perceptions and was developed by Luthans et al.[18] There are 4 dimensions in the scale: self-efficacy, hope, optimism, and resilience. Each dimension is evaluated with 6 items. The scale consists of 5 Likert-type expressions. High scores from the scale indicate that psychological capital is high and show that individuals are more optimistic, psychologically more resilient, more hopeful, and self-efficacious in terms of subdimensions. The validity and reliability study of the scale in our country was carried out by Çetin and Basım,[25] with Cronbach's alpha value of 0.91, and the Cronbach's values for subscales are 0.67 for optimism, 0.81 for hope, 0.68 for resilience, and 0.85 for self-sufficiency. In this study, the Cronbach alpha value of the scale was found as 0.89. For subdimensions, it was found as 0.80, 0.91, 0.87, and 0.90, respectively.

Ethical Consideration

The study was performed in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki). The Ethics Committee Approval (2017/81) and research permits were obtained, after which the physicians and nurses participating in the research were informed about the research. They were informed that participation was voluntary, and their written consent were obtained before the study.

Statistical Analyses

The Statistical Package for Social Sciences version 22.0 software (IBM Corp.; Armonk, NY, USA). The number and percentages or means, standard deviations, and minimum and maximum scores were used as descriptive statistics, according to the data type. Since the data did not show normal distribution, the Mann–Whitney *U*-test, Kruskal–Wallis test, and Spearman's Rho correlation analysis were used. After factors affecting compassion fatigue were determined in univariate analyses, the effect of occupation, satisfaction with colleagues, and the effect of resilience on compassion fatigue was determined by logistic regression analysis.

RESULTS

The average age of the 205 participants was 31.96 ± 8.60 years, most of them (67.3%) were women and (52.7%) were single. It was determined that 29.8% of them were undergraduates, and 21.5% were medical graduates. The average time they had spent working in direct contact with patients was 8.84 ± 8.20 years, and 42% of them were working in the chest diseases department. Most (82.9%) of them worked in shifts. Most (81.5%) reported that they chose their profession voluntarily, 77.1% were satisfied with their respective units, 85.4% reported satisfaction in their relations with their colleagues, and 81% reported team collaboration. However, only 37.6% of them expressed satisfaction with the institution's management style, which was low (Table 1).

The mean compassion fatigue score of the participants was determined as 18.37 ± 9.23 (1-50). The average score of the psychological capital and subscales was found to be in the range of 3.29-3.59 ± 0.52-0.63 (1.33-5) (Table 2).

According to the hypothetical model presented in Figure 1, no significant difference was determined at the level of compassion fatigue in univariate analysis, in terms of demographic characteristics such as gender, marital status, or economic situation ($P > .05$). It was determined that professional factors are just predictors for the profession, and there was no significant difference compared to other features (unit of work, type of work) ($P > .05$). The mean compassion fatigue score of physicians was 20.15 ± 8.58, for nurses, it was 17.16 ± 9.49, and the difference was found to be statistically significant (MWU = 4064.000; $P = .01$). No relationship was detected between compassion fatigue and the factors of time spent working in the service ($r = 0.019$; $P = .787$), time spent working in direct contact with the patients ($r = 0.063$; $P = .369$), total working time ($r = 0.065$; $P = .354$), or age ($r = 0.087$; $P = .214$). According to the variables in the satisfaction category, the difference was found to be statistically significant; the mean compassion fatigue score of those who have satisfactory relationships with their colleagues was 17.77 ± 8.92, while the same value for those who were dissatisfied was 21.67 ± 10.35 (MWU = 2031.500; $P = .04$). The comparison based on characteristics showed no significant difference in the mean compassion fatigue score ($P > .05$). When the relationship between compassion fatigue and psychological capital was examined, it was found that there was only a negative weak correlation with the resilience sub-dimension ($r = -0.169$; $P = .01$), as shown in Table 2.

Logistic regression analysis, which was performed to determine the effect of occupation, satisfactory relationships with colleagues, and resilience on compassion fatigue, was found statistically significant ($P < .05$). According to the model, dissatisfaction in relationships with colleagues increases compassion fatigue 2.5-fold ($P = .03$). The effect of occupation (being a doctor or a nurse) on compassion fatigue did not show statistical significance in regression analysis ($P > .05$). It was determined that a high resilience score reduced compassion fatigue by a factor of 0.468; in other words, low resilience increased compassion fatigue by a factor of 2.14 ($P = .007$) (Table 3).

DISCUSSION

In the current study, it was revealed that the compassion fatigue score was higher in physicians working in the chest diseases and thoracic surgery unit of the hospital;

Table 1. Participants' Characteristics

Characteristics	Answers	Mean	SD (Min–Max)
Age (years)		31.96	8.60 (20-58)
Total working time (years)		9.17	8.46 (1-37)
Time spent in direct contact with the patients (years)		8.84	8.20 (1-37)
Working time in service (years)		4.72	5.81 (1-36)
		n	%
Gender	Female	138	67.3
	Male	67	32.7
Marital status	Married	97	47.3
	Single	108	52.7
Children	Yes	85	41.5
	No	120	58.5
Economic situation	Middle	115	56.1
	High	90	43.9
Education status	Health vocational high school	18	8.8
	Associate degree	30	14.6
	Baccalaureate degree	61	29.8
	Masters'/PhD	13	6.3
	Medical faculty	44	21.5
	Expert	39	19.0
Profession	Nurse	122	59.5
	Physician	83	40.5
Work unit	Chest diseases	86	42.0
	Thoracic surgery	37	18.0
	Emergency	52	25.4
	Respiratory intensive care	20	9.8
	Surgical intensive care	10	4.9
Work timings	Continuous day	30	14.6
	Shift	170	82.9
	Continuous night	5	2.4
Satisfaction with the work unit	Satisfied	158	77.1
	Not satisfied	47	22.9
Satisfaction with the colleagues	Satisfied	175	85.4
	Not satisfied	30	14.6
Satisfaction with team cooperation	Satisfied	166	81.0
	Not satisfied	39	19.0
Satisfaction with the institution's management	Satisfied	77	37.6
	Not satisfied	128	62.4

dissatisfaction with colleagues increased compassion fatigue, and resilience decreased compassion fatigue.

To our knowledge, this is the first study conducted in this field, in which both physicians and nurses were part of the same sample group. In the literature, the average score of compassion fatigue was 13 ± 6.[23] Among those working in the field of oncology as a nurse, physician, or technician, it was 15.2 ± 6.6.[26] It is seen that the compassion fatigue level (18.37 ± 9.23) obtained in our study was higher than the level reported in these studies. These results suggest that studies to determine compassion fatigue and formulate intervention methods are important for healthcare professionals in our country.

Univariate analysis results showed that there is a significant difference between the compassion fatigue level of physicians and nurses according to the profession, from the independent variables examined according to the hypothetical model. However, it is seen that the studies in the literature

Table 2. Correlation Between Compassion Fatigue and Psychological Capital Levels

	Mean	SD	1	2	3	4	5
1. Compassion Fatigue	18.37	9.23	-				
2. Psychological Capital Total Score	3.48	.52	−.130	-			
3. Optimism	3.59	.63	−.067	.908**	-		
4. Resilience	3.47	.58	−.169*	.882**	.755**	-	
5. Hope	3.58	.56	−.122	.868**	.712**	.694**	-
6. Self-efficacy	3.29	.58	−.103	.863**	.711**	.661**	.667**

*P = .01; **P < .01.

were mostly done only in the samples of physicians or nurses. Studies involving physicians and nurses who serve the same patients directly in the same environment, and witness the patient's pain, can be a guide to understanding compassion fatigue. The results of our study show higher values than the mean of the compassion fatigue score of physicians (20.15 ± 8.85), oncologists (17.18 ± 7.02),[7] doctors who work in various specializations (12.9 ± 6.9),[27] physicians with (15.62 ± 7.61) and without (12.74 ± 6.80) the Compulsory Health Service in our country.[13] Compassion fatigue level was found to be lower compared to the compassion fatigue level in a study conducted on Cardiac Physicians (25.97 ± 6.39).[8] However, it should be taken into consideration that the high score for compassion fatigue was reported in half of the physicians.[6] All these results indicate that physicians are a group at risk of developing compassion fatigue. It is understood that research studies should be conducted in a large sample including physicians from different specialties.

In this study, the mean of compassion fatigue score of nurses who care for the same patients in the same hospital under similar conditions (17.16 ± 9.49), when compared to the studies done with nurses using the same scale, seems to be high according to compassion fatigue level of nurses working in surgical clinics (15.6 ± 7.1),[11] and in general hospitals (15.12 ± 6.54)[9]; similar to the compassion fatigue level (17.9 ± 10.2) of nurses in Iran[28]; low according to the results of studies conducted in acute care nurses in America (20.86 ± 5.27)[29] and in oncology nurses (21.39 ± 4.8) in China.[30] It is consistently reported that the risk of compassion fatigue is higher in nurses working in emergency and oncology services. The recruitment of nurses working in all departments of the chest diseases and thoracic surgery hospital for this study may have enabled us to achieve the current compassion fatigue level.

The finding that compassion fatigue increases 2.5-fold when participants are dissatisfied with their colleagues is this study's important contribution to the literature. Compassion fatigue arising from long-term exposure to suffering individuals is stated as the negative effect of helping or being willing to help, and is focused on the relationship between the healthcare professional and the patient.[4] However, it is observed that in the employee relationship with other employees and with the managers, dissatisfaction has a greater emotional effect than that with the patients or patients' relatives, and the effects may last longer. On the contrary, a working environment with good relations, trust, solidarity and cooperation among healthcare professionals can make it easier to overcome difficulties. In recent years, while Valentini[31] emphasized the importance of the relationship between physician–physician, Wieder[32] emphasized it for the nurse–physician relationship in terms of patient care quality and job satisfaction. In addition to these results, the findings of our current study show that the level of compassion fatigue in those who do not have satisfactory relationships with their colleagues is high. From another perspective, high compassion fatigue may also be an obstacle to effective communication between colleagues. Lindeke and Sieckert[33] emphasized that health care professionals should recognize the effects of compassion fatigue, and remain empathetic, motivated, and emotionally present in collaborative relationships. It seems important to add to this proposal the in-depth research of the relations between employees in a larger sample, with different measurement tools and/or qualitative methods.

Table 3. Variables Predicting Compassion Fatigue

					95% CI	
Independent Variables	**D**	**C. Error**	***P***	**OR**	**Lower**	**Upper**
Satisfaction with the relationship with colleagues (1)	0.939	0.441	.033	2.558	1.078	6.069
Profession (1)	0.273	0.307	.374	1.314	0.719	2.400
Resilience	−0.759	0.279	.007	0.468	0.271	0.809
Stability	2.931	0.984	.003	18.750		

Cox and Snell R^2 = 0.082; Nagelkerke R^2 = 0.109.
Dependent variable: Those above the average of the compassion fatigue score were taken as 1 and those below.

In the current study, it was determined that the psychological capital of physicians and nurses, especially their resilience, was effective in preventing compassion fatigue. Our results show similarity with the studies in which resilience was evaluated with different measurement tools, and a negative relationship with compassion fatigue was reported.[34,35] Resilience can be developed and helps in coping with difficult experiences, handling the effects of distress, promoting adaptation, having multiple characteristics (i.e., hardiness, self-enhancement, positive emotion), and the ability to learn and grow from them.[34] In the pilot study conducted to evaluate the effectiveness of interprofessional staff at a regional cancer center's compassion fatigue resiliency program by Pfaff et al.,[1] it was found that on program completion, clinical stress decreased. It seems worthwhile to disseminate similar interventions to be implemented for the improvement of resilience in healthcare professionals and to evaluate the effect of compassion fatigue prevention or reduction by randomized controlled research.

There were several limitations with our research. First of all, the cross-sectional design of our study prevents us from making causal inferences. For this, longitudinal studies need to be done. In addition, experimental studies are needed to test the effectiveness of peer relationship and psychological capital in preventing compassion fatigue. Another limitation is that this study was conducted in a single center. The results do not represent all professionals working in the field of chest diseases and thoracic surgery in our country. Thus, our results were limited in generalization. In addition, all variables were evaluated simultaneously, and data were collected using self-report tools. This can affect response reliability.

In conclusion, both physicians and nurses individually and the health institutions' managers have important responsibilities in managing compassion fatigue. The results of this study support the importance of improving the relationship between healthcare professionals and developing interventions targeting resilience. Because psychological capital and relationships are a malleable resource, managers can invest in developing and improving healthcare professionals' resources.

Ethics Committee Approval: This study was approved by Ethics committee of Okan University, (Approval No: 2017/81).

Informed Consent: Verbal informed consent was obtained from the patients who agreed to take part in the study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – H.S., N.Y.; Design – H.S., N.Y.; Supervision – N.Y.; Resources – H.S.; Materials – H.S., N.Y.; Data Collection and/or Processing – H.S.; Analysis and/or Interpretation – H.S., N.Y.; Literature Search – H.S., N.Y.; Writing Manuscript – N.Y., H.S.; Critical Review – N.Y.

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