Original Article

The relationship between moral resilience, moral distress, and second victim syndrome among Iranian ICU nurses: a cross-sectional correlational study

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Abstract

This cross-sectional study, conducted in 2023 on 386 ICU nurses from hospitals affiliated with Tehran University of Medical Sciences, investigated the relationships between moral resilience, moral distress, and second victim syndrome. Participants were selected through simple random sampling, and data were collected using Rushton's Moral Resilience Scale, Hamric's Moral Distress Questionnaire, and Burlison's Second Victim Scale. Analysis was performed using descriptive statistics and Pearson's correlation in SPSS v24. The results showed a significant positive correlation between second victim syndrome and moral distress, indicating that increased second victim experiences were associated with higher moral distress. There was also a significant negative correlation between moral resilience and second victim syndrome, confirmed by regression and structural equation modeling. However, no significant correlation was found between moral resilience and moral distress. Overall, the study highlights that second victim syndrome contributes to moral distress, while moral resilience acts as a protective factor. It is recommended that targeted interventions – such as resilience training, peer support groups, professional debriefing, and organizational mental health initiatives be implemented to mitigate these psychological challenges in high-stress ICU environments.

Keywords: *Moral resilience; Moral distress; Second victim syndrome; Critical care nursing; Iran.*

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Introduction

Nurses are vital to hospital health-care systems and face increasingly complex and stressful environments, especially in intensive care units (ICUs), where they deal with high mortality, resource limitations, ethical conflicts, and emotional strain (1, 2). These conditions contribute to moral distress, a state of psychological discomfort occurring when nurses cannot act according to their moral values (3, 4). This distress may lead to burnout, depression, anxiety, and reduced quality of care (5, 6). Understanding and addressing moral distress is essential for sustaining professional integrity in nursing. A review of 86 studies involving 19,537 participants found that moral distress decreased during COVID-19, but remains more severe in nurses working in ICUs and in developing countries, including Iran (7). A key contributing factor to moral distress in ICUs is the experience of becoming a second victim – a health-care worker negatively affected by involvement in adverse events (8, 9). This leads to both psychological (e.g., guilt, anxiety, loss of confidence) and physical symptoms (e.g., fatigue, insomnia) (10, 11). Personal and social factors, such as spiritual health, family support, and resilience, influence how nurses cope with these experiences (12). The term "moral resilience" has emerged as a protective response to moral adversity. Defined as the capacity to preserve or restore integrity in the face of moral complexity, it supports self-care and ethical decision-making under stress (13, 14). Originally introduced to describe nurses' reactions to organizational barriers, moral resilience is now viewed as a critical tool to reduce moral distress and promote well-being (15, 16). However, some studies, including Gibson et al., and Barkhodari et al., found no significant correlation between moral resilience and moral distress, suggesting the need for better measurement tools (17) (18).

In Iran, cultural factors like collectivism and hierarchical respect influence nurses' moral responses, sometimes hindering their ability to act autonomously. Institutional issues such as staffing shortages and resource scarcity can also intensify distress. Organizational support is therefore essential to fostering moral resilience among nurses in the Iranian context. This study examines the relationship between moral resilience, moral distress, and secondary victim syndrome among ICU nurses, based on the hypothesis that these variables are significantly associated.

Methods

Design and Participants

This research was a cross-sectional and correlational study that examined 386 ICU nurses form hospitals affiliated with Tehran University of Medical Sciences in 2023.

The sample size was calculated with a maximum type I error of 0.05 ($\alpha = 0.05$) and a type II error of 0.20 ($\beta = 0.20$), assuming a minimum expected correlation coefficient of 0.15 between the variables (i.e., the lowest among r_1, r_2, and r_3). The estimated sample size was 347 participants. Considering a potential 10% attrition rate, the final sample size was adjusted to 386 participants.

The nurses were selected using simple random sampling with a random table. The inclusion criteria required participants to provide informed consent, have a minimum of one year of experience in ICU, and have encountered at least one nursing error. Nurses with self-reported experiences of depression, anxiety disorders, or history of psychedelic or neuropsychiatric drug use were excluded from the study. Additionally, nurses who chose to withdraw from the study or those who did not complete at least 70% of the questionnaire items were excluded.

After validation (as detailed in the study's validity method), the questionnaires were distributed in hard copy format to ICU nurses in hospitals affiliated with Tehran University of Medical Sciences. The distribution process was conducted by the researcher, who had obtained an introduction letter from the research vice-chancellor of the faculty of nursing and midwifery. The study objectives and procedures were then explained to the nursing managers, and the nurses voluntarily participated after providing informed consent.

Nurses filled out the questionnaires individually, which typically took between 15 and 20 minutes. Participation was completely voluntary, and participants were assured of their right to withdraw from the study at any stage. The response rate reached about 85%, while approximately 10% of the returned questionnaires were excluded due to insufficient completion (less than 70% of the items answered).

All data collection procedures were conducted directly and in person by the researcher to ensure accuracy and minimize any potential bias that could arise from non-in-person methods. Sampling was carried out between May and September 2022,

after the researcher obtained permission through the service desk of the faculty of nursing and midwifery. The researcher's introduction letter was sent from the research vice-chancellor of the faculty of nursing and midwifery to the affiliated hospitals.

Instruments

The researchers utilized a demographics questionnaire, Burlison's Second Victim Experience and Support scale, Hamric's moral distress questionnaire for data collection, and Rushton's moral resilience scale.

The demographics questionnaire: This form included questions about individual characteristics such as age, gender, marital status, education, employment unit, employment duration, and shift type, organizational position, nursing error experiences, number of nursing errors, and reporting to respective authorities.

The Second Victim Experience and Support Tool (SVEST): Burlison's Second Victim Experience and Support Tool (2017) was used in this study. Responses were scored on a 5-point Likert scale, with higher scores indicating a greater impact of the second victim phenomenon and fewer available support resources. Ajoudani et al., assessed the psychometrics of this scale in Iran and reported its reliability at 0.79(19). Due to a lack of standard scoring, the research team agreed to consider the mean score as moderate after determining the maximum and minimum scores (185 and 35). In the present study, content validity of the questionnaire was evaluated by a panel of ten faculty members, and its reliability was confirmed through Cronbach's alpha coefficient, which was found to be 0.81.

The Moral Distress Scale: The Moral Distress Scale-Revised (MDS-R) used in this study is a 4-point Likert style questionnaire designed by Hamric et al. The questions consist of two components: frequency and intensity, and are scored by multiplying the two, resulting in a range of 0 to 16. Lower scores indicate less frequent and less distressing experiences, and higher scores indicate more frequent or distressing experiences (20).

Arab and Barzegari conducted a study examining the psychometrics of this scale in Iran and reported the total test reliability to be 0.75(21). In the present study, content validity of the questionnaire was evaluated by a panel of ten faculty members, and its reliability was confirmed through Cronbach's alpha coefficient, which was found to be 0.72.

Rushton's Moral Resilience Scale:

This questionnaire consists of 17 items scored on a 4-point Likert scale (ranging from strongly agree to

strongly disagree) and was developed by Rushton in 2018. The items are categorized into four subscales: 1) imbalance in responding to moral adversity, 2) personal integrity, 3) relational integrity, and 4) moral efficacy. All responses are coded in a way that higher scores indicate greater flexibility (22). To assess the validity and reliability of this instrument, it was translated using the forward-backward method and given to 10 faculty members from the nursing and medical ethics department for feedback, which was then incorporated into the questionnaire. To evaluate reliability, the researcher distributed the scale among 20 ICU nurses who were not part of the study sample and calculated its Cronbach's alpha coefficient to be at 0.85.

Data analysis

The researcher analyzed the data using SPSS software and Pearson's correlation coefficient to examine the significance of the relationships. A normality test was performed on the data using the Shapiro-Wilk test, which indicated that the data followed a normal distribution. The simultaneous effect of the independent variables (moral distress and moral resilience) on the second victim variable was examined using a multiple regression model. The independent variables were added to the regression equation step by step based on their significance in explaining the dependent variable.

Ethical considerations

This study was conducted following ethical approval from the Ethics Committee of Tehran University of Medical Sciences, Tehran, Iran, under ethics code IR.TUMS.FNM.REC.1402.02. The study's purpose and procedures were fully explained to the participants, who voluntarily provided informed consent to take part. Participants were also made aware of their right to withdraw from the study at any time without any consequences, should they choose not to continue or cooperate. The researchers ensured confidentiality and respect for participants' autonomy throughout the study.

Results

The mean age of the participating nurses was 34.54 years (SD = 7.06). Additional demographic characteristics are presented in Table 1. The majority of the participants were female (79%), married (60.4%), and held a bachelor's degree in nursing (82.1%). Most nurses (74.9%) worked rotating shifts, and 72.8% were employed in ICU units. As for professional experience, 50% of the participants had less than 10 years of work

experience, and 74.1% had 1 - 10 years of experience working specifically in critical care units.

Table 1. Demographic characteristics of participating nurses

Variable	Category	N (%)
Age (years)	< 30	150 (38.9%)
	30 - 40	152 (39.4%)
	40 - 50	77 (19.9%)
	> 50	7 (1.8%)
Sex	Female	305 (79.0%)
	Male	81 (21.0%)
Marital status	Single	153 (39.6%)
	Married	233 (60.4%)
Education level	Bachelor's Degree	317 (82.1%)
	Master's Degree	65 (16.8%)
	Ph.D	4 (1.0%)
Type of employment	Newly graduated nurse	30 (7.8%)
	Contractual	12 (3.1%)
	Employment contract	150 (38.9%)
	Registered	182 (47.2%)
	Other	12 (3.1%)
Work experience (years)	< 10	193 (50.0%)
	10 - 20	163 (42.2%)
	21 - 30	30 (7.8%)
Years working in ICU	≤ 2	6 (1.6%)
	3 - 10	289 (74.1%)
	11 - 20	82 (21.2%)
	21 - 30	12 (3.1%)
Shift type	Fixed morning	64 (16.6%)
	Fixed evening	5 (1.3%)
	Fixed night	28 (7.3%)
	Rotating shift	289 (74.9%)
Type of critical care unit	CCU	105 (27.2%)
	ICU	281 (72.8%)

Out of the 386 nurses included in the study, 174 (45.1%) reported more than one error, and 186 (48.2%) had experienced medication errors. Approximately 194 nurses (50.3%) reported errors without consequences, while 218 (56.5%) perceived the frequency of errors as high.

As shown in Table 2, the average score for moral resilience was 69.39 (SD = 10.55), placing 92.7% of the nurses in the moderate, and 7.3% in the high resilience group. The average score for moral distress was 44.59 (SD = 7.08), indicating that 79.3% of the participants had experienced a moderate level of distress. The average score for secondary victim syndrome was 69.39 (SD = 10.55), putting 82.6% of the nurses in the moderate category.

Table 2. Mean ± SD of moral resilience, moral distress, and secondary victim syndrome among nurses working in intensive care units

Variable	Minimum	Maximum	Mean ± SD
Moral resilience	38	97	69.39 ± 10.55
Moral distress	17	68	44.59 ± 7.08
Secondary victim syndrome	35	175	69.39 ± 10.55

Pearson's correlation coefficient test (Table 3) showed a significant and direct relationship between moral distress and secondary victim syndrome (SVS) (r = 0.315, $P < 0.001$). This means that as moral distress increases, the severity of secondary victim syndrome intensifies. Moral distress arises when nurses are confronted with ethical dilemmas or situations where they are unable to act according to their moral beliefs due to constraints such as institutional policies or lack of resources. This emotional and psychological strain can lead to feelings of frustration, guilt, and helplessness. As moral distress increases in intensity, nurses may become more vulnerable to experiencing secondary victim syndrome, which includes symptoms like emotional exhaustion, burnout, and a sense of personal failure due to their inability to prevent or address patient suffering.

The direct relationship indicates that the more nurses struggle with moral distress, the more likely they are to suffer from secondary victim syndrome, which highlights the importance of addressing ethical challenges and providing support systems for nurses to mitigate these negative consequences. Additionally, in this study, a significant inverse relationship was found between moral resilience and secondary victim syndrome (SVS) (r = - 0.306, $P < 0.001$). This finding suggests that nurses with a higher level of moral resilience experience less severe degrees of secondary victim syndrome. In other words, nurses who are more capable of managing ethical challenges and workplace stress are less likely to be emotionally and psychologically affected by traumatic events and the stressors in their work environment. This inverse relationship may indicate the importance of enhancing moral resilience in hospital settings as a way to reduce the negative effects of secondary victim syndrome and maintain the psychological well-being of nurses.

A significant inverse relationship was also found between moral resilience and moral distress (r = - 0.125, $P = 0.014$). This indicates that nurses with higher moral resilience experience less moral

distress. Moral distress typically occurs when individuals face difficult ethical decisions or moral conflicts in the workplace. This finding suggests that moral resilience can help nurses to better cope with ethical challenges and experience less moral distress in the work environment. Overall, these findings emphasize the importance of moral resilience as a protective factor for nurses against workplace stressors and challenges. Enhancing moral resilience may help reduce the negative effects of secondary victim syndrome and moral distress, improving both the psychological and professional well-being of nurses in hospital environments.

Table 3. Pearson's correlation coefficients between moral distress, moral resilience, and secondary victim syndrome

Variables	Moral distress	Moral resilience	Secondary victim syndrome
Moral distress	1		
Significance level	—		
Moral resilience	- 0.125	1	
Significance level	0.014	—	
Secondary victim syndrome	0.315	- 0.306	1
Significance level	< 0.001	< 0.001	—

To further examine the combined effects of independent variables including moral distress, moral resilience, and demographic factors on secondary victim syndrome, a multiple regression model was used (Table 4). The final model had a good fit (F = 39.66, $P < 0.001$). As presented in Table 5, moral distress positively predicted secondary victim syndrome (β = 0.30, $P < 0.001$), while moral resilience had a negative predictive effect (β = - 0.30, $P < 0.001$). These two variables together explained approximately 21% of the variance in secondary victim syndrome ($R^2 = 0.21$).

Table 4. Regression coefficients of model variables

Dependent variable	Independent variable	Estimate (B)	Std. error (S.E.)	Critical ratio (C.R.)	*P*-value
Moral distress	Moral resilience	- 0.12	0.04	-2.50	0.001
Secondary victim syndrome	Moral distress	0.28	0.13	6.00	** (< 0.001)
Secondary victim syndrome	Moral resilience	- 0.27	0.11	-5.80	** (< 0.001)

**Significant correlation at the 0.01 level

Table 5. The simultaneous effect of independent variables on the secondary victim syndrome based on multiple regression analysis

Variable	Unstandardized coefficients (B)	Std. error	Standardized coefficients (beta)	t*	Sig.
Constant (fixed)	108.94	10.79	—	10.09	0.000
Moral distress	0.81	0.16	0.30	5.04	0.000
Moral resilience	- 0.51	0.10	- 0.30	- 4.90	0.000

* The t-value is obtained by dividing the unstandardized coefficient (B) by the standard error (Std. Error), and it indicates whether the effect of the independent variable significantly differs from zero. A Sig. value less than 0.05 indicates statistical significance.

Furthermore, the analysis of structural equation modeling confirmed the significant effects of both predictors. As illustrated in Figure 1, moral resilience negatively influenced both moral distress (B = - 0.12, P = 0.001) and secondary victim syndrome (B = - 0.27, P < 0.001), whereas moral distress had a positive effect on secondary victim syndrome (B = 0.28, P < 0.001). Overall, the final model explained 21% of the variance in secondary victim syndrome and showed acceptable fit indices.

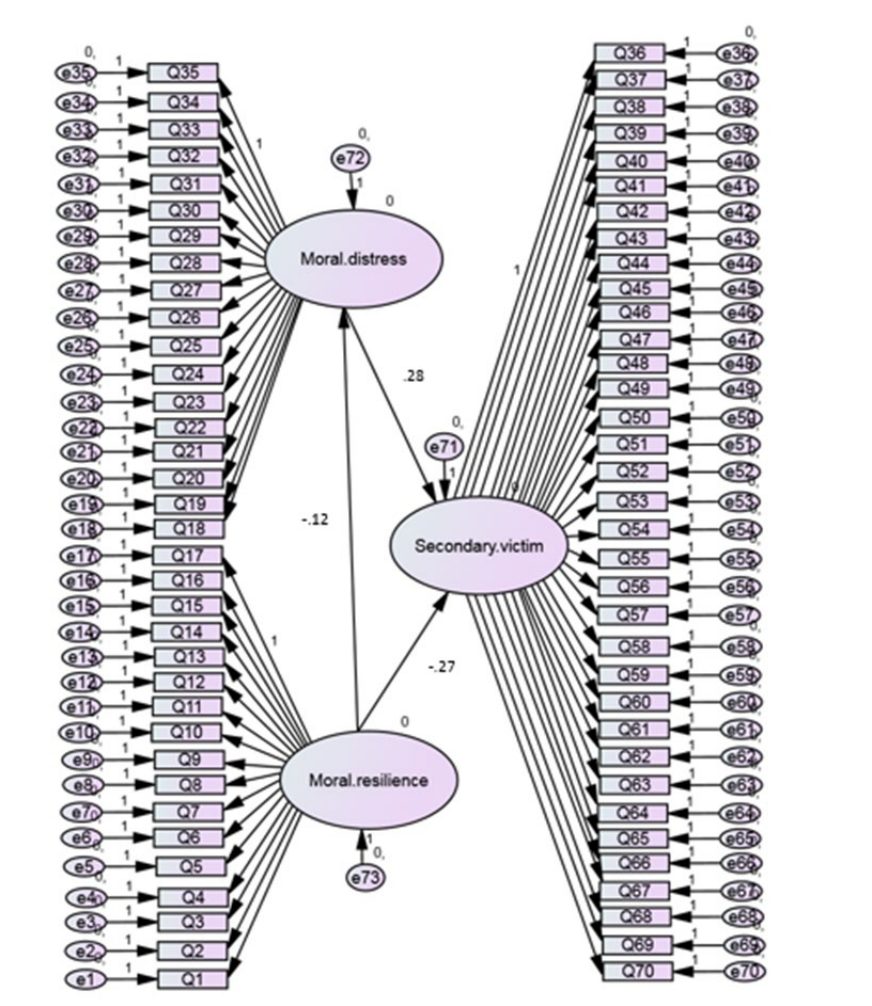


Figure 1. Conceptual model of the relationship between moral resilience variables, moral distress and secondary victim syndrome

Discussion

This study aimed to explore the relationships between moral resilience, moral distress, and secondary victim syndrome (SVS) in ICU nurses. Several significant findings emerged, which will be discussed in relation to previous literature.

The results indicated that nurses demonstrated moderate levels of moral resilience, a finding consistent with previous studies by Gerami Nejad et al. (23) Manomenidis et al. (24), and Guo et al. (25) While possessing moderate to high levels of resilience, nurses in critical care environments are often at risk for burnout and emotional strain due to the high demands of their roles. This aligns with research indicating that ICU work is emotionally and psychologically taxing. However, compared to studies by Sotoodeh et al. (26) and Salimi et al. (27), which reported higher resilience levels among

ICU nurses, the findings in this study are relatively lower. This discrepancy may be attributed to the timing of the studies, as earlier research was conducted during the peak of the COVID-19 pandemic when public support for health-care workers was high, whereas this study was conducted post-pandemic, when cumulative fatigue and burnout likely contributed to a decline in resilience. Contextual factors, such as the timing of the study and prevailing social and environmental circumstances, are important in shaping resilience levels.

Regarding moral distress, the average score in this study (59.44 ± 7.08) is in line with findings from Karagozoglu et al. (28) and Shamsalinia et al. (29) A large percentage of nurses (79.3%) in this study reported experiencing moderate levels of moral distress, which reflects the persistent ethical challenges encountered in ICU settings. However, contrasting studies by Shomalinasab et al. (30) and Talebian et al. (31) reported lower levels of distress, likely due to differences in sample characteristics and departmental contexts.

With regard to secondary victim syndrome (SVS), the nurses in this study exhibited moderate levels. This finding is consistent with studies by Shomalinasab et al. (30) and Quillivan et al. (32). SVS is significantly influenced by the severity of medical errors, departmental context, and cultural attitudes, with ICU nurses particularly vulnerable due to the high-pressure nature of their work. Studies by Zhang et al. (33) and Mohamadi-Bolbanabad et al. (34) have similarly highlighted the susceptibility of ICU nurses to SVS.

Significant correlations were found between the three key variables of moral distress, moral resilience, and SVS. The study revealed a significant inverse relationship between moral distress and moral resilience, suggesting that higher levels of moral resilience can mitigate the negative impact of moral distress. This finding supports previous research by Monteverde(15) and Spilg et al.(35), although Clark et al.(36) and Talebian et al.(31) reported differing results, highlighting the importance of contextual factors in these relationships. Similarly, a significant inverse relationship between resilience and SVS was found, consistent with studies by Hernandez (37) and Connors et al. (38) suggesting that resilience can act as a protective factor against SVS.

The relationship between moral distress and SVS in this study suggests that moral distress exacerbates the effects of SVS, particularly in high-stress environments like the ICU. This is supported by the positive correlation between burnout and moral distress, which aligns with findings from

Shomalinasab et al.(30) , although they did not report a significant correlation between moral distress and SVS.

The findings emphasize the need for health-care organizations to implement interventions that address both moral distress and SVS. These interventions should include resource allocation, collaboration with ethics committees, and the establishment of support systems to alleviate the negative psychological impacts on nurses. Failure to address these issues can lead to increased burnout, nurse turnover, and compromised patient care. Further research is needed to provide a deeper understanding of these relationships and identify effective strategies to support health-care professionals in managing these challenges.

Organizational culture plays a pivotal role in shaping nurses' responses to ethical challenges and their overall resilience. In ICU settings, where ethical dilemmas and psychological pressures are prevalent, an organizational culture that promotes values such as collaboration, respect, and employee well-being can significantly enhance moral resilience. A supportive organizational culture can reduce ethical pressures and provide the social support needed for nurses to navigate challenging situations. This study observed that nurses working in supportive organizational cultures demonstrated higher levels of moral resilience, whereas nurses in environments lacking sufficient psychological support exhibited lower resilience levels. These findings underline the importance of fostering a healthy organizational culture to reduce stress, burnout, and turnover, ultimately improving the quality of care.

To address the challenges of moral distress and SVS, several practical interventions are crucial. Peer support programs can provide emotional support and reduce feelings of isolation, while ethics committees can help resolve ethical dilemmas and offer guidance on complex moral issues. Resilience training programs are also essential for helping nurses cope with stress and adversity, especially in high-pressure environments like ICUs. These programs can equip nurses with coping strategies, reduce burnout, and increase job satisfaction, leading to better patient care and lower turnover rates.

In conclusion, enhancing moral resilience among nurses, particularly in intensive care units, is vital to mitigate the negative effects of moral distress and secondary victim syndrome. Regular training programs, the establishment of ethics committees, and peer-support initiatives are essential in creating supportive work environments. Additionally, policymakers should prioritize strategies that

promote nurses' well-being and provide resources for resilience training and support, reducing the impact of moral distress and secondary victim syndrome on health-care professionals.

This study acknowledges several limitations that should be taken into account. One key challenge was nurses' reluctance to participate in the research. This hesitation can largely be attributed to second victim syndrome, where health-care professionals experience emotional and psychological distress from errors in clinical practice. Moreover, the stipulation that participants needed to have experienced at least one clinical error made some nurses hesitant to participate due to concerns about the potential disclosure of their identities and past mistakes. In response to these concerns, the researcher implemented robust measures to ensure confidentiality, including anonymizing participants' identities during the data collection process. This approach aimed to create a secure environment in which nurses felt comfortable sharing their experiences.

Future research could address these limitations by implementing strategies to reduce hesitancy and enhance participation, such as offering more extensive support and reassurance to participants about confidentiality. Additionally, expanding the sample size and including a broader range of health-care settings may help to gain more comprehensive insights into the challenges faced by nurses, particularly those in varied clinical contexts. Furthermore, future studies could explore the experiences of nurses who have not encountered clinical errors to better understand how moral distress and resilience may manifest in different professional scenarios.

Conclusion

The results revealed a significant relationship between moral distress and second victim syndrome, indicating that nurses experience moral distress related to this syndrome. This highlights the urgent need for specific interventions to address these issues. The study also found an inverse relationship between moral resilience and both second victim syndrome and moral distress, underscoring the importance of fostering moral resilience to help nurses cope with clinical challenges.

To address these concerns, it is essential to implement targeted strategies such as developing peer-support programs, establishing robust ethics committees, and providing resilience training for nurses. A non-punitive approach should be prioritized to cultivate a culture of patient safety, raise awareness about errors, and acknowledge

their impact on nurses' well-being. Additionally, creating open lines of communication between nurses and management is crucial in fostering a supportive environment. These actions will not only help mitigate the effects of second victim syndrome but also ensure that nurses are equipped with the necessary emotional and psychological tools to navigate the complexities of their roles. By focusing on these concrete actions, nursing administrators and policymakers can improve the overall well-being of nursing teams and enhance the quality of care in health-care settings.

Furthermore, these findings have important implications for broader nursing policies. Both at the institutional and national levels, nursing policies should integrate strategies that address moral distress and second victim syndrome. Such policies should prioritize the mental and emotional well-being of nurses, ensuring adequate support systems are in place and creating an environment where ethical challenges can be addressed proactively. The inclusion of resilience-building programs and the reinforcement of supportive management structures are key components in shaping a health-care system that not only promotes high-quality patient care but also ensures the long-term sustainability of the nursing workforce.

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Conflict of interests

The authors declare they have no possible conflicts of interest to disclose.

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