Original Article

Effect of Group Reflection and Moral Case Deliberation on Moral Reasoning Skills and the Reflective Ability Among Nursing Students

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Abstract

Background: In healthcare, professionals are often confronted with ethical issues and morally complex. Moral reasoning and reflective ability are the most important requirements for nurses' professional proficiency and patient care. Group reflection and moral case deliberation are important and hypothetically impactful forms of clinical ethics support. Empirical evidence, however, is incomplete concerning its real effect.

Objectives: This study aimed to determine the effect of group reflection and Moral Case Deliberation (MCD) on nursing students' moral reasoning skills and reflective ability.

Methods: The present study is quasi-experimental. The nursing students in two nursing faculties of Shahid Saduoghi University of Medical Sciences were enrolled (n = 72). The learners participated in the group reflection sessions and MCD in educational intervention. Nursing Dilemmas Test and reflection on learning questionnaires were used. Data were analyzed by SPSS 16 software with repeated measurement ANOVA. The statistical significance is considered at P < 0.05.

Results: The results showed that educational interventions improved the moral reasoning skills respectively, Pre-test, 1st post-test, 2nd post-test (44.05±4.79, 51.63±4.81, and 50.05±8.47) and reflective ability of learners' respectively Pre-test, 1st post-test, 2nd post-test (59.00±14.48, 65.71±14.10, and 67.28±12.60). The results of comparing the intervention and control groups over time showed that the learners' reasoning scores were significantly different (P <0.001), and reflective ability in the intervention and control groups were significantly different over time (P =0.003).

Conclusion: The results indicated the educational effect of interventions on participants' reasoning and reflection was reported at high and moderate levels, respectively. It recommended that interactive methods, including group reflection and moral case deliberation, are planned in the ethical nursing education program.

Keywords: Ethics Reasoning, Reflection, Education, Moral Case Deliberation, Nursing

Background

The development of reasoning and ethical decision-making skills has been considered one of the prerequisites for professional and ethical behavior among staff and students in medical professions (1). Healthcare systems require providers with the capacity and ability to ethically judge (2). The ability to make correct judgments and ethical decisions can potentially lead to achieving health promotion goals, attaining greater patient benefit, and injury prevention (2, 3). Recently, there has been a growing need to develop moral reasoning skills to improve ethical decisions and professional behaviors among nursing students (4). Moreover, nurses must be able to participate effectively in clinical judgment and ethical decision-making processes (3).

There are two dominant perspectives in designing education programs in the professional field. In the first

perspective, the most important purpose of the programs is to train virtuous personnel. In the second perspective, training is a tool that enables learners to analyze, reason, justify, and make judgments in ethical challenges. In recent decades, one of the important goals in ethics education focused on improving decision-making skills and moral reasoning (5). Moral reasoning was defined as the ability to assess and reflect on ethical challenges, analyze those using rules, justify selecting the best option among different options, and make a decision (6). Moral reasoning skills improve the skills of individuals to determine and select ethical choices in case of encountering ethical challenges (5).

The approaches of clinical ethics support introduced "top-down" or "bottom-up" perspectives with different objectives and methods. The clinical ethics consultation and committees emphasized "top-down" and moral case deliberation, ethics discussion groups, and ethics reflection groups underlined in the "bottom-up" approach. The "bottom-up" approach is highlighted to provide situations for thinking and insight into ethical issues among learners (5). This approach stresses learning through thinking and reflection on their own experiences and their peer about ethical issues in clinical practice (5). Various methods to enhance learners' ethical abilities in education systems have been suggested, such as MCD, reflection-based methods, and group discussions on cases/scenarios (5, 7). In this regard, reflective ability is introduced as the key ability to develop moral reasoning and decision-making skills among learners (1). The reflective ability is defined as one's capacity for questioning and critically analyzing experiences (8) that improve learners' capability to think critically, reasoning, and make ethical decisions (9, 10).

Reflective ability and moral reasoning are the principles of professional behavior (1). MCD and Group reflection have been described as the supportive approach to understanding ethical challenges in clinical practice (5, 11, 12) that can assist health personnel in making decisions in challenging situations. Tan et al. illustrated their experiences with using MCD in the neurology ward. They acknowledged MCD was a practical 'hands on' design to deliberate ethical problems. MCD facilitated to foster of understanding of a case and improved decision-making, assisted the participants in preventing moral distress, team construction, and fostering moral competencies. They also suggested that MCD was planned to create a climate for improving the quality of care and improving

workers' knowledge and education (12). MCD positively was evaluated by the participants in Janssens's study. They introduced the effective factors influencing the quality of the MCD sessions, including facilitators as a key role in fostering safety and dialogue among the participants, time, helping follow-up sessions, and management support as bottom-up support (13). Hartman stated although moral case deliberation is evaluated positively as a form of clinical ethics support, it has limitations (14). In a review study concerning the impact of MCD, Haan et al. indicated that most studies reported positive changes. However, challenges, frustrations, and absence of change were also reported (7). Further studies are recommended to illustrate the method's effect on participants' capabilities (7, 14).

Momennasab and colleagues designed the intervention containing four group reflection sessions on ethical codes. Their results showed group reflection improved nurses' knowledge, attitude, and practice based on ethical codes (15). Wati et al. suggested providing consistent ethics training and group reflection sessions to support nurse team leaders in resolving ethical dilemmas, providing a creative environment for ethical decision-making, and improving patient outcomes (16). Morley and Horsburgh explained reflective group discussions in response to morally distressing patient cases and elucidated this supportive process complements ethics consultation. Their results showed the method diminished the adverse effects of moral distress among participants (17). Harrison and colleagues discussed the benefits of group reflection on teamwork and individual practice in clinical practice (18). Most studies addressed the effect of the method on learners' skills, and limited studies assessed the reflective method's effect on participants' reasoning.

Objectives

The present study aimed to assess the effect of group reflection and moral case deliberation (MCD) on nursing students' moral reasoning skills and reflective ability. The hypothesis of this study was to investigate whether the use of group reflection and MCD as teaching methods can improve nursing students' reasoning ability in ethical challenges and their reflective ability.

Methods

Design: This is a quasi-experimental study. This study was conducted at Shahid Sadoughi University of Medical Sciences in 2021-2022.

Participants: Inclusion criteria included participants with at least one semester in clinical education and the ethics course. Nursing participants in two Nursing schools of Shahid Sadoughi University of Medical Sciences were enrolled in the study (n = 72) as intervention (n = 36) and control (n = 36) groups. Based on the schools, the participants were studying in the schools and were entered into the intervention or control groups randomly. In each school, all participants participated in the study by census.

Educational Intervention: The aims of interventions were described as improving the moral reasoning of learners related to ethical challenges. The duration of the interventions was 4 months and was conducted in the nursing schools of Shahid Sadoughi University of Medical Sciences.

The course was conducted in two phases. The interactive lecture reviewed the concepts and principles of ethics and professionalism in the first phase. In the interactive lecture, learners become more involved in learning and retain more information. The interactive techniques such as questioning the audience, using cases and examples and video to direct the learners to participate in the learning process were used.

After that, the MCD sessions were used to develop learners' reasoning and analysis on issues of professionalism and ethics (12). This way, participants were divided into groups of 5-6 persons. They presented their experiences related to ethical challenges as educational cases. The ethical challenges are privacy, conscious consent, patient honesty, colleague relationships, and error reporting. Participants in small groups analyzed the problem and identified ethical questions. The group members could ask questions for additional information about the cases from those who presented them. The members analyzed the cases based on moral values and norms from different stakeholders' viewpoints. The proposed solutions were presented in the small groups in the next step. After that, each group presented their arguments for choosing their solution. Discussion was held between members of different groups to find the best decision. During sessions, the facilitator was responsible for guiding discussion among the learners. Finally, after selecting the best decision and examining its various aspects, the facilitator concluded the discussion.

In the second phase, the group reflection method was conducted. In this section, learners were asked to reflect on one of their experiences in professionalism and ethics. They filled out a structured form of reflection, including questions based on the Gibbs reflection model (19) (describing the experience (what happened), explaining the pros and cons of the experience, reviewing their performance, and appraising the choice of a better solution and a decision to perform activities in the future. Reflection experiences of learners were shared in small groups, and members discussed their experiences in small groups. After that, the experiences were presented and discussed in larger groups. The facilitator directed the learners in the process of group reflection and summation.

The role of the facilitator was defined as the establishment of a safe climate for an open dialogue that allows the participants to present the case, facilitate discussion, the assistance the participants in reflecting on their experiences, support recognition of ethical issues, determination of the values, the consideration the assumptions and reasoning through a dialogical moral inquiry, and finding the recommendations and best action.

This study used a non-equivalent control group. The participants attended the routine educational sessions where interactive lectures taught principles of ethics and professionalism. The techniques, including using cases and examples and video, were used in the sessions to teach the principles of ethics and professionalism.

Measurements: The Nursing Dilemmas Test consists of 6 scenarios of ethical challenges for patient care, including "Newborn with anomalies," "Forcing medication", "Adult's request to die", "New nurse orientation", "Medication error," and "Uninformed terminally-ill adult". The questions assessed the nurse's reaction in that simulated situation. The questionnaire was developed by Chrisham based on Kohlberg's theory (20). Each scenario suggests a situation that can be problematic for nurses. Each scenario has six common views, which are presented through six questions. The NDT yielded 4 scores: willingness to act, familiarity, practical considerations, and principled thinking. The possible total scores of each scenario and all six scenarios are respectively 11 and 66, with lower scores showing lower moral reasoning ability. Crisham found the test reliable (Cronbach's alpha=0.57) and valid on the Kohlberg-like scale (21). Borhani et al. confirmed the Persian version, face, and content validity. They also reported a test-retest correlation coefficient of 0.82 by twice applying the test to ten nursing students and nurses (22).

The "reflection on learning" questionnaire was developed by Sobral et al. (23). The reflection-in-learning is a powerful predictor of change in moral reasoning over time. The questionnaires consisted of 14 items, and the scoring was from 1 (never) to 7 (always) (1). The range of scores was from 14 to 98. Validity and reliability were confirmed in the author's investigated context in the previous study. (Cronbach's alpha = 0.92, ICC=0.90) (24). Participants completed the questionnaires one week before the start of the intervention (i.e., baseline), one week after intervention completion (i.e., post-intervention), and two months after intervention completion (i.e., follow-up) in both the intervention and control groups. They filled out the questionnaires by self-administration in the schools' face-to-face survey.

Data Analysis: Data were analyzed by SPSS 16 software. Data was analyzed by descriptive (frequency and percentage, mean, SD) and analytical tests. The RM-ANOVA test was used to examine the moral reasoning change and the reflective ability of participants over time in the intervention and control groups. The Partial eta-squared (η^2) index evaluated the effect of the intervention. Based on the Partial eta-squared (η^2) index, the educational effect of 0.01 was low, 0.06 was moderate, 0.14 was high, and statistically significant of the repeated measure ANOVA was considered $P < 0.05$.

Results

Learners: 55.6% male (n=40) and 44.4% female (n=32). The age range of learners was 19 to 23 years.

Instructors: two experts in nursing education who have experience in teaching professionalism and ethics in nursing participated in the study.

The reasoning scores of learners in the intervention and control groups are shown in Table 1. The results indicated the moral reasoning scores in the intervention group were improved. Bonferroni test showed the learners' scores of moral reasoning before and after one week ($P = 0.00001$) and after two months ($P = 0.00001$) had significantly improved. There was no significant difference between the one-week and two-month post-tests. We found no significant interaction effect between the learners' scores of moral reasoning and their gender and their age in intervention and control groups over time. The trend of moral reasoning and reflective ability scores of participants in the intervention and control groups over time are shown in Figures 1 and 2.
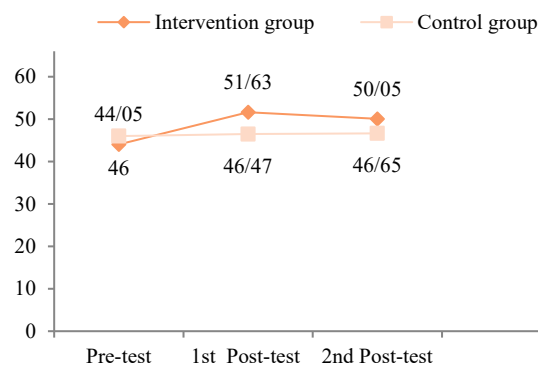

Figure 1. The results of the moral reasoning of participants in the intervention coup over time

The reasoning scores of participants about ethical dilemmas such as "Newborn with anomalies", "Forcing medication", "Adult's request to die", "New nurse orientation", "Medication error," and "Uninformed terminally-ill adult" was improved after the intervention.

The reflection ability scores of participants in the intervention and control groups are shown in Table 2.
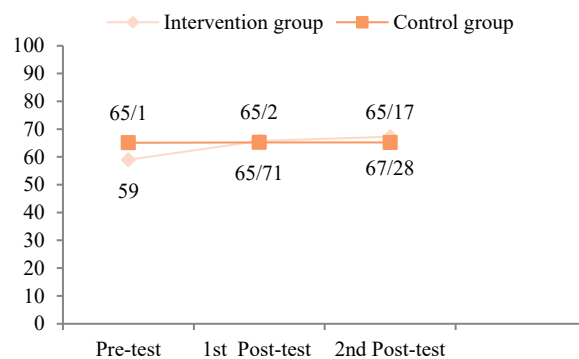

Figure 2. The reflective ability of participants in the intervention and control groups over time

The results indicated the reflective ability of participants in the intervention and control groups improved over time. We found no significant interaction effect between the learners' scores of reflective ability on the intervention and control groups over time and their gender and age.

The interaction of moral reasoning and reflective ability: The results showed the relationship between participants' moral reasoning and reflective ability was significant. We found a significant interaction effect between the learners' scores of moral reasoning and reflective ability one week (P=0.0001, Partial eta-squared (η^2) = 0.94) and two months after the intervention (P-value=0.0001, Partial eta-squared (η^2) = 0.94), respectively.

Table 1. The reasoning scores of learners in the intervention and control groups

Group	Pre-test		1st post-test		2nd post-test		p-value	Partial eta-squared (η^2)
	Mean	SD	Mean	SD	Mean	SD		
Intervention	39.14	4.83	51.54	4.84	49.71	8.34	0.00001	0.36
Control	46.00	7.22	46.47	7.17	46.65	7.46		

Repeated Measurement ANOVA

Table 2. The reflection ability scores of learners in the intervention and control groups

Group	Pre-test		1st post-test		2nd post-test		p-value	Partial eta-squared (η^2)
	Mean	SD	Mean	SD	Mean	SD		
Intervention	57.00	14.84	65.71	14.10	67.28	12.60	0.003	0.07
Control	65.10	13.28	65.20	13.26	65.17	13.26		

Repeated Measurement ANOVA

Discussion

The development of reasoning skills and reflective ability among participants are recognized as essential skills in professional behavior (1). The results of this study displayed that the use of MCD and group reflection methods in clinical education improved the participants' moral reasoning skills and their reflective ability over time. The results indicated that the educational effect of interventions on participants' reasoning and reflective ability was reported at high and moderate levels, respectively. Due to the increasing complexity of clinical environments, the probability of nurses facing ethical challenges has increased significantly, so nursing students must acquire the ability to reason and make ethical decisions during their careers, the use of methods based on group discussion and case-based learning methods have a positive impact on the reflective ability and reasoning of students.

Nursing learners should be prepared to enter the complex clinical environment and learn how to manage situations of ethical challenges (3, 25). They need to develop and improve ethical analysis skills and decision-making capabilities to manage ethical problems in clinical situations and make ethical decisions (4, 6). The results of the study indicated the scores of moral reasoning of participants in the control group and before intervention were at a moderate level.

Moral reasoning involves reflecting professional values about each possible action and considering the impact of potential decisions on patient well-being (26-29). The MCD is as collaborative and systematic reflection on real clinical cases (5) focused on improving learners' problem-solving skills and decision-making processes in ethically challenging situations. This present intervention allowed learners to practice ethical decision-making by analyzing challenges and dilemmas and appraising different approaches. In addition, the individual and group reflection sessions were provided the structured reflection-based learning opportunities so learners could learn ethical decision-making paths by reviewing, analyzing, and reflecting on their own and peer experiences. In line with our results, studies showed that discussing ethical questions or challenges increases learners' reasoning skills by listening, asking questions, thinking about ethical challenges/problems, and decreasing quick judgments (7, 30-32). Discussing ethical questions and reflecting on individual and team performance to solve the ethical dilemmas improved the learners' understanding of ethical responsibilities (5, 33, 34). They enhanced their sensitivities in dealing with ethical challenges. Moral sensitivity enables learners to understand the situation, respond appropriately, and seek a moral solution (35). Likewise, Haan's review study results showed that MCD has changed the behavior and skills of learners in ethical challenge situations (7). The results of the Mixed-method study showed that using the MCD method increased participants' ethical abilities, including their understanding of the actions, exploring the different aspects of a situation, reasoning and finding a way to manage a situation, and improving the ability to reflect (36).

The results of our study showed an improvement in moral reasoning scores about ethical dilemmas such as "newborn with anomalies", "forcing medication", "request to die", "new nurse orientation", "medication error," and "uninformed terminally-ill adult" among learners resulted in they learned the process of reason and reflection their learning in new situations. Similarly, MCD helps learners improve their ethical reflection skills (34), which was confirmed in the present study. Likewise, the results of the study by Namadi et al. showed that using case in ethics training could significantly increase the level of moral reasoning of nursing participants (37), similar to the present results.

The Rasoal review study highlighted reflection as one of the supportive strategies for developing moral skills (5). Group reflection emphasizes the discussion of the experienced ethical challenges by learners to improve ethical performance and professional development among health personnel (38). Reflection-based learning leads learners to encourage ethical reflection in clinical settings and reduce ethical errors (38-40). Ethical case analysis, group discussion, and ethical reflection improve learners' understanding of ethical challenges by enhancing learner engagement and seeking the best solution (5). Rasoal's study emphasized long-term group reflection sessions to develop learners' skills in finding the best approaches for managing ethical challenges in clinical settings (5). Similarly, the present results showed that group reflection improved clinical reasoning and reflective ability among learners over time.

Reflective ability is introduced as one of the most important elements in providing value-based services in the health care system (41). Reflection is a metacognitive process defined as occurring before, during, and after a person's situation or action (42). The reflection-in-learning is suggested as a powerful predictor of change in moral reasoning over time (1). Our study's results confirmed the relationship between the participants' moral reasoning and reflective ability. The results of a descriptive study showed no significant relationship between learners' moral reasoning and their ability to reflect (43), which is different from the present results and the results of the cohort study of Chalmers (1). The results of the Chalmers study showed that learners' ability to reflect and reason is diminishing over time in medical education. They showed that the improvement in participants' reflective ability was significantly correlated with their moral reasoning (1).

Similarly, the current results showed that the educational interventions were effective in improving the ability of both reflection and moral reasoning of learners in the intervention group compared to the control group. In the current educational interventions, the process of reflection on real situations and experiences of learners in ethical challenges in different fields has been considered. The participants practiced the process of reflection on individual or group experiences that resulted in they applied their ability in different situations over time. Reflection improved people's awareness of the various aspects of ethically challenging situations and how they are managed in the clinical situation (34).

Moreover, it affects the development of learners' moral skills (41), which is in line with the present results. The implementation of longitudinal group reflection sessions has an impact on the development of reflective ability (38). The intervention's moderate educational effect on participants' reflective ability may be due to the short-term intervention. Further study is suggested to assess the effect of the long-term intervention on the reflective ability and moral reasoning of learners.

Limitations: The quasi-experimental design in the present study suffered some limitations, such as non-randomization and non-equivalent control group, which limited the generalizability of results. The present interventions were not implemented as a longitudinal course, limiting the present study. It is recommended to design longitudinal courses through applying a reflection-based learning approach.

Conclusion

Moral reasoning and reflective ability are essential in developing professional behavior in the health care system. The results indicated that the educational effect of interventions on participants' reasoning and reflection was reported at high and moderate levels, respectively. The findings showed that intervention included group reflection, and MCD improved moral reasoning skills and the reflective ability of nursing participants. Establishing mechanisms of clinical ethics support and reflection-based learning situations is recommended to develop participants' reflection skills and moral reasoning in health care systems.

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