Original Article

Access this article online

Quick Response Code:

Website: www.jehp.net

DOI: 10.4103/jehp.jehp_977_22

The relationship between moral courage and providing safe care in nurses: A cross-sectional study

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Received: 07-07-2022
Accepted: 01-12-2022
Published: 31-10-2023

Abstract:

BACKGROUND: Moral courage is one of the moral virtues, which can have a great impact on the provision of safe care for patients. Providing safe care is one of the most significant and fundamental principles of healthcare. This study aimed to determine the relationship between moral courage and safe care among nurses and explain the factors predicting safe care.

MATERIALS AND METHODS: This is a cross-sectional study conducted on 172 nurses who worked in selected hospitals affiliated with the Iran University of Medical Sciences in 2019. For this purpose, self-report questionnaires on moral courage and safe nursing care were used. The collected data were analyzed in the Statistical Package for Social Sciences (SPSS) version 23.0 using descriptive (mean, standard deviation, percentage, and frequency) and inferential (Pearson's correlation coefficient and multiple linear regression) statistics. *P* values less than 0.05 were considered statistically significant.

RESULTS: Mean scores of nurses' moral courage and safe care were desirable (407.57 ± 53.97) and satisfactory (311.31 ± 39.48), respectively. There was a significant correlation between the scores of nursing safe care and moral courage ($r = 0.69$, $P < 0.001$). Moral courage, gender, and work experience explained 54% of the variance of nursing safe care.

CONCLUSION: The results showed that there is a positive and significant relationship between safety care and moral courage. It seems that increasing nurses' awareness of ethical principles leads to their courageous ethical behaviors, and safety and high-quality care should be one of the goals of all healthcare professionals. Also, the results of this study support the need to improve the knowledge and awareness of nurses and nurse managers regarding the importance of moral courage in providing safe nursing care and improving patient safety.

Keywords:

Moral courage, nurses, safe care

Introduction

Hospitals are expected to provide a safe environment for patients, visitors, and employees.[1] Healthcare quality is an important issue in healthcare provider organizations. In this regard, one of the most important objectives of these organizations is to prevent patient injury and jeopardize their safety in the process of care provision.[2] The importance of this issue is highlighted when it is compared with high-risk situations like the air industry. Statistics suggest that there is a 1 in a million chance of injury while traveling by plane while there is a chance of a patient being harmed during healthcare, indicating the importance of this aspect of care.[3]

Patient safety is defined as providing healthcare services without preventable harm during the healthcare process and reducing the risk of unnecessary harm related to healthcare to the lowest acceptable level. The lowest acceptable level

How to cite this article: Kashani M, Bozorgzad P, Masror Roudsary D, Janani L, Asghari H, Asgari MR, *et al.* The relationship between moral courage and providing safe care in nurses: A cross-sectional study. J Edu Health Promot 2023;12:352.

is determined based on the available resources and the context in which care is provided considering the risks of nontreatment or other treatments.[4] No accurate statistics on medical errors is available in Iran; however, according to the World Health Organization report, millions of dollars are spent on patient care in hospitals due to medical errors, and increased patient complaints from doctors and nurses is a testimony to this claim.[4]

The importance of adhering to safe nursing care lies in the pain and suffering that the patients and their families go through as a result of the errors made by the medical team. The starting point of this suffering is the stress of paying hospital costs, which increases with an increase in the length of hospital stay, the complications that are not due to the main illness but are rather caused by the errors made by the medical team, and the patient must pay for their physical and spiritual costs.[5]

In the past, most of the nurse's responsibilities in the field of patient safety were focused on limited aspects of care such as avoiding medication errors and preventing patient falls. While emphasizing the importance of these dimensions of safety in the field of nursing care, the scope and depth of patient safety and improving the quality of care is much wider than this. Based on this, in a general view, the contribution of nurses to patient safety can be seen as the ability to coordinate and integrate multiple aspects of care and treatment, which are not necessarily directly related to nursing work but are not ineffective either.[6]

In 2013, it was estimated that about 98,000 Americans lost their lives due to injuries and errors by the medical team, and the number of errors has increased over the past 3 decades.[7] The annual cost of medical errors in the United States is estimated to be between 17 and 29 million dollars per year, whereas it is said that 50% of adverse events are preventable.[8] Zirpe *et al*. (2020)[9] in their study found that about 5.2 million medical errors occur in India every year. Likewise, the British Medical Journal reported that India, like any other developing country, records many medical errors. The main reason is that we do not have trained doctors and nurses to measure clinical outcomes.

In Iran, there are no written statistics on the number of medical errors, but the Ministry of Health and Medical Education has announced that every year a few million dollars are spent on the maintenance and care of patients in hospitals due to medical errors, and the number of referral cases is increasing. People's complaints against doctors and nurses show this claim.[10]

Najafpour *et al*. (2015)[11] found that hospitals affiliated with the Tehran University of Medical sciences had a poor performance in terms of providing safe care. Moreover, Marzban *et al*. (2013)[12] reported a marked difference between hospital care services in terms of safety and international standards in hospitals affiliated with the Shahid Beheshti University of Medical Sciences.

The nurses are not only morally required to report and confirm their errors but also have certain teamwork responsibilities to make sure of patient safety.[13,14] In this regard, the moral responsibility of the nurses is often centered on prevention of individual and systemic errors. Systemic errors are errors that occur in relation to the process of healthcare provision.[13] In this regard, moralities are as important as nursing knowledge and are emphasized in all aspects of care.[6] Wilson believes that nurses, like other members of the healthcare team, are responsible for reporting errors made by other members; in addition, they are responsible for identifying the situations that may compromise patient safety.[15]

Moral courage is one of the most prominent moral virtues for nurses. Centuries ago, Florence Nightingale considered moral courage as an essential requirement of nursing care. Moreover, researchers have emphasized the effect of the nurses' moral courage on improving the care quality through highlighting the role of advocacy.[16]

Moral courage is the ability to act according to moral values while its well-known risks are eminent.[17] Therefore, a courageous person is someone whose decisions are in the interest of others despite the risks to themselves.[18] In this regard, moral courage (moral personality) is a personality trait that enables the person to have courage, perseverance, implementation skills, and ego strength to overcome deviations and obstacles to achieve sound personal beliefs.[19] On the other hand, the patients are vulnerable and need support for various reasons, including the nature of the disease, culture, and economic or educational background. Hence, nurses, as patients' surrogates, are responsible for keeping patients safe and away from any possible harm not only against their own actions but also against all treatment actions carried out for the patients.[20] For this purpose, nurses need to play the role of patient support efficiently and have skills such as problem-solving, decision-making, counseling, negotiation, audacity, perseverance, assertiveness, and strong communication to overcome barriers like fear and support the patients; all of these characteristics are defined in the context of moral courage.[16] Gallagher (2011)[21] mentioned some patient harms caused by other healthcare team members and wondered why nurses kept silent despite being aware of the harm. In the following, they discussed the importance of courage in the nursing profession and patient care. Similarly, Black argued that about 34% of the nurses

were aware of a patient care condition that could have caused harm to a patient, but did not report it.[22] A review of professional nursing performance suggests that they often face complex moral dilemmas resulting in difficult moral situations several times during their career, which requires making decisions that determine the safety or risk of harm to patients.[23]

Considering the above, the concept of moral courage in nursing has been reviewed extensively in recent years.[24] It should be noted that moral courage is not merely reporting errors; in fact, when someone is unable to act properly, moral courage helps them to try to achieve goals that are in the best interest of the patient.[25] This characteristic distinguishes moral courage from other moral virtues.

Despite the inseparable bond between moralities in its broad sense and patient safety, investigating a certain type of morality may provide a better knowledge of safe care requirements for treatment team members and policymakers. In this regard, this study was conducted to determine (1) the relationship between moral courage and safe care in nurses, and (2) explain the factors predicting patient safety.

Materials and Methods

Study design and setting

This cross-sectional study was conducted on 172 nurses working in selected hospitals affiliated with the Iran University of Medical Sciences in 2019.

Study participants and sampling

The sample size (n = 168) was calculated using the Cohen formula with an anticipated effect size of 0.3, desired statistical power level of 0.9, a probability level of 0.01, and a population of 312 nurses.[26] Multistage sampling with proportional allocation was applied to select the participants. Three educational hospitals affiliated with the Iran University of Medical Sciences were considered as strata. Then, the number of samples in each hospital was determined according to the total number of nurses. In the next step, the nurses of each ward were selected using random sampling. For this purpose, the researcher attended each ward and assigned a code to each nurse in the ward. Then, random sampling was done using a random numbers table. Nurses who were not willing to participate were replaced by other nurses using the same method. The inclusion criteria were: (a) willingness to participate in the research, (b) having at least a bachelor's degree in nursing, and (c) clinical work experience of at least 1 year. The nurses' unwillingness to continue cooperation with the study and complete the questionnaires was considered the exclusion criterion.

Data collection tool and technique

Data were collected using three questionnaires, including (1) A demographic questionnaire, (2) The Nurses' Moral Courage Questionnaire, and (3) The Assessment of Safe Nursing Care Questionnaire.

The demographic questionnaire

The demographic questionnaire inquired about age, gender, marital status, clinical work experience, ward of work, employment status, and participation in ethic workshops.

The Nurses' Moral Courage Questionnaire

The Nurses' Moral Courage Questionnaire was designed and validated by Sadooghi *et al*. in 2016.[27] This 20-item questionnaire evaluates three dimensions, including moral self-fulfillment, risk-taking, and the ability to defend the right, using a 5-point Likert scale from always (score 1) to never (score 5) in a self-report manner. The weight of the items varies from 3 to 7 and the score of each item is obtained by multiplying the Likert score by the value of the item. The questionnaire has a minimum score of 102 and a maximum score of 510. Moral courage is categorized as low (score of 102–238), medium (239–374), and high (375–510). The validity and reliability of the questionnaire were measured by Sadooghi *et al*. (2016).[27] The questionnaire had acceptable face and content validity (S-CVI = 0.87). The reliability of the dimensions and the whole questionnaire ranged between 0.82 and 0.88, its internal consistency by calculating Cronbach's alpha coefficient is 0.88 and its consistency equals 0.87 by doing the test-retest and calculating the intraclass correlation coefficient.[27] In the present study, the validity of the questionnaire was reevaluated using the comments of faculty members. To evaluate the reliability of the questionnaire, it was forwarded to 20 nurses in a pilot study and a Cronbach's alpha of 0.76–0.81 was obtained.

The Assessment of Safe Nursing Care Questionnaire

The Assessment of Safe Nursing Care Questionnaire was designed and validated by Rashvand *et al*.[28] to evaluate safe nursing care, based on the context of the Iranian care system. This questionnaire has two parts: The first part is related to demographic characteristics (work experience in the ward, total work experience, and average working hours). The second part has 32 questions in four dimensions. Evaluation of nursing skills (16 questions), assessment of the patient's psychological needs (4 questions), assessment of the patient's physical needs (7 questions), and assessment of the nurses' teamwork (5 questions). Answers to all questions are scored on a 5-point Likert from never (1 point) to forever (5 points). The weight of questions 14, 18, 19, 20, and 32 is equal to 1; the weight of questions 2,

3, 4, 5, 7, 10, 11, 12, 13, 15, 16, 17, 21, 26, and 30 is 2. The weight of questions 1, 6, 8, 9, 23, 24, 25, 27, 29, and 31 is 3, and the weight of questions 28 and 22 is 4; therefore, the obtained number was multiplied by the weight of the question, and the final number was used for the analysis. According to the obtained scores, safe nursing care is categorized as poor (73–170), medium (171–267), and optimal (268–368). A Cronbach's alpha of 0.97 indicates the optimal reliability of the questionnaire.[28] In the present study, the validity of the questionnaire was reevaluated using the comments of faculty members. To evaluate the reliability of the questionnaire, it was forwarded to 20 nurses in a pilot study and a Cronbach's alpha of 0.87 was obtained.

Data analysis

The collected data were analyzed in IBM Statistical Package for Social Sciences (SPSS) Statistics for Windows, version 23.0 (IBM Corp., Armonk, N.Y., USA) using descriptive and inferential statistics. The descriptive statistics included mean, standard deviation, percentage, and frequency. Pearson's correlation coefficient was used to evaluate the correlation between moral courage and safe nursing care. Multiple linear regression was used to evaluate the relationship between moral courage and study variables after adjusting for underlying factors. First, all variables were assessed using a simple regression model. Then, gender and work experience with *P* values less than 0.05, were selected and entered into a multiple regression model along with the main independent variable (moral courage). *P* values less than 0.05 were considered statistically significant.

Ethical considerations

Ethical principles were observed throughout the study. This study was approved by the Ethics Committee of Iran University of Medical Sciences (Approval code: IR.IUMS.REC.1398.826). The researchers explained the purpose of the study to potential participants and answered any possible questions raised by the audience. The participants were informed of their rights, including their right to withdraw from the study at any time during the study, and joined the study after providing informed consent. All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional) and with the Helsinki Declaration of 1975, as revised in 2000.

Results

Baseline characteristics of participants

Table 1 presents the distribution of demographic variables in the participating nurses. Of 312 nurses working in the Rasoul Akram, Hashemi Nezhad, and Firoozgar hospitals, a total of 172 nurses were included in the study. The mean age of the nurses was 31.74 ± 6.26 years, 93% were female, 62.2% were single, 47.1% had less than 5 years of experience, 94.2% had a bachelor's degree in nursing, and 37.8% worked as mandatory service nurses. Moreover, 92.4% of the participants were nurses, 7.6% were head nurses and supervisors, 72.7% worked in rotating shifts, 77.30% reported participating in ethics workshops, and 94.8% reported participating in safe care workshops.

Distribution of the mean scores of moral courage dimensions

The mean score of moral courage was 407.57 ± 53.97, which was in the "high" category. The highest and lowest mean scores were related to moral self-fulfillment (211.12 ± 35.52) and ability to defend the right (42.59 ± 7.54), respectively [Table 2].

Distribution of the mean scores of safe nursing care dimensions

The mean score of safe care was 311.31 ± 39.48, which was in the "optimal" category. The highest

Table 1: Baseline characteristics of participants

Demographic Characteristics	*n* (%)
Gender	
Male	12 (7%)
Female	160 (93%)
Education	
Bachelor of nursing	162 (94.2%)
Master of nursing	10 (5.8%)
Marital status	
Married	65 (37.8%)
Single	107 (62.2%)
Position	
Nurse	159 (92.4%)
Head nurse	11 (6.4%)
Supervisor	2 (1.2%)
Work shift	
Morning	27 (15.7%)
Night	20 (11.6%)
Rotational	125 (72.7%)
Employment status	
Mandatory service nurse	65 (37.8%)
Official nurse	70 (40.7%)
Contractual nurse	37 (21.5%)
Work experience (years)	
<5	81 (47.1%)
5-10	45 (26.2%)
>10	46 (26.7%)
Participation in ethics workshop	
Yes	133 (77.3%)
No	39 (22.7%)
Participation in safe care workshop	
Yes	163 (94.8%)
No	9 (5.2%)
Total	172 (100%)

n (%): number (percent)

and lowest mean scores were related to nursing skills (144.36 ± 22.63) and assessment of the patient's psychological needs (21.85 ± 2.77), respectively [Table 3].

Correlation between moral courage and safe nursing care

The results showed a significant correlation between moral courage and safe nursing care. The results of Pearson's correlation coefficient (r = 0.69, P < 0.001) showed an increase in the score of safe nursing care with an increase in the moral courage score, indicating a strong positive correlation between these two variables [Table 4 and Figure 1].

A comparison of the differences among moral courage and its dimensions based on the demographic variables in nurses

No significant differences were found among the moral courage dimensions with working shifts and marital status (P > 0.05), but there were differences between moral courage mean value and employment status (P = 0.013), and clinical work experience (P = 0.003).

Evaluation of the differences between moral courage dimensions and demographic variables showed a significant difference between moral self-fulfillment and ability to defend the right with the type of employment (P = 0.012 and P = 0.003, respectively) and moral self-fulfillment, ability to defend the right, and risk-taking with clinical work experience (P = 0.026, P = 0.002, P = 0.007, respectively) [Table 5].

Table 2: Distribution of the mean scores of moral courage dimensions

Dimensions	Mean (SD)	Min	Max
Moral self-fulfilment	211.12 (35.52)	125	275
Risk-taking	153.85 (18.37)	86	180
Ability to defend the right	42.59 (7.54)	25	55
Total score of moral courage	407.57 (53.97)	284	510

SD: Standard Deviation; Min: Minimum; Max: Maximum

Table 3: Distribution of the mean scores of safe nursing care dimensions

Dimensions	Mean (SD)	Min	Max
Skills	144.36 (22.63)	90	175
Psychological	21.85 (2.77)	14	25
Physical	87.21 (11.36)	59	100
Teamwork	58.50 (7.34)	38	65
Total score of safe nursing care	311.31 (39.48)	226	365

SD: Standard Deviation; Min: Minimum; Max: Maximum

Table 4: Correlation between moral courage and safe nursing care

Variable	Moral courage	Safe nursing care
Safe nursing care	r=0.69*; P<0.001	1
Moral courage	1	r=0.69*; P<0.001

*Pearson's correlation coefficient

The multiple linear regression analysis of the prediction role of the demographic characteristics and moral courage in safe nursing care

Table 6 presents the results of multiple linear regression analysis regarding the predictive role of moral courage and demographic variables on safe nursing care. Moral courage, gender, and work experience explained 54% of the variance in safe nursing care (R^2 = 0.54, P < 0.001). Moral courage (β = 0.627, P < 0.001), gender (β = 0.189, P = 0.001), and work experience (β = 0.146, P = 0.013) had the highest predictive effect on safe nursing care. In other words, a one-unit increase in the variance of moral courage increased safe nursing care by 0.627 units. Moreover, the female nurses' safe care was 0.189 units more than the safe care provided by male nurses, and the safe care of nurses with more than 10 years of experience was 0.146 units more than the safe care of nurses with less than 10 years of experience [Table 6].

Discussion

This study was conducted to determine the relationship between moral courage and safe care in nurses working in selected hospitals affiliated with the Iran University of Medical Sciences and explain the factors predicting their safe care. The results showed that the majority of the nurses (81.9%) obtained high safe care scores and the mean score of safe nursing care was optimal. In line with the present finding, Maslakpak *et al*. (2012)[29] conducted a study entitled "Managers and nurses function of safe patients' care from the nurses Perspective" in educational hospitals affiliated with Urmia University of Medical Sciences and found that the majority of the nurses (91.6%) believed that their function in terms of safe nursing care was at a good level. Moreover, Austin *et al*. (2014)[30] assessed safe nursing care and found that the highest scores were related to performance assessment.

Contrary to the present study, the results of a study by Najafpour *et al*. (2015)[11] regarding the analysis of patient safety indicators showed that the selected

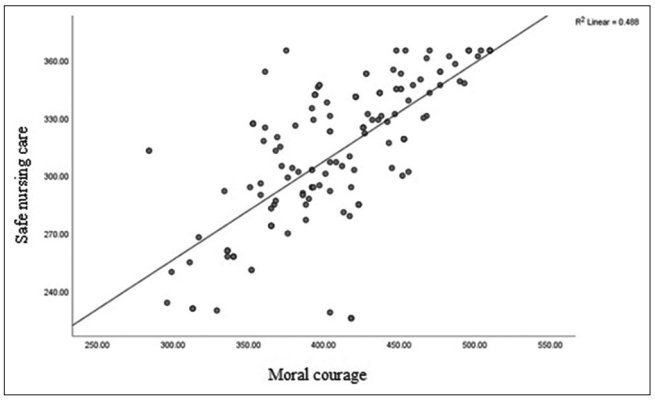

Figure 1: Correlation coefficient between moral courage and safe nursing care

Table 5: A comparisons of the differences among moral courage and its dimensions based on the demographic variables in nurses

Moral courage dimensions / Demographic variables	Median (1st-3rd quartile)			
	Moral self-fulfilment	Risk-taking	Ability to defend the right	Moral courage
Working shift				
Rotational	213 (190-239)	157 (143-168.50)	44 (37-48)	408 (367.50-453)
Morning	189 (178-225)	151 (133-167)	40 (36-43)	397 (336-443)
Night	214 (197-231)	157 (149-170.25)	41 (37.75-43.75)	423 (380-426)
P	0.214*	0.657*	0.121*	0.249*
Employment status				
Mandatory service nurse	214 (195-236.50)	148 (134.50-171)	44 (38.50-47)	418 (366-449.50)
Official nurse	221 (187.50-241.50)	161.50 (148-171)	44 (37-48.75)	420.50 (373.50-456.75)
Contractual nurse	196 (159-216.50)	157 (143.50-161.50)	40 (33-44)	386 (353-410.50)
P	0.012*	0.412*	0.003*	0.013*
Marital status				
Single	209.72 (35.16)	153 (143-167)	44 (37-47)	405.45 (52.37)
Married	213.41 (36.25)	158 (144.50-172)	43 (36-48)	411.06 (56.73)
P	0.511**	0.220***	0.376***	0.511**
Clinical work experience (years)				
<5	209.18 (35.04)	153 (139-167)	41 (37-47)	43.06 (54.88)
5-10	203.04 (35.39)	152 (133-162.50)	41 (36-44)	393.40 (52.20)
>10	222.43 (34.40)	166 (153-172)	47 (40.75-55)	429.39 (48.21)
P	0.026****	0.002*	0.007*	0.003****

*Kruskal-Wallis test; ***t* test; ***Mann-Whitney test; ****One-way ANOVA

Table 6: Multiple linear regression analysis of the prediction role of the demographic characteristics and moral courage in safe nursing care

Variables	B	Standard Error	Standardized coefficient β	*t* statistic	*P*
Constant	122.47	23.983	-	5.085	<0.001
Moral courage	0.458	0.041	0.627	11.254	<0.001
Age	0.397	0.353	0.063	1.123	0.263
Gender	29.175	8.393	0.189	3.476	0.001
Work experience	13.005	5.195	0.146	2.521	0.013
Working hour	3.339	4.167	0.042	0.801	0.424
Participation in ethics workshops	0.521	5.121	0.006	0.102	0.919

R=0.6, R^2=0.54, Adjusted R^2=0.53

hospitals of Tehran University of Medical Sciences had poor performance in providing safe care. Moreover, Kalantari *et al*. (2019)[31] studied the nurses' performance regarding providing safe nursing care in general and intensive care wards from the head nurses' viewpoints using the Assessment of Safe Nursing Care Questionnaire developed by Rashvand *et al*. (2017).[28] The results showed medium levels of safe nursing care in general and intensive care wards, which was not consistent with the present study. Since the tool used in the above study was similar to the tool used in the present study, the variations in the results may be related to differences in the research environment. In 2010, Wakefield *et al*.[32] found that two main factors affected the patient safety-related behavior of healthcare workers, including (1) preventive action beliefs (healthcare workers' belief that adopting the target behavior will improve patient safety) and (2) professional peer behavior (perceptions of one's professional colleagues about the patient safety-related behavior). In addition, they emphasized the effect of the healthcare workers' attitude on patient safety along with technical equipment and argued that beliefs and behaviors complemented medical knowledge to achieve patient safety.

In the present study, the scores of all safe nursing care dimensions including evaluation of nursing skills, physical and mental domains, and teamwork were optimal. Contrary to the present study, the results of a study by Kalantari *et al*. (2019)[31] showed that the safe care of nurses in general and special wards was moderate. This contradiction may be due to this subject that in the Kalantari *et al*.'s study, the dimensions of safe care were evaluated from the perspective of head nurses while in the present study, a self-report questionnaire was completed.

In the present study, the total score of moral courage was high and the majority of the samples (69.7%) had

high moral courage scores. In this regard and in line with the present study, the results of a study by Kleemola *et al*. (2020)[33] in a large university hospital in Finland showed that the majority of the nurses acted with moral courage most of the time. Ebadi *et al*. (2020)[34] also reported a high level of moral courage in nurses working in educational hospitals in Tehran.[35] Contrary to the present study, the mean score of moral courage was low in a study by Bickhof *et al*. (2017).[36] In this study, which was conducted to determine moral courage in patient care, most of the nursing students lacked the required moral courage for patient care. Moreover, the results showed that in the clinical setting, due to the fear of the consequences of challenging the poor practice, the students often remained passive spectators and sometimes even inactive participants. Moreover, nursing students suffered ongoing moral distress when they did not have the courage to confront poor practices.[36]

In the present study, the highest and lowest scores were related to moral self-fulfillment and the ability to defend the right, respectively, which was consistent with the results of a study by Ebadi *et al*. (2020).[34] The reasons for this finding could be increased attention of the country's healthcare system to nursing standards and skills and ignoring ethical principles due to punishing responses, fear and embarrassment, and lack of educational material related to patient rights in items related to ethics. Sheikhbardsiri *et al.'s* (2020)[37] study results showed that the degree of patients' rights observance in the emergency department of educational hospitals in south-east Iran was moderate. Mohammadi *et al*. (2021)[38] found that teaching in the workplace and through ethical principles will have a profound effect on improving the biological ethics of paramedic prehospital staffs. In confirmation of the mentioned results, Moosavi *et al*. (2017)[17] found that the moral courage of the operating room nurses was significantly affected by the education level, certification, peer support, institutional culture, fear of punishment and revenge, and previous experience.

In the present study, the results of the correlation coefficient showed an improvement in safe nursing care with an increase in the moral courage score. Gallagher argued that reinforcement of moral courage improved the quality of care. However, there may be fear of an intense emotional reaction, violence, contamination, negative reactions from colleagues, or of losing one's job. Such fears may inhibit ethical behaviors in nurses and other practitioners. In addition, organizational constraints may cause nurses to feel as if they lack the courage to do the right thing or raise concerns about poor standards of care.[21] Therefore, it can be concluded that moral courage, as a professional virtue, can be considered a pillar for improving safe care provision.

The results showed a significant difference between moral self-fulfillment and ability to defend the right with the type of employment; and moral self-fulfillment, ability to defend the right, and risk-taking with clinical work experience. This indicates that nurses who have more job stability and work experience have a higher ability to defend their patients' rights and enhance their moral self-fulfillment. On the other hand, risk-taking was only associated with clinical work experience, which confirms the effect of years of work experience on risk-taking and defending patient rights. In general, it can be concluded that older and more experienced nurses provide safer care.[26]

The result showed no significant correlation between working shifts and safe care scores. In line with the present study, Kalantari *et al*. (2019)[31] found no significant correlation between working shifts and safe nursing care. Since providing safe care encompasses the knowledge and attitude of the nurses, it is not surprising that shift work had no effects on providing safe care.

According to the present findings, an increase in the clinical experience of providing care to patients, being a female nurse and higher moral courage lead to an increase in safe nursing care. In line with the present findings, in another study conducted on coronavirus disease 2019 (COVID-19) patients in Iran, Khodaveisi *et al*. (2021)[39] observed that variables of moral sensitivity, moral courage, work experience, age, and employment status can predict 64.76% of the variance in safe nursing care in nurses. Salamat *et al*. (2019)[40] in Iran also showed a significant correlation between gender as a demographic variable with the patient safety culture. Boonyaphisompan *et al*.'s study[41] in Thailand showed that the significant predictive factors that explained 33% of the variance in safety culture included structural empowerment, management safety commitment, work engagement, and nurse working hours. Malinowska-Lipień *et al*. (2021)[42] in Poland also stated that work environment factors such as proper staffing, good cooperation with doctors, manager's support, as well as professional independence are significantly related to nurses' assessment of patients'safety. Contrary to the present study findings, the results of Kalantari *et al*. (2019)[31] in Iran showed that there was no significant relationship between the type of hospital wards, gender, employment status, work shift, participation in the workshop, and safe operation of nurses. These contradictory findings demonstrate that work processes, organizational culture, and differences in rules or protocols can affect employees' safe care significantly and impact their performance.

Limitations

This study had some limitations, including using a self-report questionnaire for data collection. Considering

the fact that moral courage as a moral concept was assessed according to the mental and subjective criteria of the participants, this assessment could be affected by environmental and situational factors. Although the authors tried to control these factors, some of these factors were beyond their control. However, since this study was conducted with a limited number of nurses in a small region of Iran, the results should be cautiously interpreted and applied to nurses in other countries considering the context and culture in Iran.

Conclusion

In the present study, the nurse reported high levels of moral courage and safe nursing care. Also, the results showed a significant correlation between safe nursing care and moral courage, indicating that moral courage has a significant role in promoting safe nursing care. Moral courage, gender, and work experience predicted 54% of the safe nursing care variance. Therefore, identifying the determinants of moral courage and finding solutions and setting up the groundwork for creating a moral environment may have an important role in reinforcing courageous acts and promoting safe care.

Relevance to clinical practice

The findings of the present study have several implications. The nurses' moral courage as a moral virtue can affect the patients' health. Moral courage enables the person to demonstrate moral behavior and act morally in spite of barriers and obstacles. The role of the nurses in providing support for patients underlines their need for moral courage. Therefore, nurses need to promote their moral values to provide safe care for patients. The most important role of nurses in patient's safety is their ability to coordinate different aspects of care. In this regard, both nursing knowledge and moral values have important roles in accomplishing this mission. Accordingly, moral virtues can be considered a concept that encompasses nursing knowledge. Hence, it can be argued that moral courage and safe nursing care complement each other and together guarantee the physical and mental safety of the patients and improved care provided by the organization.

The nurse managers and policymakers of health organizations should review and use the findings of this study to provide appropriate environments for nurses, and also to develop more comprehensive plans to support them to develop moral courage in nurses, so that, they can provide safe nursing care.

Considering the importance of hospitals in the matter of accreditation and emphasis on the implementation of patient safety programs in Iran, it is necessary to examine the findings of safe nursing care evaluation for increasing the knowledge and awareness of nurses and nursing managers about the current status and identifying the kowledge-based and skill-based deficiencies. By eliminating these defects, in the field of patient safety, nurses can promote safe nursing care in the country's healthcare system.

Organizations should embrace the virtues of moral courage, wisdom, and honesty. They should consider policies to respond to concerns and reports of misconduct promptly and professionally, and invest in policies that, along with knowledge, disseminate ethical patterns. Finally, it is suggested that the viewpoints of other groups, such as the treatment team and clients, should be taken into consideration in new researches. It is also suggested to carry out research on the effect of various educational interventions on the development of moral courage and safety care of nurses.

Conducting more studies in the field of safe nursing care in other hospitals of medical sciences universities with a larger sample size and comparing them with each other can provide additional information.

Acknowledgment

This research was based on a MSc thesis in medical-surgical nursing carried out in Iran University of Medical Sciences and financially supported by the Deputy of Research and Technology (Code: 952). The authors would like to thank the Clinical Research Development Center of Rasoul Akram, Hashemi Nezhad, and Firoozgar hospitals as well as the staff who participated in this research.

Financial support and sponsorship

This study was conducted in the form of a project using financial support of the Deputy of Research and Technology of Iran University of Medical Sciences, Tehran, Iran (Grant: 952).

Conflicts of interest

There are no conflicts of interest.

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