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ORIGINAL PAPER

Assessment of Compassion Fatigue and Empathy Levels in Nurses During the COVID-19 Outbreak: Turkey's Case

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Abstract

This study was conducted to determine the compassion fatigue level of nurses and to review several variables believed to be associated with it; in addition, an assessment is made of empathy levels in the same group. This is a cross-sectional study conducted from December 2021 to May 2022 on nurses working at a city hospital linked to the Turkish Ministry of Health. The study group consisted of 616 nurses. A Personal Information Form, the Compassion Fatigue-Short Scale (CF-SS), and the Jefferson Scale of Empathy were used to collect data. Data were collected through face-to-face interviews. Student's *t*-test, One-Way Analysis of Variance, and Multiple Linear Regression Analysis were used for data analysis. The statistical significance value was accepted as $p < 0.05$. The study group consisted of 499 (81.0%) females and 117 (19.0%) males, and their ages ranged from 20 to 51, with a mean age of 29.2 ± 6.9 years. The scores obtained from the CF-SS ranged from 16 to 130, with a mean score of 70.96 ± 25.04. The level of compassion fatigue was found to be higher in participants with a low family income, those who work more than 40 h a week, those who chose their profession unwillingly, those who are not satisfied with their profession, and those with a history of contact with a COVID-19 patient ($p < 0.05$ for each group). There was a significant association between levels of compassion fatigue and empathy ($r = 0.92$; $p = 0.220$). The level of compassion fatigue was found to be moderate in the nurses observed. The factors affecting the level of compassion fatigue included gender, family income, reasons for choosing nursing as a profession, the number of patients given daily care by the nurses, satisfaction with their profession, and history of contact with a COVID-19 patient. More extensive studies focusing on the association between compassion fatigue and empathy in nurses are needed.

Keywords Nurse · Compassion fatigue · Empathy · Turkey · COVID-19

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Introduction

Compassion is defined as sympathetic pity and concern for the suffering or misfortune of a person or another living being (Turkish Language Association, 2022). This feeling can also be described as consciousness about others' distress and suffering, paired with a desire to alleviate it. Because compassion is also closely associated with empathy, communication and human relations are also linked to the concept (Konal & Ardahan, 2018).

First mentioned by Joinson in a decades-old study, the concept of compassion fatigue is defined as the emotional, physical, mental, and spiritual burnout that develops while providing care to traumatized individuals in emotional or physical pain; compassion fatigue is a result of empathy (Joinson, 1992; Sabo, 2011). Empathy is the ability to understand and share the feelings that another person experiences, and healthcare cannot be provided without empathy (Gok, 2015). Therefore, compassion fatigue is closely associated with empathy and burnout (Pehlivan & Perihan, 2018).

When the association between nursing and compassion fatigue is examined, nurses who provide care to people in pain are a high-risk group. It is believed that other factors, such as providing care to only one type of group, witnessing the conditions of those in pain for an extended period, inability to identify and internalize the profession, intense work pressure and other work-related stress factors, and exposure to death and disease, also have a significant impact (Arpacıoglu et al., 2021; Chen et al., 2021; Konal & Ardahan, 2018). As a result of these factors, the quality of care given to patients and patient satisfaction may decrease (Romano et al., 2013). In nurses who are caregivers, job satisfaction often decreases, resulting in situations such as quitting the job, malpractice, and changes in decision-making mechanisms and willingness to provide care (Delaney, 2018; Hooper et al., 2010).

Based on Figley's modeling, empathy between the individuals who provide care and those who receive it occurs naturally as a result of exposure to the development of compassion fatigue (Figley, 2002). Compassion fatigue may have physical (fatigue, sleep disorders, immune system problems), emotional (burnout, anger, depression, changes in belief and decision-making systems, substance abuse), behavioral and spiritual (tendency to make mistakes, inability to self-care), and occupational (loss of motivation to go to work, frequent use of leave, spending less time with patients, work avoidance) symptoms (Arpacıoglu et al., 2021; Chen et al., 2021; Thomason & Moghaddam, 2021; Uslu & Korkmaz, 2017).

Although compassion fatigue causing physical, behavioral, emotional, occupational, and spiritual symptoms and consequences is experienced individually, awareness of these symptoms is crucial in terms of detecting and aiding nurses with caregiver roles at an early stage (Alharbi et al., 2020; An et al., 2020; Góes et al., 2020; Lynch & Lobo, 2021). Individual, organizational, and professional strategies can be implemented to manage compassion fatigue. Individual practices include using personal coping strategies, maintaining a healthy work-life

balance, receiving psychotherapy, addressing spiritual needs, and identifying disrupted schemes. Organizations can manage compassion fatigue by establishing a more relaxed work environment and reinforcing respect and support-not only toward patients but also within the team. Important professional practices include providing vocational consultancy regarding patients and occupational practices from experienced professionals, ensuring professionalism, determining individual and business objectives and working toward them, and performing self-care practices (Arpacıoglu et al., 2021; Gok, 2015). Other coping mechanisms include artistic activities, exercise, meditation, and Pilates (Sirin & Yurttaş, 2015). If symptoms of fatigue are not observed and remedies are not used, problems may arise in the workplace. In the end, nurses who are unaware of their fatigue or who do not practice self-care cannot provide proper care to their patients.

The outbreak of COVID-19 originated in China and had a significant impact on nurses due to its spread, mortality, and burden of care. With the increased number of COVID-19 patients, nurses working in different fields have started to work in clinics established specifically for the pandemic and in intensive care units. The suffering of patients, uncertainties about the disease, deaths, and physical symptoms-such as cough and dyspnea-put nurses in close contact with patients in high-risk groups (Sampaio et al., 2020). On top of this, problems related to the work environment, such as insufficient staff numbers, lack of medical equipment, and an intense workload, have led to an increase in compassion fatigue among health workers (Labrague & de Los Santos, 2021; Savitsky et al., 2021). Therefore, emotional exhaustion has generally increased in the nursing profession during the pandemic period (Avcı et al., 2022; Vizheh et al., 2020; Wijdenes et al., 2019).

By observing nurses working at a city hospital focusing on COVID-19 cases in Turkey, this study seeks to determine the level of compassion fatigue, review several variables believed to be associated with it, and provide an assessment of empathy levels in this group.

Materials and Methods

Design

This is a cross-sectional study conducted from December 2021 to May 2022 on nurses working at a Ministry of Health hospital from Ankara that was an epidemic center for COVID.

Samples and Settings

The total number of nurses working at the hospital was 1,165. The target was to reach all nurses working at the hospital; the study group consisted of 616 nurses who agreed to take part in the research. For this study, it was targeted to reach all nurse working in the hospital, and the sample size has not been calculated. The percentage of the working group according to the total number of nurse is 52.9%.

Data Collection Tools

A questionnaire form was prepared by using the literature in line with the study objective. The questionnaire form included the sociodemographic characteristics of the nurses, variables believed to be associated with compassion fatigue, and items from the Compassion Fatigue-Short Scale (CF-SS) and the Jefferson Scale of Empathy. The questionnaire form was completed through face-to-face interviews by the participants themselves and took the participants approximately 5–10 min to complete.

The CF-SS was used to determine the level of compassion fatigue. This questionnaire was developed by Adams et al. (Adams et al., 2006). The study measuring its validity and reliability in Turkey was conducted by Dinc and Ekinci (2019). It is a self-report assessment tool that asks respondents to consider each scale item and indicate how closely it currently reflects their experience. It is a 10-point Likert scale (rarely/never = 1, very often = 10) consisting of 13 items. No scoring algorithms or cutoff points were defined for the scale. The scores to be obtained from the scale range from a minimum of 13 to a maximum of 130. The higher scores obtained from the scale denote an increasing level of compassion fatigue experienced by the respondents.

The empathy levels of the nurses were assessed with the Jefferson Scale of Empathy. This scale was developed by (Hojat and Herman, (1985), and the study measuring its validity and reliability in Turkey was conducted by Yanık and Saygılı (2014). It is a 20-item self-assessment tool using a 7-point Likert-type format. The items are scored from 1 = "strongly disagree" to 7 = "strongly agree." The possible score range is between 20 and 140. Higher scores denote high levels of empathic tendency.

Analysis

The data obtained were evaluated in the SPSS (version 15.0) statistical package program. The Shapiro–Wilk test was used to determine the normal distribution of data. Student's *t*-test, One-Way Analysis of Variance (One-way ANOVA), and Multiple Linear Regression Analysis were used for data analysis. The statistical significance value was accepted as $p < 0.05$.

Ethical Approval

Required permissions were obtained from hospital management to collect data. Approval of an ethics committee of a university from Ankara (No. 24 on 15 March 2021) was obtained to conduct the study. All participants were informed of the research objectives and procedures before participation, and informed written consent was obtained from those who agreed to participate. All procedures performed in studies involving human participants were in accordance with the

ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Table 1 Participant demographic data

Socio-demographic characteristics	*n*	(%)
Gender		
Female	499	81
Male	117	19
Age group		
24 and below	139	22.6
25–29	285	46.3
30–34	77	12.5
35 and above	115	7.5
Level of education		
High school	39	6.3
Associate degree	39	6.3
Bachelor's degree	492	79.9
Master's degree	46	7.5
Marital status		
Married	239	38.8
Single	362	58.8
Divorced/widowed	15	2.4
Number of children		
0	454	73.7
1	73	11.9
2 and above	70	11.4
Family type		
Nuclear	542	88
Extended	65	10.6
Divorced	9	1.5
Family income		
High	93	15.1
Average	450	73.1
Low	73	11.9
Variable	$\bar{x}\pm$SD	min–max
Age	29.2±6.9	20–51

Symbols: *n* = Frequency; % = Column percentage; *SD:* Standard deviation

Table 2 Distribution scores obtained in the study group from the compassion fatigue-short scale in relation to several socio-demographic characteristics

Socio-demographic characteristics	*n* (%)	Compassion fatigue-short scale score $\bar{x}$±SD	Test value *t*/F; *p*
Gender			
Female	499 (81.0)	71.91±25.42	1.939; 0.053
Male	117 (19.0)	66.93±23.04	
Age group			
24 and below	139 (22.6)	74.18±23.90	1.478; 0.219
25–29	285 (46.3)	71.10±23.52	
30–34	77 (12.5)	67.40±24.74	
35 and above	115 (7.5)	69.20±29.69	
Level of education			
High school	39 (6.3)	68.10±25.76	1.145; 0.330
Associate degree	39 (6.3)	66.92±26.46	
Bachelor's degree	492 (79.9)	71.89±24.70	
Master's degree	46 (7.5)	66.87±26.75	
Marital status			
Married	239 (38.8)	70.30±24.86	0.159; 0.853
Single	362 (58.8)	71.33±25.02	
Divorced/widowed	15 (2.4)	72.67±29.92	
Number of children			
0	454 (73.7)	71.69±24.10	0.784; 0.457
1	73 (11.9)	68.15±25.45	
2 and above	70 (11.4)	69.58±29.22	
Family type			
Nuclear	542 (88.0)	71.68±24.96	1.842; 0.159
Extended	65 (10.6)	65.74±24.96	
Divorced	9 (1.5)	65.67±28.41	
Family income			
High	93 (15.1)	68.60±23.03	**9.439; 0.001**
Average	450 (73.1)	69.54±25.30	
Low	73 (11.9)	82.73±22.97	
Smoking			
Non-smoker	414 (67.2)	70.98±24.95	0.016; 0.987
Smoker	202 (32.8)	70.94±25.31	
Alcohol consumption			
No	546 (88.6)	70.72±25.12	0.666; 0.505
Yes	70 (11.4)	72.84±24.58	
History of a physician-diagnosed chronic disease			
No	527 (85.6)	70.28±24.4	1.646; 0.100
Yes	89 (14.4)	75.00±28.15	
Total	616 (100.0)	70.96±25.04	–

Bold value indicates statistical significance ($p < 0.05$)

Results

The study group consisted of 499 (81.0%) female and 117 (19.0%) male participants. Their ages ranged from 20 to 51 with a mean age of 29.2 ± 6.9 years. The sociodemographic data of all participants are presented in Table 1.

The scores obtained from the CF-SS ranged from 16 to 130, with a mean score of 70.96 ± 25.04. The distribution of the scores obtained in the study group from the scale in relation to several socio-demographic characteristics is given in Table 2.

Of the nurses in the study group, 373 (60.6%) are contract employees with 4/B status and 550 (89.3%) are nurses working in shifts. The length of employment ranges from 1 to 35 years with an average of 6.51 ± 7.42 years. The employment length in their current unit is 1–32 years with an average of 3.06 ± 3.51 years. The number of patients that they provide care for in their current unit ranges from 1 to 135 with an average of 12.03 ± 13.50 patients. The number of nurses who are not at all satisfied with their job was 133 (21.6%). Approximately 270 (43.8%) nurses had a previous diagnosis of COVID-19. The distribution of scores obtained from the CF-SS linked to variables believed to be associated with compassion fatigue is given in Table 3.

The results of multiple hierarchical linear regression analysis conducted with variables (age, gender, family income, weekly working hours, choice of profession, term of employment, number of patients receiving nursing care daily, satisfaction with their profession, history of contact with a COVID-19 patient, and previous diagnosis of COVID-19) believed to be associated with the scores obtained from the CF-SS are given in Table 4.

The scores obtained from the Jefferson Scale of Empathy in the study group ranged from 39 to 140 with a mean score of 82.71 ± 13.28. No significant relationship was found between the scores obtained from the CF-SS and the Jefferson Scale of Empathy ($r = 0.92$, $p = 0.220$). The distribution of the scores obtained from the CF-SS and the Jefferson Scale of Empathy is shown in Fig 1.

Discussion

Compassion is a concept that goes beyond empathetic thinking and respect for humans. Compassion is the acceptance that each human is special and unique. Compassion fatigue in empathy-based care provided to a sick person and their family poses a risk for nursing (Uslu & Korkmaz, 2017). Identification of symptoms and levels of compassion fatigue in nurses, particularly during pandemic, is crucial to protect the psychological health of these medical workers. In our study, the compassion fatigue levels of the nurses were found to be moderate based on the scores obtained from the CF-SS. In their study on intensive care nurses during the COVID-19 pandemic, Katran et al., (2021) found that the nurses had moderate levels of compassion fatigue. Among 337 Chinese oncology healthcare professionals, 77.7% of

Table 3 Distribution of scores in the study group from the compassion fatigue-short scale linked to variables believed to be associated with compassion fatigue

Variables believed to be associated with compassion fatigue	*n* (%)	Compassion fatigue-short scale score $\bar{x}\pm SD$	Test value t / F; p
Working status			
Subject to law no. 657	243 (39.4)	71.20±23.43	0.291; 0.772
Contract worker (4B status)	373 (60.6)	70.60±27.38	
*Uni***t**			
Internal units	157 (25.5)	70.59±26.34	0.963; 0.427
Surgical units	111 (18.0)	70.09±25.22	
ER/intensive care	192 (31.2)	73.62±24.14	
Polyclinics	47 (7.6)	70.19±21.82	
Other	109 (17.7)	68.05±25.81	
Work period			
Regular hours	66 (10.7)	71.57±25.04	1.738; 0.083
In shift	550 (89.3)	95.91±24.68	
Weekly working hours			
40 h	100 (16.2)	64.45±23.74	**2.415; 0.016**
More than 40 h	516 (83.8)	72.03±25.17	
Choice of profession			
Own choice	215 (34.9)	63.41±24.80	**10.809; 0.001**
Family/social pressure	86 (14.0)	74.98±26.50	
Job guarantee	283 (45.9)	74.59±23.02	
Not specified	32 (5.2)	78.91±28.76	
Term of employment (year)			
4 and below	386 (62.7)	72.39±24.89	2.183; 0.089
5–9	89 (14.4)	65.10±23.46	
10–14	53 (8.6)	72.45±23.05	
15 and above	88 (14.3)	69.76±27.76	
Term of employment at the current unit (year)			
1	196 (31.8)	69.48±26.22	0.735; 0.480
2	232 (37.7)	72.40±24.35	
3 and above	188 (30.5)	70.75±24.67	
Number of patients receiving nursing care daily			
4 and below	214 (34.7)	72.54±23.40	**4.465; 0.001**
5–9	98 (15.9)	77.46±25.28	
10–14	97 (15.7)	72.34±24.14	
15–19	63 (10.2)	64.16±23.73	
20 and above	144 (23.4)	66.26±27.14	
Satisfaction with their profession			
Not satisfied	133 (21.6)	87.01±20.83	**39.205; 0.001**
Slightly satisfied	269 (43.7)	71.80±21.74	
Satisfied	202 (32.8)	59.24±25.34	

Table 3 (continued)

Variables believed to be associated with compassion fatigue	*n* (%)	Compassion fatigue-short scale score $\bar{x}$±SD	Test value t / F; p
Very satisfied	12 (1.9)	71.67±30.98	
Contact with a COVID-19 patient			
None	320 (51.9)	68.47±24.65	**3.378; 0.035**
Every other day	168 (27.3)	73.32±25.30	
Every day	128 (20.8)	74.13±25.23	
Previous diagnosis of COVID-19			
Yes	270 (43.8)	71.48±23.48	0.449; 0.653
No	346 (56.2)	70.56±26.23	
Having a relative with a previous diagnosis of COVID-19			
Yes	461 (74.8)	71.71±24.50	1.281; 0.201
No	155 (25.2)	68.74±26.55	
Having a relative who died of COVID-19			
Yes	166 (26.9)	72.33±26.08	0.823; 0.411
No	450 (73.1)	70.46±24.66	
Total	616 (100.0)	70.96±25.04	–

Bold values indicate statistical significance ($p < 0.05$)

Table 4 Results of multiple hierarchical linear regression analysis conducted with the variables believed to be associated with the scores obtained from the compassion fatigue-short scale

Variables	$R^2 = 0.191$; $F = 14.296$*** β (95% CI)
Gender	−8.440 [(− 13.137) to (− 3.744)]***
Age group	1.011 [(−0.909)–(2.930)]
Family income	3.607 [(0.021)–(7.194)]*
Weekly working hours	2.475 [(−2.701)–(7.652)]
Reason for choosing this profession	3.105 [(1.178)–(5.033)]**
Number of patients receiving nursing care daily	−1.421 [(− 2.604)–(− 0.238)]*
Satisfaction with their profession	−10.686 [(−13.207)–(− 8.164)]***
History of contact with a COVID-19 patient	2.948 [(0.648)–(5.248)]*
Previous diagnosis of COVID-19	1.765 [(−1.934)–(5.464)]

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$, R^2: Corrected R^2, *CI* Confidence interval, β Unstandardized coefficient

doctors and 59.9% of nurses had a medium level of compassion fatigue and burnout (Zhang et al., 2022). In another study, the scores of emergency nurses showed evidence of risk for more compassion fatigue, while oncology nurses experienced

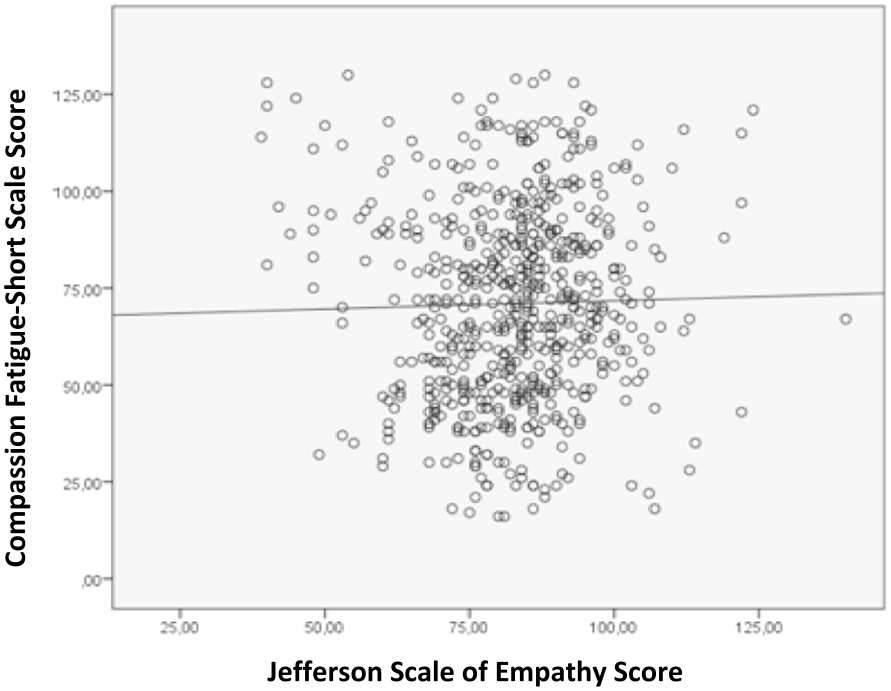

Fig. 1 Distribution of the scores obtained from the compassion fatigue-short scale and the Jefferson scale of empathy

higher burnout, which is a risk factor for compassion fatigue (Hooper et al., 2010). Accordingly, it can be suggested that our study is consistent with the literature.

In our study, it was determined that gender is one of the variables that affect the level of compassion fatigue (Table 3). Compassion fatigue was higher in females. Although male and female nurses had similar experiences in terms of compassion fatigue and burnout, some studies in the literature show that women had higher compassion fatigue (Hooper et al., 2010; Zhang et al., 2022). Similarly, Van Mol et al. (2015) reported that compassion fatigue was higher in the female group. Some studies report that compassion fatigue did not vary by gender (Babur & Özdelikara, 2020; Katran et al., 2021; Zhang et al., 2022). Although it is believed that women experience emotions such as compassion and pity more intensely than males, only 19% of our participants were male nurses, so a larger male group would have been beneficial to our study.

According to findings, there was no difference between age groups in terms of the level of compassion fatigue. Similarly, Katran et al. (2021) found that age did not have any effect on compassion fatigue. Sacco et al. (2015) found that high levels of compassion satisfaction were more likely to be reported among nurses 50 years or older than among their younger colleagues. Some studies in the literature reported that experiencing an increase in traumatic and stressful events and having a reduced coping capacity at an advanced age increase compassion fatigue

(Hunt et al., 2019; Seremet & Ekinci, 2021). It is believed that the absence of a significant difference between the age groups in our study was because the majority of the participating nurses were young.

There was no association between compassion fatigue and the level of education in the present research. Sacco et al. (2015) found that high levels of compassion satisfaction were more likely among nurses with a master's degree. Katran et al. (2021) reported that the level of education did not affect compassion fatigue. The authors believed that this result was due to the fact that 79.9% of the nurses in the study group had a bachelor's degree.

In our study, it was found that the level of compassion fatigue was higher in nurses with a low family income than in other income groups. Spiers (2003) found that experiencing stress at work is directly proportional to an employee's family income. Income is an important factor in leading an easier and more satisfactory life, and a poor financial situation is a stress factor (Yuksel, 2014). More specifically, financial problems may cause increased anxiety and burnout, leading to the disruption of relationships within a family and, therefore, can lead to a reduction in productivity. This result may suggest that family income affects personal well-being.

There was no difference between the level of compassion fatigue and previous diagnosis of COVID-19, having a relative with a previous diagnosis of COVID-19, and having a relative who died of COVID-19 in the present study. In Katran et al.'s (2021) study, compassion fatigue was found to be higher in nurses who worked in the intensive care unit of a pandemic hospital and in those who were infected with the COVID-19 virus or who had previously been diagnosed with the disease than in those who were not previously infected. More extensive studies are needed as those conducted using this variable are limited in the literature.

The level of compassion fatigue was higher in nurses who had chosen their profession unwillingly and in those who were not satisfied with their profession. Studies in the literature have reported that the level of professional belonging was higher in those who chose their profession willingly and who were satisfied with their jobs. Therefore, there is a direct association between professional belonging and compassion fatigue (Yılmaz et al., 2014). This result shows that choosing a profession willingly and consciously is one of the factors that affect compassion fatigue. This outcome supports the association of professional belonging with compassion fatigue.

In our observations, it was found that the number of patients receiving daily nursing care affected the level of compassion fatigue. It was reported that providing care intensively for long periods causes burnout in nurses. The higher number of patients who receive care results in a reduction in the quality of care provided, energy, empathy skills, and compassion in nurses. Some studies reported that working conditions affected compassion fatigue (Gok, 2015; Polat & Erdem, 2017). It was also reported that limited time spared for personal life after intense work increased compassion fatigue (Khan et al., 2015; Pehlivan & Perihan, 2018; Sirin & Yurttaş, 2015; Yilmaz & Ustun, 2018). It is also believed that working intensively for long hours under pressure due to the COVID-19 pandemic and the temporary suspension of annual leaves of nurses also had impacts on this outcome.

There was no significant association between levels of compassion fatigue and empathy of the nurses in the study ($r = 0.92$; $p = 0.220$). It was reported that

empathy is disruptive for nurses when professional boundaries are crossed (Sabo, 2011). In their study on nursing students, Babur and Özdelikara (2020) found a correlation between compassion and empathic tendency. In another study, Mottaghi et al. (2020) found that empathy could explain the fact that 77% of nurses experienced compassion fatigue through feelings of guilt. Nurses may experience compassion stress after showing empathy to patients if they are unable to lose the feeling of empathy. Richardson et al. (2015) reported that a higher empathic tendency in nurses is associated with higher compassion fatigue. This study's results showed that nurses can control their empathic tendencies and that factors other than the level of empathy affected compassion fatigue.

Limitations

The limitations of this study may include the fact that it is a cross-sectional study and was conducted on nurses working in one hospital only.

Conclusion and Suggestions

The level of compassion fatigue was found to be moderate in the nurses observed. The factors affecting the level of compassion fatigue included gender, family income, the reason for choosing nursing, the number of patients given daily care, satisfaction with their profession, and history of contact with a COVID-19 patient. There was no significant association between the levels of compassion fatigue and empathy. It is very important that the compassion experienced by nurses must be managed well. It would be advantageous to provide nurses with on-the-job training on compassion and how it can lead to compassion fatigue. Furthermore, we recommend that improved studies for patient and employee satisfaction be more efficiently implemented in hospitals. Reducing compassion fatigue in nurses, particularly during pandemic periods, would improve both the well-being of nurses and the quality of patient care. More extensive studies that review the association between compassion fatigue and empathy in nurses are therefore necessary.

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Declarations

Conflict of interest The authors declare that they no conflict of interest.

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