

*Review Article***Effective interventions for improvement of moral sensitivity among nurses: A systematic review**Yasaman Soltani ^a  | Zahra Moosazadeh ^b | Aryan Alipour ^c  | Shaqayeq Esmaeili ^{d*} 

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Abstract

This study was conducted to assess the characteristics and effectiveness of interventions for the improvement of moral sensitivity among nurses. A systematic search was conducted on international databases including PubMed, Web of Science, and Scopus, as well as Persian databases including Magiran, Iranmedex, and Scientific Information Database using keywords including moral sensitivity, ethical sensitivity, nurses, and registered nurses from the inception to December 18, 2021. Experimental studies published in Persian and English focusing on effective interventions for the improvement of moral sensitivity among nurses were included. The standard of the studies that qualified for inclusion was assessed using the Joanna Briggs Institute critical assessment criteria. A total of 520 nurses were enrolled in eight studies. Of the nurses, 78.37% were female and 55% were in the intervention group. The mean age of participants was 34.74 (SD=5.65) years. Mean study duration, intervention, and follow-up were 10.38, 5.59, and 7.20 weeks, respectively. Seven educational interventions including "nursing ethics workshop" (two studies), "nursing ethics workshop using narration and lecture", "Moral sensitivity workshop", "ethical motivational educational program", "virtual narrative ethics workshop", and "empowerment educational program", improved moral sensitivity in nurses. However, the "nursing ethics workshop using seminar" was not effective in the management of moral sensitivity in nurses. The evidence for the positive effects of educational interventions on nurses' moral sensitivity was sparse but encouraging. However, there is a need for further studies to confirm the effectiveness of these interventions on nurses' moral sensitivity.

Keywords: Morals, Ethics, Nursing, Nurses, Systematic Review.**1 | Introduction**

Moral sensitivity is a fundamental issue in the field of ethics and the first stage of moral decision-making in the clinical setting [1, 2]. Based on previous literature, moral sensitivity is defined as "paying attention to the moral values in conflict situations and self-awareness of one's role and responsibility in that situation" [3]. Ethical sensitivity and moral sensitivity are two terms that are used together. Some scientists believe that the terms ethics and morals are different from each other, but some other scientists consider these two words to be synonymous with each other due to the concept of professional judgment and action [4]. Ethical sensitivity is a method and skill for the provision of compassion-

ate care to patients and their perception by nurses. Ethical sensitivity is a professional aspect of moral sensitivity. In addition, moral sensitivity is the ability to recognize moral conflicts and perception the moral consequences of a patient's decisions [5-7]. On the other hand, the provision of high-quality nursing care in clinical settings faces many ethical challenges that can affect patients' satisfaction with nursing care [8]. Therefore, nurses as patient advocates need to perceive ethical situations and conflicts sensitively and make moral decisions based on ethical principles [9]. Also, nurses must have moral skills and competencies to deal with and resolve ethical conflicts and ultimately provide high-quality nursing care in clinical settings. Hence, the improvement of nurses' ethical decision-making helps to improve the quality of

nursing care [1]. Moral sensitivity helps nurses to better perceive ethical conflicts in clinical settings and to apply an appropriate solution to them. Therefore, nurses with more moral sensitivity make better clinical decisions in ethical situations [10]. Meanwhile, there is limited evidence regarding the effectiveness of educational interventions on nurses' moral sensitivity. Hence, some educational interventions were effective in improvement of nurses' moral sensitivity [2, 8, 11]. However, a study in South Korea showed that the nursing ethics workshop using seminars was not effective in the management of moral sensitivity in nurses [12]. Therefore, it is not clear that these interventions are more effective in the management of nurses' moral sensitivity. To the best of our knowledge, there is a lack of evidence associated with potentially effective educational interventions to better manage moral sensitivity in nurses, which highlights a need to assess potentially effective interventions to the improvement of moral sensitivity in nurses. This systematic review was conducted with the aim of assessing the characteristics and effectiveness of interventions for the improvement of moral sensitivity among nurses.

2 | Methods

2.1 | Study registration and reporting

The procedures used to carry out this systematic review were based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist [13]. The current research was not registered in the international prospective register of systematic reviews (PROSPERO) database.

2.2 | Search strategy

A thorough search was done using the keywords "moral sensitivity", "ethical sensitivity", "ethics", "moral", "nurses", and "registered nurses" in the international databases PubMed, Web of Science, and Scopus as well as the Persian databases Magiran, Iranmedex, and Scientific Information Database, from the beginning to December 18, 2021. In the PubMed/MEDLINE database, for instance, the search criteria were (Impact" OR "Effect" OR "Improve" OR "Encourage" OR "Promote" OR "Advocate" OR "Overcome" OR "Address" OR "Influence" OR "Optimize" OR "Decrease" OR "Intervention") AND (Moral Sensitivity" OR "Ethical Sensitivity" OR "Ethics") AND ("Nurses" OR "Registered Nurses"). The Boolean operators "OR" and "AND" were used to combine phrases. The Persian electronic databases were searched using the Persian translation of the aforementioned keywords. The systematic search was conducted independently by two researchers. Gray literature, which includes expert opin-

ions, conference presentations, dissertations, research and committee reports, and continuing research, is not included in this review. The term "gray literature" describes papers that have been electronically published but have not gone through a for-profit publisher's editorial process [14].

2.3 | Inclusion and exclusion criteria

This systematic review comprised experimental research in Persian and English that focused on efficient interventions to enhance moral sensitivity in nurses. Letters to the editor, case studies, conference proceedings, qualitative studies, reviews, and research on successful interventions for raising moral awareness among nursing students were all disqualified.

2.4 | Study selection

Software called EndNote X8 was used for data management. The two researchers independently evaluated the steps of study selection based on inclusion/exclusion criteria, which included deleting duplicate studies, evaluating the titles and abstracts of the studies, and evaluating the full texts of the studies. To avoid data loss, the reference list of the included studies was evaluated manually.

2.5 | Data extraction and quality assessment

The first author's name, the year of publication, the location, the design, the sample size, the type of intervention, the length of the study, the length of the intervention, and the duration of follow-up were all taken from the articles that were included in this systematic review. They also took data on the age, gender, type of control group, tool characteristics, specific statistical tests, and the key findings of the studies. Randomized control trials (RCTs) and quasi-experimental research were assessed for quality using the critical evaluation checklist developed by the Joanna Briggs Institute (JBI) [15]. This test evaluates the internal validity of RCT and quasi-experimental studies in 13 and 9 items, respectively, as well as the similarity of participants in comparison groups, the accuracy of outcomes measured, and the appropriateness of statistical analysis. Using a three-point Likert scale with the options "yes" (score 1), "no" (score 0), and "not applicable/not clear" (score 0) the two researchers separately evaluated the quality of the studies that were qualified [16]. JBI checklists evaluate the quality of studies at the levels of good (≥ 8), fair (6-7), and poor (≤ 5) [15].

3 | Results

3.1 | Study selection

As presented in Figure 1, 3,894 studies were obtained using database searches. Also, two studies were obtained by hand-searching the references. 1,403 duplicate papers were removed electronically and manually. After assessment of the titles and abstracts of 2,491 articles, 2,278 studies were removed due to lack of in line with the purpose of the present study, and 168 articles were removed due to the non-interventional nature of the studies (case reports, editorial letters, conference papers, dissertations, reviews, etc). After the assessment of the full text of 39 studies, 31 articles were removed due to inappropriate study design or outcomes (23 studies), overlap data (five studies), and insufficient data (three studies). Finally, eight studies [2, 8, 10-12, 17-19] were included in this systematic review.

3.2 | Study characteristics

A total of 520 nurses were enrolled in eight studies. [2, 8, 10-12, 17-19] Of the nurses, 78.37% were female and 55% were in the intervention group. The mean age of participants was 34.74 (SD=5.65) years. Mean study duration, intervention, and follow-up were 10.38, 5.59, and 7.20 weeks, respectively. Of the included studies, six studies [8, 10-12, 17, 18] had a quasi-experimental design, two studies [2, 19] had an RCT design, seven studies [2, 8, 10, 11, 17-19] were conducted in Iran, one study [12] was conducted in South Korea. The control group was present in seven studies [2, 8, 10-12, 17, 18] and the follow-up was present in five studies [8, 10, 11, 17, 19]. The moral sensitivity in the decision-making questionnaire by Lutzen was used in six studies [2, 10-12, 18, 19] and the moral sensitivity questionnaire by Han was used in two studies [8, 17]. In seven studies, [2, 8, 10, 11, 17-19] interventions were effective in the improvement of moral sensitivity in nurses. [Supplementary Table 1](#) lists the characteristics of the studies that were included in this review.

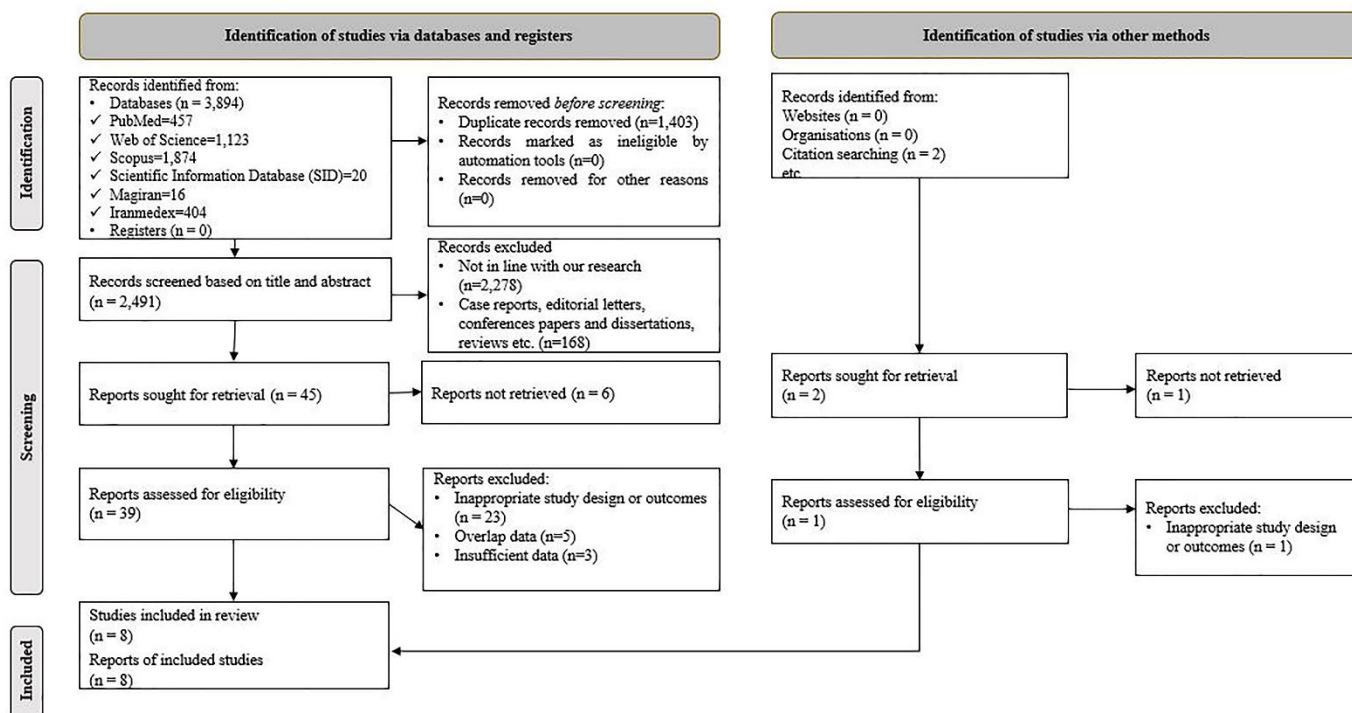


Figure 1. Flow diagram of the studies.

3.3 | Methodological quality assessment of eligible studies

As presented in [Supplementary Table 1](#) and Figures 1 and 2, all eligible studies had a "good" quality.

3.4 | Interventions for the improvement of moral sensitivity in nurses

A total of eight studies [2, 8, 10-12, 17-19] were considered focusing on interventions for the improvement of moral sensitivity in nurses. All interventions had an educational nature for the management of moral sensitivity in nurses. Table 1 lists details of the interventions in this systematic review. Overall, seven interventions including "nursing ethics workshop" (two studies), "nursing

ethics workshop using narration and lecture", "Moral sensitivity workshop", "ethical motivational educational program", "virtual narrative ethics workshop", and "empowerment educational program", improved moral sensitivity in nurses [2, 8, 10, 11, 17-19].

However, the "nursing ethics workshop using seminar" was not effective in the management of moral sensitivity in nurses [12] (Table 1).

		Imanifar <i>et al.</i> , 2015	Bahriceni <i>et al.</i> , 2017
RCT	Was true randomization used for assignment of participants to treatment groups?	Y	Y
	Was allocation to treatment groups concealed?	Y	Y
	Were treatment groups similar at the baseline?	Y	Y
	Were participants blind to treatment assignment?	N	N
	Were those delivering treatment blind to treatment assignment?	N	N
	Were outcomes assessors blind to treatment assignment?	N	N
	Were treatment groups treated identically other than the intervention of interest?	U	U
	Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analyzed?	Y	Y
	Were participants analyzed in the groups to which they were randomized?	Y	Y
	Were outcomes measured in the same way for treatment groups?	Y	Y
	Were outcomes measured in a reliable way?	N	Y
	Was appropriate statistical analysis used?	Y	Y
	Was the trial design appropriate, and any deviations from the standard RCT design (individual randomization, parallel groups) accounted for in the conduct and analysis of the trial?	Y	Y

Figure 2. Methodological quality assessment of RCT studies using JBI.

		Hasanpour <i>et al.</i> , 2011	Borhani <i>et al.</i> , 2012	Hosseini <i>et al.</i> , 2018	Nasiriani <i>et al.</i> , 2020	Bagherzadeh <i>et al.</i> , 2021	Lee <i>et al.</i> , 2021
Quasi-Experimental	Is it clear in the study what is the 'cause' and what is the 'effect' (i.e. there is no confusion about which variable comes first)?	Y	Y	Y	Y	Y	Y
	Were the participants included in any comparisons similar?	Y	Y	Y	Y	Y	Y
	Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?	U	U	U	U	U	U
	Was there a control group?	Y	Y	Y	Y	Y	Y
	Were there multiple measurements of the outcome both pre and post the intervention/exposure?	Y	Y	Y	Y	Y	Y
	Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analyzed?	Y	Y	Y	Y	Y	Y
	Were the outcomes of participants included in any comparisons measured in the same way?	Y	Y	Y	Y	Y	Y
	Were outcomes measured in a reliable way?	Y	Y	Y	Y	Y	Y
	Was appropriate statistical analysis used?	Y	Y	Y	Y	Y	Y

Figure 3. Methodological quality assessment of quasi-experimental studies using JBI.

Table 1. Interventions of the studies included in the systematic review.

First Author /year	Intervention Program	Description
Hasanpour <i>et al.</i> , 2011 [18]	Nursing ethics workshop	Participants in the intervention group received five workshops related to nursing ethics using lectures and group discussions during four sessions in eight weeks for four hours. The content of this educational intervention included the following: 1) Principles of professional ethics; 2) Patient rights; 3) Ethical decision making; 4) Principles of Bioethics; 5) Nursing ethics codes. Participants completed the Moral Sensitivity in Decision-Making Questionnaire before and after eight weeks of educational intervention.
Borhani <i>et al.</i> , 2012 [17]	Nursing ethics workshop	Participants in the intervention group received workshops related to nursing ethics for two days for sixteen hours (eight hours per session). Participants in the intervention group were followed up using 24 text messages on nursing ethics over eight weeks. Participants in the intervention group completed the Moral Sensitivity Questionnaire before, after two educational interventions, and after eight weeks of follow-up.
Imanifar <i>et al.</i> , 2015 [19]	Nursing ethics workshop using narration and lecture	A nursing ethics workshop using narration and lecture was used to assess moral sensitivity in nurses. Patients were divided into two groups of intervention (narration and lecture). 1) Lecture group: Participants in the lecture group received workshops related to nursing ethics for four weeks for three hours (one session per week). 2) Narration group: In this group, three events about moral sensitivity (one from scientific evidence and two from clinical experience) were narrated to the participants. Finally, participants discussed these narratives. Participants in both groups were followed up after twelve weeks. Participants in both groups completed the Moral Sensitivity Questionnaire before and after educational interventions, and after twelve weeks of follow-up.
Bahrieni <i>et al.</i> , 2017 [2]	Moral sensitivity workshop	Participants in the intervention group were divided into four subgroups and each group received a moral sensitivity workshop in one session in one day for eight hours. Participants in the intervention group completed the Moral Sensitivity Questionnaire before and after the educational intervention.
Hosseini <i>et al.</i> , 2018 [8]	Ethical motivational educational program	Participants in the intervention group received ethical motivational educational programs using lectures and group discussions during two sessions in two days for ten hours (five hours per session). The content of these sessions included the following: 1) Session one: Principles of professional ethics, patient rights, and nursing ethics codes were explained to nurses using lectures and group discussions. 2) Session two: A film adapted from the Australian series of nurses was shown to the participants, which included six episodes: 1) Accident and triage scene; 2) Resuscitation of a critically ill patient; 3) Pregnancy of a girl with Down syndrome; 4) Informing relatives of the patient's death; 5) Patients complaining about nurses; 6) Staff complaints from officials. Participants were asked to imagine themselves as nurses in the film and then use group discussion to reach a single conclusion about the decision made. Participants in the intervention group were followed up after four weeks. Participants completed the Moral Sensitivity Questionnaire before, after educational intervention, and after follow-up.
Nasiriani <i>et al.</i> , 2020 [10]	Virtual narrative ethics workshop	Participants in the intervention group received a virtual narrative ethics workshop using a social network during five sessions in five weeks (one session per week). The content of these sessions included the following: 1) Session one: Objectives of the course, familiarity with ethical theories with the nursing approach, and the importance of ethics in the nursing profession; 2) Session two: Principle of respect for patient independence (four narratives); 3) Session three: Principle of profitability (two narratives); 4) Session four: Principle of non-harm (two narratives); 5) Session five: Principle of justice on respect for human dignity and distributive justice (two narratives). Participants in the intervention group were followed up after four weeks. Participants completed the Moral Sensitivity Questionnaire before, after educational intervention, and after follow-up.
Bagherzadeh <i>et al.</i> , 2021 [11]	Empowerment educational program	The empowerment educational program was implemented by expert professors in two ways: narrative ethics and interactive lecturing. Participants in the intervention group received an empowerment educational program using slides, lectures, video clips, stories, question and answer sessions, brainstorming, and practical education during six sessions in three weeks for one hour (two sessions per week). The content of this program included education on the principles of professional ethics, bioethics, the importance of moral sensitivity in dealing with ethical problems and conflicts, the application of ethical concepts in ethical decision-making, the professional codes of ethics, the principles of the charter of patient's rights, the participation of patients and their families in healthcare decisions, how to observe a patient's moral rights without compromising their moral conscience, interpersonal communication skills, effective and ineffective communication skills, types of verbal and nonverbal communication, effective listening, empathy in patient care, steps to communicate with the patients, communication barriers in nursing, and communication with patients with mental and physical challenges. Participants in the intervention group were followed up after four weeks. Participants completed the moral sensitivity questionnaire before, after educational intervention, and after follow-up.
Lee <i>et al.</i> , 2021 [12]	Nursing ethics workshop using seminar	Participants in the intervention group received a nursing ethics workshop using a seminar during six sessions in 24 weeks for 48 hours (one session per four weeks). The content of these sessions included the following: 1) Session one: Nursing ethics; 2) Session two: Moral thinking; 3) Session three: Relational ethics in nursing organizations; 4) Session four: Act on decisions on life-sustaining treatment for patients in hospice and palliative care or at the end of life; 5) Session five: A novice nurse's ethical awareness vs. an experienced nurse's ethical awareness; 6) Session six: Ethical issues faced by nurses in daily practice. Participants completed the moral sensitivity questionnaire before and after the educational intervention.

4 | Discussion

Based on the present systematic review findings, seven interventions including "nursing ethics workshop", "nursing ethics workshop using narration and lecture", "moral sensitivity workshop", "ethical motivational educational program", "virtual narrative ethics workshop", and "empowerment educational program", improved moral sensitivity in nurses. However, the "nursing ethics workshop using seminar" was not effective in the management of moral sensitivity in nurses.

Nurses in clinical settings are often exposed to immoral behaviors [20-22]. However, nurses usually ignore some immoral behaviors such as non-compliance with work standards and violation of professional ethics due to high workload [12]. Finally, ignoring immoral behaviors leads to negative outcomes such as moral distress in nurses [23, 24]. Education is an essential component of all interventions to improve moral sensitivity in the present study. The use of educational methods can improve critical thinking abilities in nurses and ultimately lead to appropriate ethical decisions by nurses in clinical settings [23, 25, 26]. In this systematic review, the nursing ethics workshop was the most effective intervention used. Nurses can make the appropriate decisions in clinical settings with an awareness of coping strategies with ethical challenges. In the present systematic review, effective educational approaches to improve nurses' moral sensitivity were including "nursing ethics workshop", "nursing ethics workshop using narration and lecture", "moral sensitivity workshop", "ethical motivational educational program", "virtual narrative ethics workshop", and "empowerment educational program" [2, 8, 10, 11, 17-19]. These interventions were implemented using the participation of nurses in the form of discussing ethical issues and sharing each other's experiences, which can be effective in the management of their moral sensitivity [26]. Communication with others helps improve a nurse's moral sensitivity [12]. Conversation and discussion in the form of ethics education seminars and workshops is an appropriate strategy to solve ethical challenges in nurses [27]. However, discussing moral dilemmas with other nurses can be challenging. They may refuse to admit when they have moral issues [12]. Therefore, the nursing profession needs a kind of culture in the field of nurses' self-reflection about the moral problems encountered in clinical settings [12, 28]. Therefore, these interventions must be included in in-service education programs for nurses.

Nurses can look at a clinical issue with an unbiased and organized approach using reinforcing critical thinking. Therefore, nurses must adopt critical thinking processes to develop appropriate

strategies for resolving ethical issues, which lead to appropriate ethical decisions in clinical settings [26, 29]. Reinforcing critical thinking skills has received more attention among nursing students [30-32]. However, previous evidence has shown that nurses are weak in the implementation of these skills to solve ethical problems in clinical settings, which has led to reduced effectiveness of ethical interventions [33-35]. Therefore, education alone is not enough to manage moral sensitivity in nurses. The ability of nurses to face ethical challenges requires a level of critical thinking skills. Hence, it is suggested that special attention be paid to critical thinking skills in the development of interventions to assess nurses' moral sensitivity.

4.1 | Limitations

The main limitation of this systematic review was language bias. In the present study, we only evaluated English and Persian language studies. Therefore, this systematic review did not include any papers that were authored in other languages. Also, the results of the grey literature were not searched due to the likelihood of alterations. This might represent yet another study constraint.

4.2 | Implications for education, practice, and management in nursing

Improvement of nurses' moral sensitivity requires basic planning at the educational, practice, and managerial levels. Nursing colleges can play an important role in the management of nurses' moral sensitivity by incorporating moral sensitivity education into nursing courses. In clinical settings, nurses can deal with ethical conflicts by sharing experiences. Also, nursing managers and policymakers can manage nurses' moral sensitivity by developing appropriate educational strategies.

4.3 | Recommendations for future research

Based on the findings of this research, there is limited evidence regarding interventions to improve nurses' moral sensitivity. Therefore, it is recommended that future researchers design well-designed interventions to evaluate the effectiveness of these interventions to improve nurses' moral sensitivity. Interventions to improve nurses' moral sensitivity were performed only in Asian countries. Therefore, it is suggested that special attention be paid to this issue in non-Asian countries.

5 | Conclusions

Overall, educational interventions including the "nursing ethics workshop", "nursing ethics workshop using narration and lecture", "moral sensitivity workshop", "ethical motivational educa-

tional program", "virtual narrative ethics workshop", and "empowerment educational program", improved moral sensitivity in nurses. It is advised that nursing managers and policymakers use the study's findings to better manage nurses' moral sensitivity.

Supplementary files

[Supplementary Table 1.](#)

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Authors' contributions

Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work: YS, ZM, AA, SE; Drafting the work or revising it critically for important intellectual content: YS, ZM, AA, SE; Final approval of the version to be published: YS, ZM, AA, SE; Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: YS, ZM, AA, SE.

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Competing interests

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Availability of data and materials

The datasets used during the current study are available from the corresponding author on request.

References

- Amiri E, Ebrahimi H, Vahidi M, Asghari Jafarabadi M, Namdar Areshtanab H. Relationship between nurses' moral sensitivity and the quality of care. *Nurs Ethics*. 2019;26(4):1265-1273.
- Bahrieni F, Azodi P, Hajivandi A, Jahanpour F. The effect of education in nurse's moral sensitivity. *J Pharm Sci Res*. 2017;9(10):1817-1821.
- Zhang N, Li J, Xu Z, Gong Z. A latent profile analysis of nurses' moral sensitivity. *Nurs Ethics*. 2020;27(3):855-867.
- Milliken A. Nurse ethical sensitivity: An integrative review. *Nurs Ethics*. 2018;25(3):278-303.
- Mert Boğa S, Aydin Sayılan A, Kersu Ö, Baydemir C. Perception of care quality and ethical sensitivity in surgical nurses. *Nurs Ethics*. 2020;27(3):673-685.
- Duran S, Kargın M, Çelebi E. Moral sensitivity in nurses providing care to psychiatric patients: a cross-sectional study. *Kocaeli Med J*. 2018;7(3):96-103.
- Lützen K, Evertzon M, Nordin C. Moral sensitivity in psychiatric practice. *Nurs Ethics*. 1997;4(6):472-482.
- Hoseini M, Ebadi M, Farsi Z. The effect of moral motivation training on moral sensitivity in the nurses of Military Hospitals. *Mil Caring Sci J*. 2018;4(4):249-257.
- Kim W-J, Park J-H. The effects of debate-based ethics education on the moral sensitivity and judgment of nursing students: A quasi-experimental study. *Nurse Educ Today*. 2019;83:104200.
- Nasiriani K, Fazlojoo SE, Dehghani Tafti A, Mobari Y. The Effect of Virtual Narrative Ethics Education on Moral Sensitivity in Critical Care Nurses. *Iran J Med Ethics Hist*. 2020;13(1):168-179.
- Bagherzadeh M, Jafari H, Charati JY, Shafipour V. The effect of an empowerment program on the moral sensitivity and caring behaviors of emergency nurses in Iran. *Nurse Educ Pract*. 2021;57:103243.
- Lee C, Kim S, Choe K, Kim S. Effect of ethics seminar on moral sensitivity and ethical behavior of clinical nurses. *Int J Environ Res Public Health*. 2021;18(1):241.
- Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71.
- Corlett RT. Trouble with the gray literature. *Biotropica*. 2011;43(1):3-5.
- John JR, Jani H, Peters K, Agho K, Tannous WK. The effectiveness of patient-centred medical home-based models of care versus standard primary care in chronic disease management: A systematic review and meta-analysis of randomised and non-randomised controlled trials. *Int J Environ Res Public Health*. 2020;17(18):6886.
- Fernández-Férez A, Ventura-Miranda MI, Camacho-Ávila M, Fernández-Caballero A, Granero-Molina J, Fernández-Medina IM, et al. Nursing Interventions to Facilitate the Grieving Process after Perinatal Death: A Systematic Review. *Int J Environ Res Public Health*. 2021;18(11):5587.
- Borhani F, Abbaszadeh A, Sabzevari S, Dehestani M. The effect of workshop and follow-up on ethical sensitivity of nurses. *Med Ethics*. 2012;6(21):11-24.
- Hassanpoor M, Hosseini M, Fallahi Khoshknab M, Abbaszadeh A. The effect of teaching the principles of nursing ethics on moral sensitivity in the decision-making of nurses in social security hospitals in Kerman province in 2010. *Iran J Ethics Med Hist*. 2011;4(5):58-64.

19. Imanifar N, Vaghar SS, Afshar L, Sharifzadeh GR. Comparison effect of teaching ethical principles using narrative ethics and lecture on the moral sensitivity of nurses. *Med Ethics*. 2015;9(31):95-125.
20. Kleemola E, Leino-Kilpi H, Numminen O. Care situations demanding moral courage: content analysis of nurses' experiences. *Nurs Ethics*. 2020;27(3):714-725.
21. Devine CA, Chin ED. Integrity in nursing students: A concept analysis. *Nurse Educ Today*. 2018;60:133-138.
22. Qi L, Cai D, Liu B, Feng T. Effect of workplace ostracism on emotional exhaustion and unethical behaviour among Chinese nurses: A time-lagged three-wave survey. *J Adv Nurs*. 2020;76(8):2094-2103.
23. Ghazanfari MJ, Emami Zeydi A, Panahi R, Ghanbari R, Jafaraghaee F, Mortazavi H, et al. Moral distress in nurses: Resources and constraints, consequences, and interventions. *Clin Ethics*. 2022;17(3):265-271.
24. Hossain F, Clatty A. Self-care strategies in response to nurses' moral injury during COVID-19 pandemic. *Nurs Ethics*. 2021;28(1):23-32.
25. Von Colln-Applying C, Giuliano D. A concept analysis of critical thinking: A guide for nurse educators. *Nurse Educ Today*. 2017;49:106-109.
26. Yeom H-A, Ahn S-H, Kim S-J. Effects of ethics education on moral sensitivity of nursing students. *Nurs Ethics*. 2017;24(6):644-652.
27. Horntvedt M-ET, Nordsteien A, Fermann T, Severinsson E. Strategies for teaching evidence-based practice in nursing education: a thematic literature review. *BMC Med Educ*. 2018;18(1):172.
28. Lechasseur K, Caux C, Dollé S, Legault A. Ethical competence: An integrative review. *Nurs Ethics*. 2018;25(6):694-706.
29. Ludin SM. Does good critical thinking equal effective decision-making among critical care nurses? A cross-sectional survey. *Intensive Crit Care Nurs*. 2018;44:1-10.
30. Li S, Ye X, Chen W. Practice and effectiveness of "nursing case-based learning" course on nursing student's critical thinking ability: a comparative study. *Nurse Educ Pract*. 2019;36:91-96.
31. Carvalho DP, Azevedo IC, Cruz GK, Mafra GA, Rego AL, Vitor AF, et al. Strategies used for the promotion of critical thinking in nursing undergraduate education: a systematic review. *Nurse Educ Today*. 2017;57:103-107.
32. Adib-Hajbaghery M, Sharifi N. Effect of simulation training on the development of nurses and nursing students' critical thinking: A systematic literature review. *Nurse Educ Today*. 2017;50:17-24.
33. Cerit B, Özveren H. Effect of hospital ethical climate on the nurses' moral sensitivity. *Eur Res J*. 2019;5(2):282-290.
34. Tuveson H, Lützn K. Demographic factors associated with moral sensitivity among nursing students. *Nurs Ethics*. 2017;24(7):847-855.
35. Storaker A, Nåden D, Sæteren B. From painful busyness to emotional immunization: Nurses' experiences of ethical challenges. *Nurs Ethics*. 2017;24(5):556-568.

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