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Investigating the relationship between moral courage and caregiving behaviours among nurses working in COVID-19 wards in Iran

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Abstract

Aim: To examine the correlation between moral courage and caregiving behaviour among nurses who are employed in the COVID-19 ward in Iran.

Design: This study is a descriptive-correlational and cross-sectional research conducted in 2021 in the city of Tehran, Iran.

Methods: A total of 270 nurses employed in COVID-19 wards, who had been working in these wards for at least 1 month, were recruited from XXX hospitals and XXX Hospital. Data collection was conducted from September to November 2021. The data collection tools included a demographic information form, the Caring Dimension Inventory (CDI-25), and the Professional Moral Courage Scale (PMC). The designed questionnaire links were provided to the participants virtually through the Persian platform 'Pars Line' and via WhatsApp. Descriptive statistics and inferential statistics were used to examine the relationship between moral courage and care behaviour.

Results: There was a significant difference in the mean of caring behaviour between the age groups (<30 and >40 years old), and the work experience groups (<5 years and >15 years) ($p < 0.05$). Ethical values also varied significantly between certain age and experience groups ($p < 0.05$), but no significant differences were found in ethical behaviour across most ages (30–40 years) and work experience categories (>10 years) ($p > 0.05$). The level of moral courage among the nurses was higher than the median score of the instrument (87.31 ± 10.37). Among the dimensions of moral courage, the highest score was related to the dimension of ethical factors (17.64 ± 2.64), and the lowest score was related to the dimension of multiple values (17.26 ± 2.78). The level of caring behaviours among the nurses was lower than the median score of the instrument (46.11 ± 10.84). Among the dimensions of caring behaviours, the highest score was related to physical-technical behaviours (19.22 ± 5.27), and the lowest score was related to professional behaviours (1.35 ± 0.67). Based on the analysis, moral courage had a weak and inverse correlation with caring behaviours among nurses. The higher

moral courage does not necessarily result in improved caregiving behaviours, emphasizing the need for further research to explore and address this relationship.

Patient: No Patient or Public Contribution.

KEYWORDS
care behaviours of nurses, COVID-19, moral courage

1 | INTRODUCTION

The global challenge posed by the coronavirus (COVID-19) pandemic has emerged as the foremost obstacle for health and economic systems across the globe (Al-Azzawi & AL-Eqabi, 2022). The escalation of novel infectious diseases and the emergence of dangerous viruses present a worldwide health concern (Alhamadani & Hassan, 2022), jeopardizing the safety of nurses and other healthcare professionals (Im et al., 2018). In contrast to other healthcare professions, nurses dedicate a greater amount of time to patients and bear the responsibility for direct patient care (Sadeghian et al., 2017). During the COVID-19 pandemic, it is apparent that clinical work, especially in the nursing profession, has faced difficulties concerning personal protection and safety. This situation has led to an increased risk of disease transmission among patients, their families and healthcare workers. Additionally, the inadequate availability of resources and a lack of prioritization in care have negatively impacted nurses, heightening work-related stress and jeopardizing patient safety (Morley et al., 2020). Studies exploring the importance of caring behaviours reveal that the understanding of caring is not consistent across different communities. Cultural variations can influence how caring behaviours are expressed, and organizational factors have the potential to alter these behaviours (Baljani et al., 2012). Disparities in nursing caring behaviours between institutions or across different countries have prompted nursing researchers to examine and analyse these behaviours (Salimi et al., 2012). Research focused on care and the implementation of its findings play a crucial role in enhancing and sustaining the quality of nursing care.

Moral courage is one of the greatest human virtues and is defined in literature as having the strength of heart when faced with difficulties. This characteristic enables individuals to overcome stressful situations, transform challenges into opportunities, and fosters the courage to think innovatively in caregiving, stand firm in upholding values, and adhere to ethical principles in order to take the right actions in defending patients' rights (Hunt, 2020; Khodaveisi et al., 2021). A person with moral courage challenges their current circumstances and consciously, with personal willpower, makes decisions based on what is in the best interest of others, despite the potential negative consequences, prioritizing the patient's well-being over their own and even the organization's interests. Conversely, the lack of moral courage leads to numerous problems, including moral distress, violation and infringement of patients' rights and interests, and even a decline in the quality of care provided by nurses (Konings

et al., 2022). Ultimately, moral resilience and moral courage were found to act as mediators between moral distress and moral injury, showcasing their significant impact on the process (Berdida, 2023).

Since the quality of nursing care for COVID-19 patients is a significant challenge, moral courage plays an important role in demonstrating ethical considerations in nurses and, ultimately, in the ability of nurses to provide care (Mohammadi et al., 2022). Moral courage plays a vital role in mitigating the impact of burnout and maintaining professional competence, thereby indirectly reducing compassion fatigue. This quality is especially pivotal for safeguarding the mental and emotional well-being of nurses, especially when they are working in high-stress environments (Alshammari & Alboliteeh, 2023). In this regard, Hajibabaee et al. (2022) found that during the pandemic, nurses' moral sensitivity was moderately and significantly associated with their caregiving behaviour. However, an other study showed that the relationship between moral distress and caregiving behaviour was not statistically significant (Talebian et al., 2021).

The complex and demanding nature of the nurses' work environment, coupled with the multiple ethical tensions and dilemmas that nurses experience in the face of this emerging disease, underscores the importance of understanding how moral courage influences the manifestation of caring behaviours in these professionals. The present study was conducted with the aim of 'investigating the relationship between moral courage and caregiving behavior among nurses working in the COVID-19 section in Iran.'

2 | METHODS

2.1 | Study design

This study is a descriptive-correlational and cross-sectional research conducted in 2021 in Tehran, Iran.

2.2 | Participants

A total of 270 eligible and employed nurses working in the COVID-19 wards of XXXX hospitals (affiliated with XXX University of Medical Sciences) and XXX Hospital (affiliated with XXX University of Medical Sciences) participated in this study. Furthermore, participants were inquired about their awareness of other nurses who shared similar experiences and might express willingness to participate. The survey continued until no further participants indicated

interest. To be eligible for inclusion in this study, individuals were required to express a willingness to participate and have a minimum of 1 month of work experience in the COVID-19 department. Individuals who did not complete the online questionnaires or did not want to participate were excluded from the study. To determine the sample size at a confidence level of 95% and a test power of 80%, assuming a correlation coefficient of 0.25 between caring behaviour and moral courage to establish statistical significance between the two variables, the initial sample size was calculated to be 258 individuals. Considering a 5% dropout probability and to increase the study power, the final sample size of 270 participants was chosen. This calculation was based on the study by Cui et al., 2020, using the following formula (Cui et al., 2020).

$$n = \frac{(Z_{1-\alpha/2} + Z_{1-\beta})^2}{w^2} + 3$$

$$w = \frac{1}{2}\ln\frac{1+r}{1-r}$$

$$n = \frac{(1/96 + 0/84)^2}{(0/2)^2} + 3 = 198$$

2.3 | Research tools

The data collection tools included a demographic information form, the Professional Moral Courage Scale (PMC), and the Caring Dimension Inventory (CDI-25). Demographic Information Form: This form included variables such as age, gender, marital status, work experience and education level, economic status, place of residence, underlying diseases, and experience of living with vulnerable individuals.

The Professional Moral Courage Questionnaire (PMC). This questionnaire was developed by Sekerka et al. in 2009. It consists of 15 items on a 7-point Likert scale ranging from 1 (never true) to 7 (always true) that assesses moral courage in five dimensions: ethical actor (items 1–3), multiple values (items 4–6), threat tolerance (items 7–9), disobedience (items 10–12) and ethical goals (items 13–15). To calculate the score for each dimension, the scores for each set of three items are summed and divided by 3. To calculate the overall score, the scores for all 15 items are summed and divided by 15. Therefore, the minimum score for each dimension is 3, and the maximum score is 21. The minimum overall score is 15, and the maximum is 105. Higher scores indicate higher levels of moral courage (Sekerka et al., 2009).

The Caring Dimension Inventory (CDI-25): This questionnaire was developed by Watson and Lee in 1977 and consists of 25 items. The purpose of this questionnaire is to assess the various dimensions of caregiver behaviours, including physical-technical behaviours (questions 1, 2, 5, 8, 9, 12, 14, 15, 18, 20 and 25), psychological-social behaviours (questions 4, 7, 10, 11, 13, 17, 19, 21, 23 and 24), professional behaviours (question 6) and non-essential behaviours (question 22). The questions are scored on a 5-point Likert scale (completely agree (5), agree (4), neutral (3), disagree (2) and completely disagree (1)), and questions 3 and 16 have reverse scoring. The score range is between 25 and 125, and obtaining higher scores

indicates desirable levels of caregiver behaviour. The reliability of the Caring Dimension Inventory was calculated using Cronbach's alpha as 0.97 in Watson's (1997) study and 0.86 using factor analysis in Salimi's study (Salimi et al., 2014; Watson & Lea, 1997).

In the present study, the content validity of the questionnaires was approved by three members of the nursing and midwifery faculty at XXX University of Medical Sciences. Cronbach's alpha coefficient was used to measure the internal consistency of the questionnaires. The questionnaires were completed by 25 nurses working in COVID-19 wards who were not part of the study sample but had similar characteristics. Using statistical tests, the Cronbach's alpha coefficient was found to be 0.85 for the Care Behavior Questionnaire (Physical-Technical Behaviours 0.90, Psycho-Social Behaviours 0.78, Professional Behaviours 0.93 and Non-Essential Behaviours 0.80) and 0.76 for the Moral courage Questionnaire (Moral Agents 0.86, Multiple Values 0.73, Tolerance for Threat 0.76, Defiance of Unjust Authority 0.86 and Moral Goals 0.78). Hence, the questionnaire assessing nurses' caring behaviours demonstrated excellent reliability.

2.4 | Data collection

After obtaining Research Ethics Committee approval and receiving a letter of introduction from the Research and Technology Deputy, and upon obtaining the consent and approval of hospital officials for conducting the research, a brief orientation session was held with the nurses in the selected wards to explain the study objectives and the voluntary nature of their participation. Emphasis was placed on maintaining the confidentiality of information and using it solely for research purposes. Participants are nurses who must have at least 1 month of experience working in a COVID-19 ward to be eligible for the study. Nurses who did not work in the COVID-19 ward were excluded from the study. Due to restrictions related to in-person sampling and the risk of COVID-19 contamination, a list of eligible nurses was compiled according to the specified criteria. The questionnaire links were then distributed to them electronically through the Persian platform 'Pars Line' and WhatsApp to ensure their participation. Data collection was conducted from September to November 2021 (3 months).

It is worth mentioning that the questionnaire completion guidelines and the researcher's contact number for answering potential participants' questions were available at the beginning of the questionnaire links. In order to maintain ethical standards in research and avoid interfering with patient care schedules, and due to the difficulty of the work and heavy shifts during the epidemic period, no specific time limit was set for completing the questionnaires. To clarify the number of samples from each hospital, the researcher created five separate links to access the questionnaires, each of which was made available to COVID-19 ward nurses in the respective hospitals. An informed consent form was also included at the beginning of the link, and nurses were able to answer the questions after reading and agreeing to participate in the study. To clarify the

number of samples from each hospital, the researcher created five separate links to access the questionnaires, each of which was made available to COVID-19 ward nurses in the respective hospitals. The researchers secured the required permits from the educational vice-chancellor of the faculty to access the university's teaching hospitals with a designated COVID-19 department. They collaborated with the educational vice-chancellor and the nursing director of the hospitals in question to facilitate the collection of information. The participation of nurses in the study from the chosen hospitals varied based on their willingness and consent. When nurses did not complete the questionnaire, they were substituted with another participant. Considering the number of nurses employed in the COVID-19 ward, 140 nurses from XXX Hospital, 50 nurses from XXX Hospital, XXX nurses from XXX Hospital, 12 nurses from XXX Hospital, and eight nurses from XXX Hospital participated in the present study, and there was no sample dropout. The approximate time to complete the questionnaires was 11 min.

2.5 | Analysis

In this study, we used SPSS software version 16 for data analysis. Descriptive statistics such as minimum, maximum, mean, and standard deviation were initially computed to provide a basic understanding of the data. This step was crucial for identifying our dataset's overall trends and variability, laying the groundwork for further analysis. Further, we used inferential statistics to explore deeper relationships. This included independent t-tests for comparing means between two groups and one-way ANOVA for more than two groups, the Chi-square test for examining associations in categorical data, and the Pearson correlation test to assess the relationship between moral courage and care behaviour. Throughout the analysis, a significance level of less than 0.05 was maintained.

2.6 | Ethical considerations

In this study, ethical integrity was crucial. Participants were informed about the study's objectives, their anonymity, and the voluntary nature of their participation before participation, with clear online instructions ensuring informed consent. The study received approval from the Research Ethics Committee of XXX University of Medical Sciences (code: XXX), which affirmed the study's compliance with ethical standards. Emphasis was placed on maintaining participant confidentiality, with all data being anonymized and securely stored.

3 | RESULTS

In this study, 270 nurses participated, and 121 (44.8%) of them were under 30 years old. Also, 221 (81.9%) of the participants were

TABLE 1 Demographic characteristics of nurses.

Demographic information	Frequency	Percentage
1 Age (years)		
<30	122	44.8
30–39	96	35.6
>40	52	19.3
2 Gender		
Male	49	18.1
Female	221	81.9
3 Education		
Bachelor's degree	242	89.6
Master's degree	28	10.4
4 Work experience in the hospital (years)		
<5	113	41.9
05-Oct	67	24.8
Oct-15	38	14.1
>15	52	19.3
5 Marital statuses		
Single	122	45.2
Married	148	54.8
6 Experience living with vulnerable individuals		
Not applicable	58	21.5
Children	97	35.9
Elderly	71	26.3
Patients with rare diseases	44	16.3
7 Economic statuses		
Good	52	19.3
Average	205	75.9
Poor	13	4.8
8 Residential statuses		
Personal	151	55.9
Rental	119	44.1
9 Underlying medical conditions		
I have	39	14.4
I don't have	231	85.6

female, 242 (89.6%) had a bachelor's degree, 113 (41.9%) had less than 5 years of work experience and 148 (54.8%) were married (Table 1).

The mean and standard deviation of the nurses' caring behaviour is 46.11 ± 10.84, which is lower than the median score of the instrument (Kirca & Bademli, 2019). Among the dimensions of caring behaviour, the highest score was related to the dimension of physical-technical behaviours with a mean of 19.22 and the lowest score was related to the dimension of professional behaviour with a mean of 1.35 (Table 2).

The mean and standard deviation of nurses' moral courage is 78.31 ± 1.73, which is higher than the median score of the instrument

TABLE 2 Numerical indices of the caregiving behaviour of nurses.

Nursing surveillance behavior and its dimensions	Frequency	Percentage	Mean ± SD
Physical-technical behaviors (11–55)	212	78.5	**19.22 ± 5.27**[a]
Inappropriate behaviors (2–10)	4	1.5	3.56 ± 1.29
Psychosocial-social behaviors (10–50)	54	20	17.44 ± 4.86
Professional behavior (1–5)	0	0	1.35 ± 0.67
Non-essential behavior (1–5)	0	0	1.64 ± 0.**70**
Care behavior (125–25)	270	100	**46.11 ± 10.84**

Note:: The bold values signify important results where physical-technical behaviors scored higher than the other caregiving dimensions, indicating that nurses in COVID-19 wards focused more on technical aspects of care.

[a]scored higher than the other caregiving dimensions

TABLE 3 Moral courage numeric indices of nurses.

Nurses' moral courage and its dimensions	Min	Max	Mean ± SD
Ethical factors (3–21)	9	21	**17.78 ± 2.54**[a]
Multiple values (3–21)	8	21	17.26 ± 2.78
Tolerance of threats (3–21)	9	21	17.27 ± 2.86
Going beyond compliance (3–21)	10	21	17.35 ± 2.57
Ethical goals (3–21)	9	21	17.64 ± 2.64
Moral courage (15–105)	60	105	**87.31 ± 10.37**

Note:: The bold values indicate that the ethical factors dimension received the highest scores and the overall score of moral courage was significant, reflecting a high level of moral courage among the nurses.
[a]the highest scores among various dimention of moral courage

(Mizuno et al., 2005). Among the dimensions of moral courage, the highest score was related to the dimension of moral agents, with a mean of 17.78, and the lowest score was related to the dimension of multiple values, with a mean of 17.26 (Table 3).

There was a significant weak negative correlation ($r = -0.392$, $p = 0.001$) between the moral courage of nurses and their caring behaviour. The correlation between the dimensions of moral courage and the dimensions of the caring behaviour of nurses is provided in the attached appendix table (Table 4).

There was a significant difference in the mean of caring behaviour between the age groups (less than 30 years old and over 40 years old) ($p < 0.05$). There was also a significant difference in the mean of caring behaviour between the work experience groups (less than 5 years and over 15 years) ($p < 0.05$). However, the mean of ethical behaviour did not show a significant difference in other variable age and hospital work experience groups ($p > 0.05$) (Table 5).

The mean ethical values had a significant difference in age groups (less than 30 years—30 to 39 years and less than 30 years—over 40 years) ($p < 0.05$). The mean ethical values had a significant difference in the work experience groups less than 5 years—5 to 10 years ($p < 0.05$). However, the mean ethical values had no significant difference in other variable groups of age and work experience in the hospital ($p > 0.05$) (Table 6).

4 | DISCUSSION

This study was conducted with the aim of 'Investigating the relationship between moral courage and caring behaviors among nurses working in COVID-19 wards in Iran.' The findings of this study indicated a significant, inverse correlation between moral courage and the caring behaviour of nurses. No previous study specifically reported the correlation between the caring behaviour of nurses and moral courage. However, the results of the study by Khodaveisi et al. (2021) indicated a strong and direct correlation between the moral courage of participants and safe nursing care (Khodaveisi et al., 2021), while Hajibabaee et al. (2022) found a positive correlation between overall ethical sensitivity score and caring behaviour and its dimensions (Hajibabaee et al., 2022). The connection between moral courage and caring behaviours is intricate and multifaceted. In times of crisis, such as the COVID-19 pandemic, various elements can shape human behaviour and social interactions. Stress, fear, uncertainty, and the economic hardships stemming from the pandemic can affect people's emotional well-being and ability to exhibit caring behaviours. It is crucial to recognize that numerous factors beyond specific events like a pandemic influence this relationship.

The psychological toll of witnessing the suffering and death associated with COVID-19 can impact nurses' emotional well-being and resilience (Boyden & Brisbois, 2023). Constant exposure to traumatic situations without adequate support systems may lead to compassion fatigue and burnout, diminishing the capacity for caring behaviour (Lee et al., 2021). Furthermore, the systemic issues within healthcare systems, such as understaffing, insufficient resources, and inadequate training, have exacerbated the challenges faced by nurses during the pandemic (Andel et al., 2022). These structural deficiencies can hinder nurses' ability to provide optimal care, deteriorating their caring behaviour.

In this study, the score of moral courage among nurses was higher than the median score of the instrument, indicating a high level of moral courage among nurses caring for COVID-19 patients. Consistent with the findings of this study, other studies have shown that nurses, especially those working in infectious and critical care units, reported high levels of moral courage (Khodaveisi et al., 2021; Mohammadi, Masoumi, et al., 2022; Mohammadi,

TABLE 4 The correlation between moral courage and care behaviours in nurses.

Care behavior/Moral courage and its dimensions	Physical-technical behaviors	Inappropriate behaviors	Psychosocial-social behaviors	Professional behavior	Non-essential behavior	Nurses caring behavior
1 Ethical factor						
r	−0.350	−0.212	−0.357	−0.200	−0.290	−0.362
P	0.001	0.001	0.001	0.001	0.001	0.001
2 Multiple values						
r	−0.259	−0.121	−0.296	−0.7	−0.233	−0.29
P	0.001	0.049	0.001	0.251	0.001	0.001
3 Tolerance of threats						
r	−0.262	−0.109	−0.277	−0.065	−0.178	−0.279
P	0.001	0.75	0.001	0.287	0.003	0.001
4 Going beyond compliance						
r	−0.327	−0.092	−0.319	−0.1	−0.223	−0.323
P	0.001	0.131	0.001	0.102	0.001	0.001
5 Ethical goals						
r	−0.322	−0.144	−0.288	−0.106	−0.258	−0.322
P	0.001	0.018	0.001	0/081	0.001	0.001
6 Nurses' moral courage						
r	−0.378	−0.168	−0.383	−0.133	−0.294	−0.392
P	0.001	0.006	0.001	0.029	0.001	0.001

Tehranineshat, et al., 2022). In critical situations like the COVID-19 pandemic, nurses' sense of duty and professional commitment lead to a higher level of moral courage. Furthermore, the care and strong interaction with patients contribute to nurses demonstrating more moral courage and compassion when facing severe illnesses like COVID-19. However, Aminizadeh et al. (2017) reported that the moral courage of Iranian nurses in special care units is at a moderate level (Aminizadeh et al., 2017). This difference may be due to different cultural and organizational backgrounds, compliance with administrative hierarchy, legal consequences such as paying compensation to patients, and individual characteristics of nurses such as motivation, attitude towards care, religious beliefs, and values.

The analysis of the factors identified in the moral courage questionnaire revealed that the highest mean was related to the dimension of ethical factors, and the lowest mean was related to the dimension of multiple values. Consistent with these findings, Namadi et al. (2019) found that the highest mean was related to the dimension of ethical factors and the lowest mean was related to the dimension of multiple values (Namadi et al., 2019). Considering that moral courage is an individual factor that adheres to ethical principles and values in one's behaviour and actively strives to perform tasks in a correctly, virtuously and ethically , this finding can be a valuable characteristic for healthcare organizations. It means that nurses, as ethical agents, have the readiness and ability to address ethical issues and can appropriately and timely act on what they know to be correct. However, in the study by Moosavi et al. (2017), the highest mean was related to the

dimension of ethical factors, and the lowest mean was related to the dimension of tolerance for threat. They attributed this finding to the fear of colleagues' reactions, the importance of job security, and personal characteristics, including tolerance for adverse conditions (Moosavi et al., 2017).

The results of the study showed that the care behaviour score indicated an undesirable level of care behaviour among nurses working in the COVID-19 ward. Moreover, in line with this, Kibret et al. (2022) stated in their study that nearly half of the nurses had an undesirable level of care behaviour in the hospitalized wards of Ethiopian government hospitals (Kibret et al., 2022). In explaining these findings, it can be said that in the present study, the undesirable status of care behaviour in nurses who were caring for COVID-19 patients was due to the occurrence of this disease and the conditions of the country's hospitals with high workload and non-standard number of nurses compared to the number of patients. However, the Asadi et al. (2020) study indicated the desirable level of care behaviours in nursing staff working in COVID-19 wards, and nurses provided nursing care to patients in the best possible way despite the critical and dangerous situation (Asadi et al., 2020). This difference can be attributed to the differences in sample size and the time of conducting the study. Furthermore, differences may arise due to changes in the study tool used to measure the care behaviour dimension.

None of the dimensions of nurses' caring behaviours,were at the desirable level. To clarify, the highest dimension of nurses' caring behaviour was related to physical-technical behaviours, followed by psychological-social behaviours. This study is consistent

TABLE 5 Numerical indices of care behaviours of nurses by demographic characteristics.

Demographic information	n	p	t	df
1 Age (years)				
<30	122	0.024[a]		
30–39	96			
>40	52			
2 Gender				
Male	49	0.409	0.826	268
Female	221			
3 Education				
Bachelor's degree	242	0.252	1.147	268
Master's degree	28			
4 Work experience in the hospital (years)				
<5	113	0.010[a]		
5–10	67			
10–15	38			
>15	52			
5 Marital statuses				
Single	122	0.578	0.558	268
Married	148			
6 Experience living with vulnerable individuals				
Not applicable	58	0.81		
Children	97			
Elderly	71			
Patients with rare diseases	44			
7 Economic statuses				
Good	52	0.556		
Average	205			
Poor	13			
8 Residential statuses				
Personal	151	0.613	0.507	268
Rental	119			
9 Underlying medical conditions				
I have	39	0.431	0.344	268
I don't have	231			

Note:: Frequency (*n*).

[a]Independent *t*-test, means that caregiving behaviors differed significantly depending on age and years of work experience among the nurses.

For "age" and "work experience", there are significant differences in caregiving behaviors based on these variables. This means that caregiving behaviors differed significantly depending on age and years of work experience among the nurses.

TABLE 6 Numerical indices of moral courage of nurses by demographic characteristics.

Demographic information	n	p	t	df
1 Age (years)				
<30	122	0.006[a]		
30–39	96			
>40	52			
2 Gender				
Male	49	0.732	0.343	268
Female	221			
3 Education				
Bachelor's degree	242	0.282	1.07	268
Master's degree	28			
4 Work experience in the hospital (years)				
<5	113	0.010[a]		
5–10	67			
10–15	38			
>15	52			
5 Marital statuses				
Single	122	0.092	1.68	268
Married	148			
6 Experience living with vulnerable individuals				
Not applicable	58	0.549		
Children	97			
Elderly	71			
Patients with rare diseases	44			
7 Economic statuses				
Good	52	0.932		
Average	205			
Poor	13			
8 Residential statuses				
Personal	151	0.812	0.238	268
Rental	119			
9 Underlying medical conditions				
I have	39	0.669	0.428	268
I don't have	231			

Note:: *Note*: Frequency (*n*).

[a]Independent *t*-test. It emphasizes statistically significant findings, suggesting that age and work experience influence moral courage among nurses.

Caregiving behaviors differed significantly depending on age and years of work experience among the nurses.

The moral courage varies significantly by "age" and "work experience". It emphasizes statistically significant findings, suggesting that age and work experience influence moral courage among nurses.

with Oluma et al.'s study (2020), in which the highest dimension of nurses' caring behaviour was related to physical-technical behaviours, followed by psychological-social behaviours (Oluma & Abadiga, 2020). However, this finding contrasts a study conducted in Japan, in which a high proportion of nurses perceived the emotional aspect of caring behaviour (Mizuno et al., 2005). This may be due to differences in the organization or dominant attitudes

in society. It can be concluded that during the current pandemic, nurses emphasize more on physical-technical behaviours such as patient safety and medication administration. Additionally, when nurses do not have enough time to perform routine care and work excessively, they may only perform tasks they are reprimanded for not doing. However, the current pandemic has put a heavy workload on nurses, which has resulted in low scores in some dimensions. The findings of this study demonstrate a direct correlation between work experience, age, and the level of moral courage among participating nurses. Other studies are consistent with the findings of this study, indicating that an increase in age and work experience leads to an increase in moral courage among nurses;-subsequently, they demonstrate greater daring in providing care (Khodaveisi et al., 2021). A study by Moosavi et al. (2017) showed a significant and positive relationship between nurses' work experience and moral courage (Moosavi et al., 2017). The results of this study and similar studies attest that as individuals age, their ethical sensitivity increases, and humans become more aware, contemplative, and attentive to the issues surrounding them.

4.1 | Limitations

This research faced specific constraints. First, it was limited to a few university-affiliated hospitals, making it difficult to generalize the results to larger populations. Because only a limited number of hospitals accepted COVID-19 patients. Moreover, virtual data collection tools hindered direct communication between researchers and participants, potentially affecting their understanding of the content and their ability to fill out the questionnaires effectively.

4.2 | Implications for practice

Our study demonstrated a noteworthy finding: a substantial negative correlation exists between the moral courage of nurses and their caring behaviour. Even in the high-stress environment of COVID-19 wards, nurses exhibited compassionate behaviours, indicating their effective training in handling such challenging situations. To enhance nurses' knowledge and skills, it is imperative to maintain these training policies. Moving forward, it is crucial for future research to prioritize the mental well-being of nurses, essential members of the healthcare team.

Our findings revealed that moral courage tends to diminish caring behaviours. Hence, implementing comprehensive interventions and managing nurses' moral courage can prevent adverse outcomes, elevate the quality of nursing care, and enhance patient satisfaction. We recommend healthcare authorities and policymakers employ targeted interventions for identifying nurses with high moral courage. Providing them with psychiatric counseling services can significantly contribute to their overall well-being, ultimately promoting a healthier nursing workforce.

5 | CONCLUSION

The findings revealed that the level of moral courage among nurses exceeded the median score of the instrument, with the highest scores observed in the dimension of ethical factors. However, caregiving behaviour scores were lower than the median, with physical-technical caring behaviours scoring the highest and professional caring behaviours scoring the lowest. The analysis indicated a weak and inverse correlation between moral courage and caring behaviours among nurses in this context. These findings suggest several implications for nursing practice and research. Firstly, efforts should be made to enhance moral courage among nurses through targeted interventions and training programs, particularly focusing on the dimensions of ethical factors and multiple values. Additionally, interventions aimed at improving caring behaviours, particularly in areas such as professional behaviours, should be prioritized to ensure the delivery of high-quality care in COVID-19 wards. Longitudinal studies could provide valuable insights into the dynamics of these relationships over time, allowing for the development of more effective interventions and strategies to support nurses in challenging healthcare environments.

CONFLICT OF INTEREST STATEMENT
The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT
All data analyzed during this study are available upon reasonable request from the corresponding author.

ETHICS STATEMENT
Participants in the study were able to complete the questionnaire after confirming the initial instructions provided online (study objectives, participant anonymity, and voluntary nature of participation). This study was approved by the Research Ethics Committee

of Iran University of Medical Sciences with the code (IR.IUMS. REC.1399.1376). We confirm that any data utilized in the submitted manuscript have been lawfully acquired in accordance with The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity.

PATIENT CONSENT STATEMENT

Informed consent was obtained from all the patients or their parents.

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