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Moral distress, ethical climate, and compassion fatigue among oncology nurses: the mediating role of moral distress

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Abstract

Background Oncology nurses have a vital role in providing care for individuals with cancer. Ethical dilemmas arise for oncology nurses caring for these patients. Nurses experience moral distress when work conflicts with personal beliefs, leading to inappropriate responses or uncertainty about ethics. The ethical climate might influence nurses' response to moral distress. Moral distress in nurses can lead to work-related stressors like compassion fatigue.

Research objectives This study examined the relationship between moral distress, ethical climate, and compassion fatigue in oncology nursing. Moreover, the role of moral distress as a mediator in the link between ethical climate and compassion fatigue was examined.

Method A descriptive correlational design was recruited. One hundred twenty-two participants were recruited using the convenience sampling method. The study data were collected using a demographic information form, Corley's Moral Distress Questionnaire, Revised Victor and Cullen's Ethical Climate Questionnaire, and the Professional Quality of Life questionnaire. The Ethics Research Center of Shahid Beheshti University of Medical Sciences approved the study.

Findings The overall moral distress, compassion fatigue, and ethical climate mean scores were 125.54 ± 37.50, 31.50 ± 9.23, and 49.03 ± 7.49, respectively. The analysis showed that among the dimensions of ethical climate (including egoism, benevolence and principled climate), egoism directly (p=0.03) and indirectly (p<0.001) and benevolence indirectly (p<0.001) (through moral distress) were significantly related to compassion fatigue. The principled ethical climate did not show any direct or indirect impact (p=0.72 and p=0.64, respectively).

Conclusions Our findings showed moderate moral distress and low compassion fatigue among oncology nurses. In the examined oncology wards, the prevailing ethical climate was benevolent. Moral distress acts as a mediator between egoistic and benevolence ethical climate and compassion fatigue.

Keywords Moral distress, Ethical climate, Compassion fatigue, Oncology nurses

Background

Oncology nurses play a crucial role in caring for cancer patients. Palliative care is the basis of nursing care for cancer patients. Nursing care strengthens patient communication, empowers self-care, and enhances relationships with family and caregivers [1].

Oncology nurses face various ethical dilemmas while caring for these patients. Nurses routinely encounter situations in clinical practice that challenge their personal

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and professional moral values [2]. Oncology nurses encounter ethical dilemmas when carrying out invasive and painful procedures or deciding whether to disclose the truth to patients or their family members [3]. Common challenges include fostering psychological safety, upholding dignity, and expanding family support [4].

Jameton states that moral distress arises from the inability to pursue the morally right action due to institutional limitations [5]. Nurses experience moral distress when their decisions or actions at work conflict with their personal beliefs, causing them to respond inappropriately to morally distressing situations or feel unsure about what is ethically correct [6]. Nurses experiencing moral distress are at risk of work-related stress like burnout, compassion fatigue, and secondary traumatic stress syndrome [7, 8].

Oncology nurses regularly observe patients enduring nonbeneficial treatments, specifically end-of-life cancer therapies. Patients with a poor prognosis often receive aggressive cancer treatments from these nurses, which can cause life-threatening outcomes. Research has found that oncology nurses face more significant moral distress than nurses in non-oncologic settings and other healthcare professionals [9–11].

Lack of management support, increased workloads, and limited resources in healthcare institutions, coupled with staffing shortages and rising patient awareness, threaten the ability of oncology nurses to deliver compassionate care. Because of constant exposure to human suffering and the pressure to provide high-quality care, oncology nurses are at high risk of developing compassion fatigue and burnout [12]. Research has proven that compassion fatigue and burnout are frequently reported by nurses as work-related consequences [13].

The ethical climate (EC) is a subset of organizational climate that reflects the moral implications of organizational practices and policies [14]. It influences how nurses respond to ethical challenges, and its effect on nurses and patient care has been a focal point of interest. Nurses face multiple ethical dilemmas while providing patient care in stressful settings. Taking care of cancer patients adds complexity and difficulty to these issues for nurses. In this context, nursing professionals are confronted with pain and death. Further ethical challenges arise when deciding to interrupt treatment, extending life without considering its quality, or caring for young individuals with a poor prognosis [15, 16]. A positive EC within the organization is seen as pivotal as it is linked to nurses' job satisfaction, moral distress, overall well-being, and quality of care provided [17, 18].

Although extant research has investigated the correlation between ethical climate and moral distress, the relationship between ethical climate and compassion fatigue requires further investigation, especially among oncology nurses. Beyond investigating this under-researched relationship, this study explored the role of moral distress as a potential mediator, enriching our understanding of its complexities. So, this study investigates moral distress, ethical climate, and compassion fatigue among oncology nurses.

Methods

Study design

In this descriptive-correlational study, 122 nurses working in oncology wards were selected from six hospitals (Imam Khomeini, Imam Hossein, Ayatollah Taleghani, Shariati, Rasoul Akram, and Shohadaye Tajrish) affiliated with Tehran, Shahid Beheshti, and Iran University of Medical Sciences in Tehran, Iran, from October 2023 to March 2024 to clarify the correlation between moral distress, ethical climate, and compassion fatigue in oncology nurses. The convenience sampling method was utilized.

Recruitment

The criteria for inclusion involved nurses who held a bachelor's degree or higher and were actively employed on a full-time basis in a clinical setting. Applicants had to have at least one year of nursing experience in oncology wards (time to gain a sufficient understanding of the workplace environment) and express their readiness to participate in the study. Participants were excluded if they demonstrated a refusal to continue their cooperation in the research or if they left questionnaires incomplete. To mitigate participant dropout, questionnaires were meticulously designed for optimal respondent experience, and participants were encouraged to complete them in their entirety. Following approval from the Ethics Research Center of Shahid Beheshti University of Medical Sciences, the researcher delivered the introduction letter to the hospitals where the study was planned to be implemented. Under hospital management's coordination and consent, the researcher visited nurses during different shifts (morning, evening, and night) and distributed the questionnaire among them. The completed questionnaires were collected in the next shifts. The researcher provided comprehensive explanations regarding questionnaire completion, emphasizing that participants should complete it only once. The questionnaires were distributed in a certain number and then received in the same number.

Data collection

The study data were collected using a demographic information form, Corley's Moral Distress Questionnaire, Revised Victor and Cullen's Ethical Climate Questionnaire, and the Professional Quality of Life (ProQOL)

questionnaire. The demographic information form included age, sex, marital status, work experience, education level, average number of monthly shifts, and financial situation. This form was designed after reviewing the literature and using experts' opinions.

Corley's moral distress questionnaire

This questionnaire was designed by Corley in 1995 and was revised in 2001. The questionnaire comprised 36 questions categorized into three domains: ignoring the patient, decision-making ability, and professional-functional competence. The items could be responded to through a seven-point Likert scale, with six representing the highest level of moral distress and zero showing the absence of moral distress [19]. Thus, the minimum and maximum scores of the questionnaire were 0 and 216, respectively. Accordingly, scores 0-72, 73-144, and 145-216 indicated low, moderate, and severe moral distress, respectively. Corley et al. measured this questionnaire's validity and reliability, revealing Cronbach's alpha = 0.90 [20]. This questionnaire was also evaluated by Motevallian et al. in Iran [21]. Its reliability was also measured by Beikrmoradi et al., indicating Cronbach's alpha = 0:93, and its validity was approved [22]. In our study, the reliability of this tool was at a very satisfactory level (Cronbach's alpha =0.98).

Revised Victor and Cullen's ECQuestionnaire (RECQ)

This questionnaire consists of 12 items and focuses on three essential EC criteria. Hedonism or egoism (4 questions), utilitarianism or benevolence (4 questions), and deontology or principled (4 questions) were among the dimensions of this questionnaire. Questions 2, 4, 9, and 12 were specifically designed to explore the egoistic EC of the work environment. Questions 1, 6, 8, and 11 measured the work environment's benevolent ethical climate, and questions 3, 5, 7, and 10 evaluated the principled EC of the work environment. The questionnaire was scored based on a seven-point Likert scale (strongly disagree, disagree, slightly disagree, have no opinion, slightly agree, agree, and entirely agree scored 1–7, respectively). Thus, each person's minimum possible score was 12, and the maximum was 84 [23]. Regarding the EC dimensions, the average score for each person's response ranged from 4 to 28. A higher score reflects a more pronounced ethical climate. The content validity of Victor and Cullen's EC Questionnaire was confirmed in a study using the opinions of 10 faculty members who specialized in ethics, and its reliability was calculated using Cronbach's alpha coefficient of 0.85 [23]. The instrument's reliability was assessed using Cronbach's alpha, yielding a coefficient of 0.6 in our study.

Professional quality of life questionnaire

The ProQOL questionnaire assessed the degree of physicians' and nurses' fatigue, burnout, and job satisfaction. Figley developed this questionnaire in the mid-1900s to determine the extent of fatigue from compassion and job stress [24]. The initial version of this questionnaire consisted of 66 items that were reduced to 30. This questionnaire consists of three subscales: compassion satisfaction (10 items), compassion fatigue (10 items), and Secondary traumatic stress (10 items). The questionnaire was scored on a six-point Likert scale from 1 (never) to 5 (always) [25]. The scores obtained from each subscale were within the range of 10–50. Subscale scores are calculated by adding individual item responses within each subscale (compassion fatigue, Secondary traumatic stress, and compassion satisfaction). The compassion fatigue subscale was specifically used in this research. A subscale total score of >28 was low, 27-9 average, and < 8 was considered high. Thus, with an increase in the average score of this subscale, participants perceive compassion fatigue as lower. The questionnaire's content validity has been calculated, confirmed, and reported to be 87%, and its reliability has been calculated using Cronbach's alpha and confirmed to be 80% [26]. An acceptable Cronbach's alpha value of 0.89 was determined in our study.

Ethical considerations

The research objectives were explained to the participants after obtaining approval from the Ethics Research Center of Shahid Beheshti University of Medical Sciences and getting an introduction letter to enter hospitals to make the necessary arrangements. Informed written consent was obtained, and they were also assured of the confidentiality of their information. To maintain confidentiality, participants were told they did not need to reveal personal information like their name, last name, or any other identifying details. Additionally, they were informed about responding to the questionnaires and the voluntary nature of the study. Also, the data will be maintained and stored only by the corresponding author to make it available to researchers for non-commercial use in research work if necessary and upon request.

Data analysis

Descriptive statistics were employed to analyze the data, encompassing the mean and standard deviation for normal quantitative variables and the median and interquartile range for non-normal distributions of quantitative variables. The data normality was assessed through graphical (Q-Q plots, P-P plots, and histograms) and numerical techniques, along with implementing the Kolmogorov-Smirnov test. The report included

point estimation and interval estimation at a 95% confidence level to estimate the scores of variables. Spearman's non-parametric test was used because of the lack of normal data distribution. The correlation between primary outcomes and quantitative demographic variables was assessed using the Spearman correlation test. The relationship with two-mode qualitative demographic variables was examined using the Mann-Whitney U test, while the Kruskal-Wallis H test was employed for multimode qualitative variables. The analysis mentioned above was executed using SPSS version 27, with a significance level of 5% being considered.

The data was also analyzed using path analysis. The research focused on analyzing and reporting the associations between the dimensions of ethical climate, moral distress, and compassion fatigue while also accounting for the adjustment of age and gender. The path analyses were conducted using Stata 17 software. Model fit was evaluated using the comparative fit index (CFI), Tucker–Lewis's index (TLI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA). CFI, TLI, and NFI values greater than 0.90 [27] and RMSEA values <0.08 [28] were used as the cutoffs for acceptable fit.

Theoretical study model

The following hypotheses are proposed based on the arguments and literature search of researchers in this study (Figure 1).

H1: There is a positive relationship between egoistic EC and moral distress.
H2: A negative relationship exists between benevolent and principled EC and moral distress.
H3: There is a positive relationship between egoistic EC and compassion fatigue.
H4: A negative relationship exists between benevolent and principled EC and compassion fatigue.
H5: There is a positive relationship between moral distress and compassion fatigue.

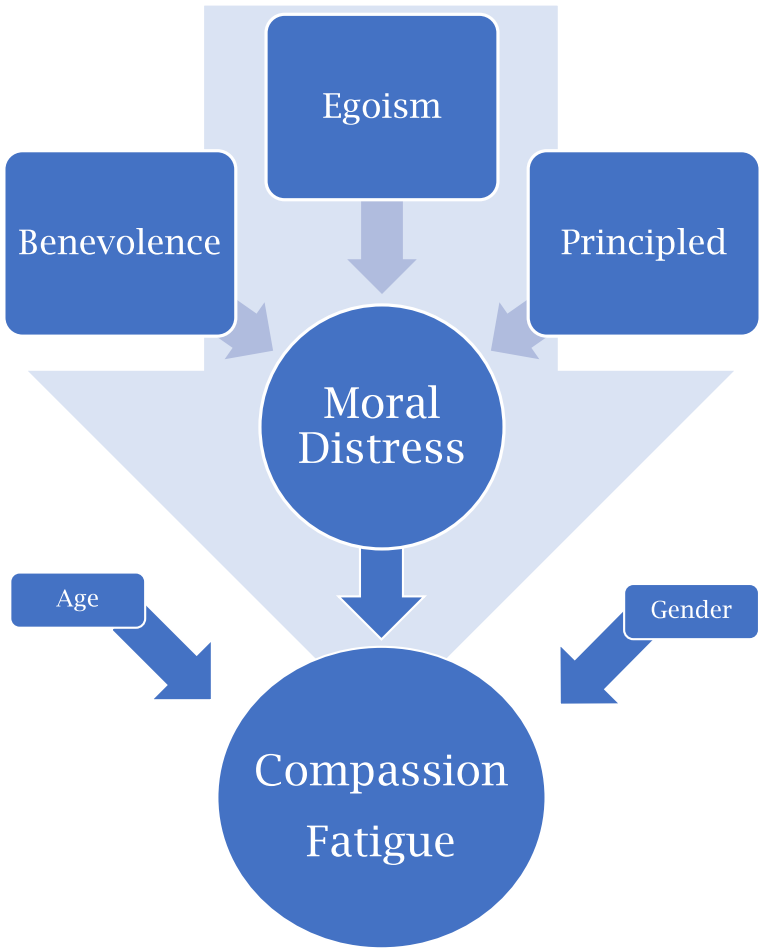

Fig 1 Theoretical model

H6a: Moral distress mediates the relationship between egoistic EC and compassion fatigue.
H6b: Moral distress mediates the relationship between benevolent EC and compassion fatigue.
H6c: Moral distress mediates the relationship between principled EC and compassion fatigue.

Sample size

The sample size was determined using information from the pertinent article by Ventovara et al. [3]. The sample size was determined based on ascertaining the moral distress score. To achieve this aim, a sample size of 122 individuals was calculated based on an estimated error of 3% of the expected mean (0.09), a confidence level of 95%, and a standard deviation of 0.5. These calculations were also suitable for other objectives.

Results

Participants

One hundred twenty-two questionnaires were distributed to nurses, and all questionnaires were completed and returned. Thus, the study concluded with a final sample size of 122 participants.

Descriptive characteristics

The nurses' mean age and work experience were reported as 30.34 ± 4.18 and 4.56 ± 3.51 years, respectively. Most nurses (61.5%) were males, most (63.9%) were single, and 82.8% had a bachelor's degree in nursing. On average, the participants worked 27.20 ± 4.48 monthly shifts (Table 1).

Moral distress, ethical climate, and compassion fatigue

The overall moral distress, compassion fatigue, and EC mean scores were 125.54 ± 37.50, 31.50 ± 9.23, and 49.03 ± 7.94, respectively. The revised EC questionnaire's egoism, benevolence, and principled subscale scores were 15.48 ± 6.34, 17.31 ± 4.12, and 16.22 ± 3.52, respectively (Table 2).

Table 2 Descriptive statistics for major study variables

Questionnaire		Minimum	Maximum	Mean (SD)	Interquartile Range
CMD		55.00	189.00	125.54 (37.50)	69.50
CF		17.00	47.00	31.50 (9.23)	18.00
RECQ	**Egoism**	4.00	27.00	15.48 (6.34)	11.00
	Benevolence	9.00	26.00	17.31 (4.12)	6.00
	Principled	7.00	26.00	16.22 (3.52)	4.00
	Total	37.00	75.00	49.03 (7.94)	8.00

Table 1 The participating nurses' personal characteristics (*N*=122)

Variable				Frequency (%)
Gender, n (%)		Male		75 (61.5%)
		Female		47 (38.5%)
		Total		122 (100%)
Marital status, n (%)		Single		78 (63.9 %)
		Married		44 (36.1 %)
		Total		122 (100%)
Education level, n (%)		Bachelor degree		101 (82.8%)
		Master degree		19 (15.6%)
		Doctorate degree		2 (1.6%)
		Total		122 (100%)
Financial status, n (%)		Poor		8 (6.6%)
		Average		47 (38.5%)
		Good or excellent		67 (54.9%)
		Total		122 (100%)
Variable	N	Minimum	Maximum	Mean (SD)
Age	122	24.00	41.00	30.3443 (4.17939)
Work experience (Years)	122	1.00	16.00	4.5574 (3.51396)
Monthly shifts	122	15.00	38.00	27.2049 (4.48310)

Test of normality

The Kolmogorov–Smirnov test showed that the distribution of the scores of moral distress, ethical climate, and compassion fatigue was not normal (Table 3).

The correlation between moral distress, ethical climate, and compassion fatigue

The Spearman correlation test found a significant correlation between nurses' moral distress and compassion fatigue (r=.861, P=0.00). Also, moral distress was correlated to all subscales of the revised EC questionnaire (r=.220, P=0.015).

Despite this, no significant relationship was observed between compassion fatigue and the total EC score (r=.114, P=0.212). There was a significant association between the EC questionnaire's egoism, benevolence, and principled subscales and compassion fatigue (r=-.743, P=0.000, r=.527, P=0.000, r=.336, P=0.000, respectively). The detailed information on the statistical analysis is presented in Table 4.

Table 3 Tests of normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	*p*-value.
CMD		.120	122	.000	.935	122	.000
CF		.120	122	.000	.920	122	.000
RECQ	**Total**	.148	122	.000	.893	122	.000
	Egoism	.121	122	.000	.952	122	.000
	Benevolence	.109	122	.001	.966	122	.004
	Principled	.112	122	.001	.966	122	.004

[a] Lilliefors Significance Correction

Table 4 The correlation between moral distress, ethical climate, and compassion fatigue

Correlations								
				CMD	**CF**	**RECQ**		
						Total	**Egoism**	**Benevolence**	**Principled**
Spearman's rho	**CMD**		Correlation Coefficient	1.000	-.861**	.220*	.803**	-.479**	-.283**
			P-value. (2-tailed)	.	.000	.015	.000	.000	.002
			N	122	122	122	122	122	122
	CF		Correlation Coefficient	-.861**	1.000	-.114	-.743**	.527**	.336**
			P-value. (2-tailed)	.000	.	.212	.000	.000	.000
			N	122	122	122	122	122	122
	RECQ	**Total**	Correlation Coefficient	.220*	-.114	1.000	.521**	.477**	.479**
			P-value. (2-tailed)	.015	.212	.	.000	.000	.000
			N	122	122	122	122	122	122
		Egoism	Correlation Coefficient	.803**	-.743**	.521**	1.000	-.348**	-.247**
			P-value. (2-tailed)	.000	.000	.000	.	.000	.006
			N	122	122	122	122	122	122
		Benevolence	Correlation Coefficient	-.479**	.527**	.477**	-.348**	1.000	.618**
			P-value. (2-tailed)	.000	.000	.000	.000	.	.000
			N	122	122	122	122	122	122
		Principled	Correlation Coefficient	-.283**	.336**	.479**	-.247**	.618**	1.000
			P-value. (2-tailed)	.002	.000	.000	.006	.000	.
			N	122	122	122	122	122	122

** Correlation is *p*-valuenificant at the 0.01 level (2-tailed)

* Correlation is *p*-valuenificant at the 0.05 level (2-tailed)

The correlation between study variables and demographic characteristics (Tables 5, 6, and 7)

Moral distress

Table 5 shows significant differences between the mean moral distress score and the participants' demographic characteristics except for gender ($P = .489$).

Compassion fatigue

Regarding compassion fatigue, significant differences were found in all the participants' demographic characteristics except for gender ($P = .430$).

Ethical climate

Regarding ethical climate, egoism's EC was not significantly different between males and females (P=.107). However, a significant difference was observed in EC scores regarding other demographic variables. Regarding benevolence, there was a significant difference between scores regarding all demographic variables. There were significant differences between principled EC scores regarding the participants' demographic characteristics except for education level ($P = .175$).

The mediating roles of moral distress

In the analysis of the theoretical model, an adequate fit was obtained, Chi2/df = 4.07, CD = .74, TLI = .96, CFI = .99, SRMR = .02, and RMSEA = .08 (CI: 0.00–0.193).

Mediation model

The standardized coefficient, also known as the beta coefficient or beta weight, allows for comparison between coefficients. A more significant coefficient, in terms of absolute value, signifies a more significant impact of that variable on the dependent variable than other variables. The sign of the correlation provides the direction of the

Table 5 Correlation between study variables and two levels nominal qualitative demographic characteristics variables with Mann-Whitney U test

Gender							
	CMD	CF	RECQ				
			Total	Egoism	Benevolence		Principled
Mann-Whitney U	1631.000	1612.500	1700.500	1456.500	1358.500		1126.500
Wilcoxon W	4481.000	2740.500	2828.500	4306.500	2486.500		2254.500
Z	-.692	-.790	-.327	-1.612	-2.133		-3.363
Asymp. *P*-value. (2-tailed)	.489	.430	.744	.107	.033		.001
Marital status							
	CMD	CF	RECQ				
			Total	Egoism		Benevolence	Principled
Mann-Whitney U	1069.000	996.000	1564.000	895.000		1009.000	989.500
Wilcoxon W	4150.000	1986.000	4645.000	3976.000		1999.000	1979.500
Z	-3.450	-3.843	-.812	-4.384		-3.782	-3.893
Asymp. *P*-value. (2-tailed)	.001	.000	.417	.000		.000	.000

Table 6 Correlation between study variables and multi-levels nominal qualitative demographic characteristics variables with Kruskal Wallis Test

Education level						
	CMD	CF	RECQ			
			Total	Egoism	Benevolence	Principled
Kruskal-Wallis H	12.923	23.438	3.225	15.227	6.857	3.484
df	2	2	2	2	2	2
Asymp. *P*-value.	.002	.000	.199	.000	.032	.175
Financial status						
	CMD	CF	RECQ			
			Total	Egoism	Benevolence	Principled
Kruskal-Wallis H	45.654	48.851	8.553	39.837	32.538	10.850
df	2	2	2	2	2	2
Asymp. *P*-value.	.000	.000	.014	.000	.000	.004

Table 7 Correlation between study variables and quantitative demographic characteristics variables with Spearman's rho

Correlations												
				Age	Work experience	Monthly shifts	CMD	CF	RECQ			
									Total	Egoism	Benevolence	Principled
Spearman's rho	Age		Correlation Coefficient	1.000	.927**	.502**	.411**	-.448**	-.097	.403**	-.513**	-.464**
			Sig. (2-tailed)	.	.000	.000	.000	.000	.289	.000	.000	.000
			N	122	122	122	122	122	122	122	122	122
	Work experience		Correlation Coefficient	.927**	1.000	.475**	.430**	-.458**	-.062	.427**	-.517**	-.413**
			Sig. (2-tailed)	.000	.	.000	.000	.000	.500	.000	.000	.000
			N	122	122	122	122	122	122	122	122	122
	Monthly shifts		Correlation Coefficient	.502**	.475**	1.000	.621**	-.650**	-.082	.493**	-.527**	-.456**
			Sig. (2-tailed)	.000	.000	.	.000	.000	.369	.000	.000	.000
			N	122	122	122	122	122	122	122	122	122
	CMD		Correlation Coefficient	.411**	.430**	.621**	1.000	-.861**	.220*	.803**	-.479**	-.283**
			Sig. (2-tailed)	.000	.000	.000	.	.000	.015	.000	.000	.002
			N	122	122	122	122	122	122	122	122	122
	CF		Correlation Coefficient	-.448**	-.458**	-.650**	-.861**	1.000	-.114	-.743**	.527**	.336**
			Sig. (2-tailed)	.000	.000	.000	.000	.	.212	.000	.000	.000
			N	122	122	122	122	122	122	122	122	122
	RECQ	Total	Correlation Coefficient	-.097	-.062	-.082	.220*	-.114	1.000	.521**	.477**	.479**
			Sig. (2-tailed)	.289	.500	.369	.015	.212	.	.000	.000	.000
			N	122	122	122	122	122	122	122	122	122
		Egoism	Correlation Coefficient	.403**	.427**	.493**	.803**	-.743**	.521**	1.000	-.348**	-.247**
			Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.	.000	.006
			N	122	122	122	122	122	122	122	122	122
		Benevolence	Correlation Coefficient	-.513**	-.517**	-.527**	-.479**	.527**	.477**	-.348**	1.000	.618**
			Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.	.000
			N	122	122	122	122	122	122	122	122	122
		Principled	Correlation Coefficient	-.464**	-.413**	-.456**	-.283**	.336**	.479**	-.247**	.618**	1.000
			Sig. (2-tailed)	.000	.000	.000	.002	.000	.000	.006	.000	.
			N	122	122	122	122	122	122	122	122	122

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

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

relationship. The sign indicates whether the two variables are positively or negatively related.

Results showed that when egoistic EC increases by 1 unit, moral distress score increases by 4.22 units. It was statistically significant (p <.001). If Benevolent EC increases by 1 unit, CMD decreases by 2.98 units. This was statistically significant, too (p <.001). The complete results of the analysis are presented in Table 8.

The analysis showed that among the dimensions of EC (including egoism and benevolence and principled climate), egoism directly and indirectly and benevolence indirectly (through moral distress) were significantly related to compassion fatigue. Also, the total effect of egoism and benevolence on compassion fatigue was significant, but the principled EC did not show any direct or indirect impact. The impact of moral distress on compassion fatigue was also substantial, as an increase in the moral distress score decreases the compassion fatigue score by 0.16 points (p-value<.001) (Figure 2).

Discussion

Moral distress among oncology nurses

According to the findings of our study, the moral distress experienced by oncology nurses was at a moderate

Table 8 Maximum likelihood estimates of the final model

Path	Effect Type	Estimate	Std. Estimate	Z score	P.
MD < Egoism EC	Direct	4.22	.71	14.19	<.001
MD < Benevolent EC	Direct	-2.98	-.32	-5.26	<.001
MD < Principled EC	Direct	.80	.07	1.25	.21
CF < CMD	Direct	-.16	-.67	-8.29	<.001
CF < Egoism EC	Direct	-.22	-.15	-2.06	.03
CF < Benevolent EC	Direct	.16	.07	1.15	.24
CF < Principled EC	Direct	.05	.02	.35	.72
CF < Egoism EC	Indirect	-.69	-.48	-7.16	<.001
CF < Benevolent EC	Indirect	.49	.22	4.44	<.001
CF < Principled EC	Indirect	-.13	-.05	-1.24	.21
CF < Egoism EC	Total	-.92	-.63	-10.98	<.001
CF < Benevolent EC	Total	.65	.29	4.15	<.001
CF < Principled EC	Total	-.08	-.03	-.45	.64
CF < Age	Direct	-.17	-.08	-1.53	.12
CF < Gender (Male/Female)	Direct	-.25	-.01	-.03	.76

Estimate = Estimate of the regression weight (e.g., when Egoism EC goes up by 1, MD goes up by 4.22); Std. Estimate = estimate of the standardized regression weight (e.g., when Egoism EC goes up by 1 standard deviation, MD goes up by .71 standard deviations); *P* = level of significance for regression weight; *CF* Compassion Fatigue, *EC* Ethical climate, *MD* Moral Distress

*** $P < 0.001$

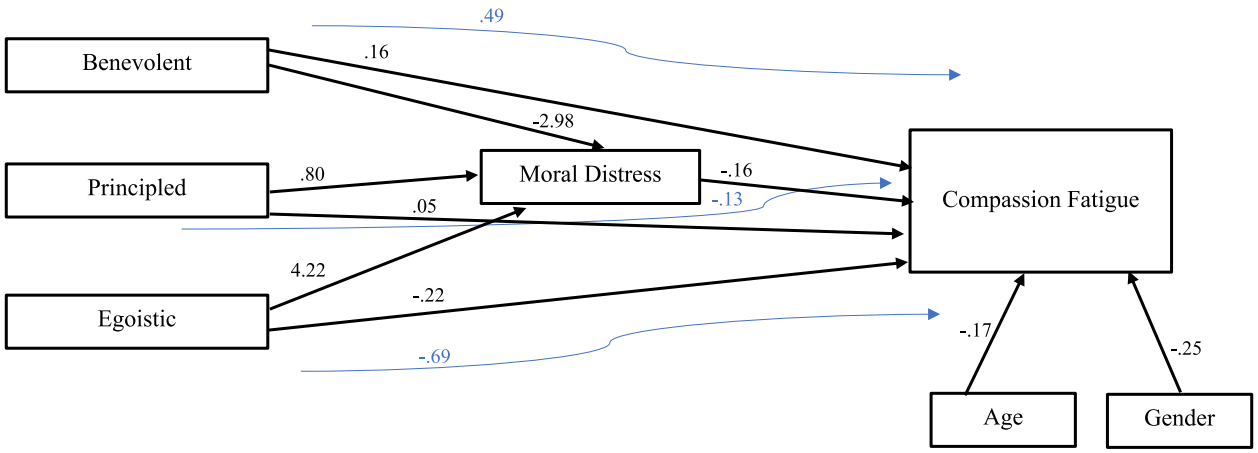

Fig 2 Result of the explanatory structural model

level. The incidence and severity of moral distress among nurses vary according to the results of studies conducted in different hospital wards and geographical areas. However, moral distress tends to be more prevalent in developing countries than in developed countries [29]. As previously stated, the level of moral distress experienced by nurses varies across different wards of the hospital. Several factors contribute to the complexity of this matter. Moral distress is more severe among intensive care unit nurses and oncology nurses. The primary cause of moral distress experienced by these nurses is the management of issues, particularly those arising during end-of-life care for patients [30, 31]. A systematic review study examining oncology nurses revealed that nurses encountered a low to moderate frequency of moral distress. Of course, the intensity of moral distress was estimated to be high. Our study yielded similar results to this study [32].

The findings from a qualitative research study revealed three primary themes of distressing causes: [1] a sense of powerlessness at various levels (patients/family, team, and organization), [2] concerns related to end-of-life issues, and [3] challenges in team function (including communication and collaboration issues, incompetence among healthcare providers, and inappropriate behavior of colleagues) [33]. All these factors may lead nurses to a position where they believe that "we can't be the nurse we want to be" [34].

Our study observed that variables including level of education, marital status, and financial status significantly influenced the moral distress experienced by oncology nurses. Moreover, it has been determined that there was a notable increase in the severity of moral distress among oncology nurses as they age, gain work experience, and take on more monthly shifts.

A study conducted in Iran revealed that the moral distress experienced by emergency nurses is moderately intense. Higher levels of moral distress were observed in individuals with characteristics such as female gender, less work experience, younger age, and higher education level [35]. Our study yielded similar results to this study regarding moral distress, although there were notable discrepancies in the various factors examined. Our study yielded similar results regarding moral distress levels to this study, although there were notable discrepancies in the multiple factors examined. The results of our research have shown that moral distress increases with increasing work experience. However, the results of the study mentioned above have shown that nurses experience more moral distress with lower work experience. This may pertain to the study domain, as our investigation specifically targeted oncology nurses.

Across all studies, there is a consistent finding of elevated levels of moral distress among oncology nurses. In addition to demographic factors, the lack of nursing staff, nurses with inadequate experience, insufficient support from organizations and colleagues, inadequate education and knowledge among nurses, lack of teamwork, and heavy workload are risk factors for moral distress [36, 37].

Perceived EC among oncology nurses

Recent studies indicated a correlation between a positive ethical climate and reduced moral distress [38, 39]. Prior research has also demonstrated a correlation between certain dimensions of ethical climate and professional quality of life [40]. Also, our study findings showed that the perceived EC in the oncology wards of the examined society was benevolence. Principled and egoism were the following priorities, respectively.

Considering that EC refers to individuals' overall perception of moral aspects within organizational functions and procedures. Given the variation in individual situations and working experiences, perceptions of EC may differ even within a hospital ward. However, this study presented an overview of the prevailing EC of oncology wards in Tehran.

In an environment characterized by benevolence, it is anticipated that individuals within the unit exhibit a genuine concern for the well-being of their colleagues, both within and beyond the organization. In this particular climate, there is a notable increase in sensitivity and a greater inclination among organizational members to offer support to one another. Consequently, a supportive environment can bolster the perception of organizational assistance, resulting in increased employee commitment [41]. Fortunately, the prevailing EC in the oncology wards of the hospitals being studied was benevolent. It can enhance group benefits, foster friendship and intimacy, strengthen relationships and social responsibility, and improve the performance of nurses [42, 43].

Principled climates encompass enforcing and comprehending regulations, legislations, and expectations within a social unit [41]. The primary focus of egoistic climates is to maximize one's self-interest. The presence of an egoistic climate in organizational environments should be viewed as a warning for officials and planners. This type of climate fosters a culture where personal gains are emphasized, and the primary objective is to achieve maximum personal benefits [44]. Although the hospitals examined did not have a prominent presence of an egoistic climate, it remains essential for politicians involved in hospital systems to continuously consider strategies for mitigating these perceptions within healthcare environments.

Furthermore, our study revealed a significant increase in the perception of an egoistic climate by nurses with advancing age, work experience, and the number of monthly shifts. Conversely, we observed a decline in principled and benevolent climates in older participants with more experience and a greater number of monthly shifts. Two comparable studies conducted in pediatric oncology settings revealed a positive EC perceived by nurses, aligning with the results of our research [3, 45].

Compassion fatigue among oncology nurses

Extensive research indicated a strong, positive relationship between compassion fatigue and moral distress [46, 47]. Based on our study's findings, oncology nurses' compassion fatigue was low. According to a systematic review and meta-analysis, the prevalence of compassion fatigue was found to be of moderate extent. Asian regions have experienced higher levels of compassion fatigue than European and American regions. Furthermore, there was a gradual increase in compassion fatigue among nurses from 2010 to 2019, ultimately reaching its peak in 2019. Amongst all nurses, it was observed that those in intensive care units displayed the most prominent symptoms of compassion fatigue, as revealed by a study. Oncology nurses reported less compassion fatigue [48]. Another study showed that the prevalence exhibits considerable variability, and its association with demographic, personal, and professional factors contributes to this variability [49]. As per a systematic review and meta-analysis, the occurrence of compassion fatigue among oncology nurses was recorded at 62.79% [50]. The level of compassion fatigue among oncology nurses was determined to be "moderate," with 22% of them experiencing a "high" risk of compassion fatigue [51]. Various factors would account for the minor disparities between this study and the studies highlighted in recent reviews. The context of the community in which the study was conducted can be a reason. A scoping review found that nurses' personal beliefs about the nursing care provided and the personality traits of psychological inflexibility, passive coping, workplace conflict, and an unhealthy work-life balance can contribute to compassion fatigue. These traits may be different across diverse communities [52].

Our study discovered that, aside from gender, various demographic factors significantly influence the mean score of compassion fatigue among oncology nurses. Age, work experience, and monthly shifts contribute to increased compassion fatigue. According to a recent meta-analysis, demographic variables (such as age, marital status, education history, health status, and gender), work-related variables (including job satisfaction, income satisfaction, years of work experience, professional position, and work environment), as well as other factors such as support, coping strategy, self-compassion, professional recognition, and psychological training, were found to affect nurses' compassion fatigue, significantly [51].

Mediation model

The results of path analysis showed that the predominance of egoistic EC significantly increases moral distress. On the other hand, the benevolence EC was related to reducing moral distress. The effect size demonstrated a considerably larger magnitude regarding egoistic climate. There is no significant correlation between the principled climate and moral distress.

Regarding compassion fatigue, the questionnaire employed reverse scoring, wherein lower scores signified higher levels of compassion fatigue. The study's results regarding direct effect showed that an egoistic EC was associated with a reduction in the average score of compassion fatigue, signifying a substantial increase in compassion fatigue among nurses. Concerning the direct influence of other ethical climate dimensions, no significant effect was observed on compassion fatigue.

As for the indirect path, an egoistic climate significantly increased compassion fatigue with the mediating effect of moral distress. However, the EC of benevolence was indirectly associated with a significant reduction in compassion fatigue. Regarding the magnitude of the impact, the indirect effect of an egoistic EC on compassion fatigue was more than twice that of a benevolent ethical climate.

Unlike the principled climate, the EC of benevolence and egoism had significantly affected compassion fatigue. Examining direct and indirect paths within each dimension of EC has yielded a significant finding. For instance, it has been determined that an egoistic EC substantially influenced nurses' compassion fatigue by intensifying moral distress instead of direct causation.

Implication in practice

The study findings showed that enhancing the EC is crucial for mitigating moral distress and decreasing compassion fatigue. Limited interventions have been examined for their efficacy in enhancing ethical climate. A recent study employed a 12-hour workshop intervention to improve ethical decision-making and interpersonal communication skills. The study recommends nursing managers arrange training workshops to foster positive EC among nurses [53]. The incorporation of these programs into both the continuing education of inpatient oncology nurses and the orientation of newly graduated nurses is advisable due to their effectiveness in lessening compassion fatigue through direct attention to ethical climate and moral distress.

In conclusion, clearly defined learning objectives are recommended for all healthcare professions and

continuing nursing sciences education to cultivate an ethically responsible and skilled healthcare workforce across all medical specialties, including oncology. It is imperative to acknowledge the substantial impact of religion, spirituality, and cultural frameworks on medical decision-making processes and the provision of long-term patient care [54]. All of these issues should be taken into consideration by policymakers.

Limitation

It is essential to acknowledge the limitations inherent in this study. Cross-sectional research designs present initial limitations in establishing causal relationships between variables. Self-reported data's susceptibility to subjective biases can negatively influence the accuracy and dependability of the study's conclusions. The study's limited sample size may affect the validity of specific statistical analyses and the generalizability of the results. Therefore, taking necessary precautions when generalizing the data to nurses other than oncology nurses is recommended. A convenience sampling method was used for participant recruitment; this approach is vulnerable to selection bias. Also, The complex interplay of variables underwent analysis, yet the inherent relationships may exhibit further complexities.

Conclusion

Based on the results of our study, it was concluded that oncology nurses experienced a moderate level of moral distress and a low level of compassion fatigue. Furthermore, the prevailing EC in the examined society's oncology wards was characterized by benevolence. An egoistic EC has been found to have direct and indirect effects on compassion fatigue, whereas a benevolent EC only indirectly affects compassion fatigue. Moral distress mediates the relationship between egoistic and benevolence EC and compassion fatigue. The results of our study suggest the need for a benevolent ethical climate to prevail, as well as the need to reduce nurses' moral distress through nurse empowerment programs to reduce their compassion fatigue and enhance their performance.

Abbreviations

EC Ethical Climate

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Authors' contributions

A. Zare-Kaseb contributed to the conception and design of the research; F. Borhani, A. Nazari, and A.Abbaszadeh contributed to the acquisition and analysis of the data; A. Nazari and A. Zare-Kaseb drafted the manuscript. F. Borhani and A.Abbaszadeh critically revised the manuscript. All authors agree to be fully accountable for ensuring the integrity and accuracy of the work and read and approve the final manuscript.

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Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was approved by the Medical Ethics and Law Research Center of Shahid Beheshti University of Medical Sciences (IR.SBMU.RETECH.REC.1402.231). Informed written consent was obtained, and they were also assured of the confidentiality of their information. Also, we confirm that all experiments were performed in accordance with relevant guidelines and regulations. Throughout the study, the ethical principles of the Declaration of Helsinki were followed.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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