



The effect of a Kohlberg's theory of moral development-based intervention on ethical reasoning in nurse interns at Shahrekord University of Medical Sciences

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Abstract

Background and aims: Nursing students represent one of the most important healthcare professionals in the health system that, along with acquiring knowledge and practical skills, should learn professional values and attitudes and nursing care ethics. The aim of this study is to investigate the effect of an intervention based on Kohlberg's theory of moral development on the ethical reasoning of nurse interns.

Methods: The present quasi-experimental study was conducted with participation of 72 nurse interns in the teaching Ayatollah Kashani and Hajar hospitals affiliated to Shahrekord University of Medical Sciences from 2019 to 2021. The nurse interns were first selected based on the inclusion criteria by census and then randomly assigned to two groups of 36 each, namely, intervention and control. In the intervention group, educational content was performed in four sessions of one and a half hours within one month. Data collection tools included a demographic characteristics checklist and Nursing Dilemma Test (NDT) which was administered at baseline and immediately and one month after the intervention to both groups. Data were analyzed by SPSS version 24 using descriptive and analytical tests such as paired t-test, independent t-test and Fisher's exact test at a significance level of 0.05.

Results: The mean (\pm standard deviation) score of ethical reasoning before the moral intervention were 39.16 ± 5.74 in the control group and 39.22 ± 1.09 in the intervention group, with no statistically significant difference by independent t test ($P=0.831$). The mean \pm standard deviation score of this variable immediately after the moral intervention was obtained 39.08 ± 5.26 in the control group and 39.41 ± 6.58 in the intervention group, with no statistically significant difference by independent t test ($P=0.370$). But the mean \pm standard deviation score of ethical reasoning one month after the moral intervention was 38.94 ± 5.68 in the control group and 47.77 ± 6.71 in the intervention group, with a statistically significant difference by independent t test ($P=0.001$).

Conclusion: Given that most nursing students have a low level of ethical reasoning, it is necessary for nursing managers to pay more attention to the issue of professional ethics in educating students in this field. The results of the present study indicated the desirable impact of Kohlberg's moral intervention on the ethical reasoning of nurse interns, so it is recommended to give serious attention to the use of Kohlberg's theory of moral development -based interventions in the education of nursing students.

Keywords: Ethical development, Ethical reasoning, Ethics education, Nursing students

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Introduction

Nursing students represent one of the most important healthcare professionals in the health system that, due to their occupational and social importance, should also learn moral competence and professional attitude and nursing care ethics from their student days besides acquiring necessary knowledge and practical skills (1,2).

Moreover, nursing students face many ethical issues and challenges in their first encounter in the clinical environment, which require moral empowerment programs to recognize the problems and comply with ethical principles codified for nursing students due to

the importance of ethical considerations in the care of patients in the face of such ethical problems (3).

Since the performance of nursing students based on moral and human nature and adherence to ethical principles improves the quality of effective nursing care, and also compliance with ethical principles such as responsibility, honesty and commitment helps to provide the best care and establishes communication between the patient, the family and the nurse. Patients also want their care to be delivered by reliable, well-communicated and informed people with good morals and mutual understanding (4).

Compliance with professional ethics is an inevitable

necessity in all professions, especially the nursing profession, and it becomes more important in the nursing profession due to dealing with people suffering from pain. Nursing students in clinical environments consistently experience numerous challenges and their ethical behavior can facilitate complex clinical judgments and affect their performance in a penetrating manner, in such a way that ethical behavior combined with the responsibility and accountability of nurses with patients plays a significant role in their recovery (5-7).

In general, in addition to clinical skills and competencies, nurses need ethical competencies to deliver appropriate and professional care (8). Acting ethically does not mean that we do exactly the duties assigned to us by our superiors by law, but rather, we must apply our moral commitment to the issues, that is, we must look conscientiously at unfair laws (9). However, to what extent it is possible to act ethically and what action and under what circumstances is considered the most appropriate action and what action is really for the benefit of the patient and what action is to the detriment of the patient is a matter that depends on the ethical reasoning of the person who is at the decision-making authority position (10,11). Conducting ethical care requires certain prerequisites, the most important of which is having an appropriate level of ethical reasoning. Ethical reasoning is the judgments that people use to determine the rightness or wrongness of an issue (12). In other words, ethical reasoning is ability to choose a solution from among several solutions to a moral dilemma and provide appropriate reasons according to one's own knowledge and conscience (10).

Ethical reasoning aims to determine and choose the justified moral option when faced with a moral dilemma. It seems that all the options ahead are morally equal. In other words, ethical reasoning is the ability to measure and reflect in dealing with a moral dilemma, the ability to analyze it using rules and having a logical justification for the choice made among the cases, and then having the ability to make a decision (13).

According to Lützn et al, ethical reasoning can be defined consciously and according to existing moral values, in a situation with contradictions and individual self-awareness, regarding the role and duty in that particular situation (14).

Since nursing students enter the faculty with different beliefs, values and cultures, some of which are positive and some are negative, it is important and necessary for educators to pay attention to how they reason ethically, and student beliefs and performance are an important issue for nursing educators. Because one of the important goals of nursing education is to educate students in proper ethical reasoning (15), students must achieve a level of reasoning and moral development during academic studies (16).

In order to help the development of moral levels in nurses and nursing students, it is possible to use Kohlberg's theory, which has classified the level of

humane moral development into six stages as follows: The first stage: Paying attention to punishment and obedience (man obeys without question); the second stage: Paying attention to personal benefit (I behave morally in order to be rewarded); the third stage: observing ethics by observing collective customs and rules and to be in harmony with the community (tendency to be a good person to avoid not being accepted); the fourth stage: Observing ethics to be close to the sources of authority (that is, in order to be accepted by those in power and gain social honor); the fifth stage: Paying attention to the social contract (respecting ethics for the well-being of all and the benefit of all, and actually respecting the dignity and individuality of the individual); and the sixth stage: Adhering to moral principles (being moral comes from within the individual and has nothing to do with his/her society).

These stages were divided into three levels: (1) Preconventional (4-10 years old), which includes the first and second stages; (2) Conventional (10-13 years old), which includes the third and fourth stages; and (3) Postconventional (aged 13 and later), which includes the fifth and sixth stages (17).

According to Kohlberg's theory, people's reasoning and analysis, how to make decisions in ethical situations, paying attention to the level of responsibility and participation of people and justifying their ethical action are the keys to determining moral development (18-22).

In the studies conducted on ethical reasoning, inconsistent results have been obtained. In the study of Borhani et al, a direct correlation was observed between ethical reasoning and the number of years of work experience of nurses (23). In the study of Rejeh et al on the ethical reasoning ability of nursing master's students, out of 236 students, 27 students (11.3%) were at the pre-conventional level, 68 students (28.7%) at the conventional level, 112 students (47.8%) at the conventional level and 29 (12.1%) ones at the clinical considerations level. And the results showed that around half of these students were at the post conventional level, so a large number of them were at a lower level of ethical reasoning ability (24).

On the other hand, it seems that the teaching methods during the education of nurses could not be effective on the development and growth of this skill in nursing students (25,26). Studies have shown that the level of ethical reasoning of nursing students and nurses is not at an optimal level (23,27,28).

It seems that certain issues such as the lack of specialized educators for ethics training, incomplete training content and the absence of a coherent program for nursing ethics training play a substantial role in the occurrence of such problems, and ethics and relevant subjects are not among the concepts that could ensure the moral reasoning ability of nursing students by presenting them through one or more theoretical courses (29,30).

Given that most nursing students are immediately employed in the health system after graduation, they

will surely face many moral dilemmas and challenges in the hospital and will be in a decision-making position. It seems that the formal training of students through the professional ethics courses and informal training through experiences and learning in clinical settings as trial and error do not suffice, and it is needed to carry out interventions that increase ethical reasoning among them. For this purpose, Kohlberg's theory of moral development can be used as a basis for the design and implementation of interventions in this field.

The present study was designed to investigate the effect of an intervention based on Kohlberg's theory of moral development on the ethical reasoning of nurse interns at Shahrekord University of Medical Sciences, so that in addition to recognition of their status of ethical reasoning, the results could be used to examine and properly plan for moral education and clinical moral judgment among them in the future.

Materials and Methods

The present study is a semi-experimental type that was conducted in hospitals affiliated to Shahrekord University of Medical Sciences in 2018-2019. The statistical population of the research included nursing intern students in Ayatollah Kashani and Hajar hospitals affiliated to Shahrekord University of Medical Sciences studying in the 7th and 8th semesters, and 72 of them were selected purposively. Then, the selected nurses were assigned to intervention and control groups based on the random allocation method. The inclusion criteria included volunteering to participate in the research and no history of participation in nursing ethics classes and workshops. The data collection tool included a demographic characteristic (gender, age, occupation, native and non-native, marital status) checklist and the Nursing Dilemma Test (NDT).

The NDT was designed based on Kohlberg's level of moral reasoning. This scale includes 6 scenarios, in each of which a hypothetical problem or puzzle is stated and at the completion of each scenario three questions are asked. Each of the six scenarios describe a dilemma or a moral puzzle for the nurse.

The topics of the scenarios include, respectively, a newborn with an organ defect, forced drug administration, a patient's request to die, a new nurse entering the ward, medication error, and end-of-life care. The first question states what the nurse does in the described situation. This question shows decision-making following ethical reasoning. The choices for each scenario are yes, no and cannot decide.

The second question has six choices to evaluate the nurse's ethical reasoning. This part of the NDT was designed based on stages 2-6 of Kohlberg's theory of moral development.

Here, the nurse arranges the six choices in order of priority; the highest attainable score on this part is 11 and the lowest attainable score is 3, so that the total minimum

and maximum attainable scores on the six scenarios are 18 and 66, respectively. The higher the score obtained in this stage, the higher level the development of moral reasoning.

In the third part of each scenario, the extent of the nurse's experience of the scenario in question was investigated. If the score obtained in this stage was 6-17, it would indicate the history of encounter with the scenario, and the scores 18-30 indicated that the nurse was not familiar with similar conditions.

In fact, by using the NDT, two important indicators of the respondent are calculated. The first indicator is related to his/her level of moral development based on Kohlberg's theory.

The second indicator is the NP score, which actually represents the sum of the scores on the 5th and 6th Kohlberg's moral development levels (31). The validity and reliability of the NDT have been confirmed in the study of Borhani et al (23). The split-half reliability and Cronbach's alpha coefficient were used to measure the reliability of the tool and its value was calculated at 0.87, which indicates its acceptable reliability.

The study was started after obtaining the necessary permissions from the relevant authorities such as the University Ethics Committee and Research Vice-Chancellors of the studied hospitals. Given the likelihood of information exchange between participants and its impact on the results of the study, the researcher randomly assigned by lottery nurse interns in one of the hospitals to the intervention group and those in the other hospital to the control group.

The NDT related to the pre-intervention phase was completed in both groups, and then for the intervention group, an ethics-oriented intervention program was implemented within four one-and-a-half-hour sessions every other week.

These materials were prepared in the form of booklets and pamphlets and were given to the participants after the approval of the professors. The contents of these sessions include (First session: Definition of ethics, topics of professional ethics principles and its regulations; second session: Presentation of nursing ethics codes that include nurse and society, nurse and professional commitment, nurse and providing clinical services, nurse and treatment team members; third session: Paying attention to the patient's moral rights without jeopardizing work conscience and the ability to identify ethical dilemmas and their appropriate solution; and the fourth session: Ethical reasoning and clinical decision-making, Kohlberg's theory of moral development and the principles of bioethics along with an ethical scenario appropriate to ethical reasoning, and clinical decision-making (32,33).

To present the materials, various and practical teaching methods such as group discussions, lectures, questions and answers, and case studies were used depending on the conditions and the type of teaching material.

Since the large number of participants in each workshop training session can have a negative effect on the learning of the participants and the effectiveness of the workshop, the sample size determined in the intervention group was divided into two groups and each workshop session was held in two sessions (in the morning shift and in the evening shift).

This also allowed the participants to adjust their work schedule with the sessions schedule and participate in all sessions. People were divided into small groups of 8-10 people and an ethics program was presented to them.

To collect data in two stages, immediately and one month after the intervention, two separate questionnaires were distributed among the students and collected one day after the completion of the intervention and one month after the intervention. During the one month before the collection of the third questionnaire, the researcher provided pamphlets, voices and training booklets to the intervention group and reminded them by following up on the trainings.

In this period, most of the participants actually entered the internship settings and experienced the training stages objectively at the patient's bedside. At the completion of the different stages and the collection of questionnaires through the three stages, data analysis was conducted. For this purpose, descriptive statistics (mean \pm standard deviation, etc) and inferential statistics (*t* test, Fisher's exact test and one-way variance) in SPSS version 24 were used and significance level (*P* value) was considered < 0.05 .

Results

In this research, 72 nurse intern students were included in the control and intervention groups. The average age of the students in the control and intervention groups was 22.94 ± 1.53 and 23.11 ± 1.94 , respectively, and there was no statistically significant difference in age between the intervention and control groups ($P = 0.687$). Table 1 shows the distribution of absolute and relative frequency of demographic characteristics of nursing students in intervention and control groups.

Among the participants in the intervention group, 38.88% were male and the rest were female, and in the control group, 44.44% of the participants were male and the rest were female, with no statistically significant difference between the two groups ($P = 0.786$). In addition, 19.44% of the participants in the control group were married and the rest were single, while in the intervention group 22.22% of the participants were married and the rest were single. There was no statistically significant difference regarding marital status between the two groups ($P = 0.600$). Also, 63.88% of the participants in the control group were native and the rest were non-native, while in the intervention group 58.33% of the participants were native and the rest were non-native. There was no statistically significant difference regarding marital status between the two groups ($P = 0.600$).

Table 2 shows the absolute and relative frequency distribution of the level of moral development of nursing students participating in the study.

According to the obtained results, it can be stated that

Table 1. Distribution of absolute and relative frequency of gender, marital status, and nativity of participants in intervention and control groups

Variable	Description	Control group		Intervention group		P value
		No. (%)	No. (%)	No. (%)	No. (%)	
Marital status (married)	Married	7 (19.44)	8 (22.22)			0.786
	Single	29 (80.55)	28 (77.77)			
Nativity	Native	23 (63.88)	21 (58.33)			0.600
	Non-native	13 (36.11)	15 (41.66)			
Gender	Male	16 (44.44)	14 (38.88)			0.600
	Female	20 (55.55)	22 (61.11)			

Table 2. Distribution of the absolute and relative frequency of the level of moral development of participants in intervention and control groups

Measurement time	Group Level	Control group		Intervention group		Intergroup significance level (P value)
		Number	%	Number	%	
Baseline	Preconvention	7	19.44	6	16.66	0.559
	Conventional	15	41.66	17	47.22	
	Post conventional	14	38.88	13	36.11	
Post-intervention	Preconvention	8	22.22	6	16.66	0.205
	Conventional	14	38.88	15	41.66	
	Post conventional	14	38.88	15	41.66	
1-month post-intervention	Preconvention	8	22.22	2	5.55	< 0.001
	Conventional	16	44.44	15	41.66	
	Post conventional	12	33.33	19	52.77	
Intragroup significance level (P value)		0.66		< 0.001		< 0.001

there was no statistically significant difference in the moral development scores in the intervention and control groups before ($P=0.559$) and immediately after the intervention ($P=0.205$), while a statistically significant difference was observed in the moral development scores in the intervention and control groups one month after the intervention ($P<0.001$).

Table 3 shows the comparison of the mean \pm standard deviation scores of ethical reasoning of studied nurse interns

Regarding the mean scores of moral reasoning of nurse intern students, it can be stated that before the educational intervention, no statistically significant difference was observed between the mean moral reasoning scores of the two control and intervention groups ($P=0.831$). Also, immediately after the moral intervention, no statistically significant difference was observed between the mean moral reasoning scores of the two control and intervention groups ($P=0.370$). However, after the moral intervention based on Kohlberg's theory of moral development, a statistically significant difference was observed between the mean scores of the moral reasoning variable in the control and intervention groups ($P<0.001$).

Discussion and Conclusion

The present study was conducted to investigate the effect of moral intervention based on Kohlberg's theory of moral development on the ethical reasoning of nurse interns at Shahrekord University of Medical Sciences. The homogeneity of the average age of students, marital status, gender, and nativity status in the two control and intervention groups indicates the appropriate randomization and acceptability of the data for a quasi-experimental study. The data analysis showed that at baseline, 39% of students in the control group and 37% of students in the intervention group were at the postconventional level of moral development, while after the educational intervention, the percentage of postconventional students in the intervention group increased to 52.77%. In general, based on Kohlberg's theory of moral development, most students should enjoy conventional and postconventional moral development levels (17). Relatively similarly, the results of Zirak and colleagues' study in Tabriz, Iran on 115 third- and fourth-year nursing students showed that 47% of the students

were at the postconventional level (28). The study of Ham in the United States also showed that 14% of first-year nursing master program students were at the conventional level and 64% of them were at the postconventional level (34). In the study of Callister et al, nursing students were mostly at the postconventional level of moral development (35). In Amini and colleagues' study, 45% of the students were at the postconventional moral development level (36). The cited studies showed different results regarding the level of moral development of students, so that a higher percentage of students in the USA and Korea were at a high level of moral development, but in studies in Iran, a smaller percentage of students were found to be at a postconventional moral development level. The reason for this inconsistency can be the inclusion of the ethics course in the nursing curriculum in countries other than Iran; while this course is not included in the nursing curriculum or such training is insufficient in Iran.

Overall, the teaching of Kohlberg's theory of moral development helps students to go through the hierarchy of moral development and approach the final stages of the conventional level. In these stages, the person experiences the cognitive ability of reversibility so that his/her moral judgments become reversible; it means that if a nurse is in the position of those who are judged, he/she can accept the same judgments or decisions. All those who are in these stages can reach a consensus because their judgments are completely reversible. They also consider others' viewpoints as much as possible in cases where there is a conflict; thus, they have a completely reversible moral judgment, i.e., a judgment that is not self-centered (37).

The results showed that the control and intervention groups did not show a significant difference before the educational intervention in ethical reasoning level. Also, immediately after the intervention, there was no statistically significant difference in ethical reasoning level between the control and intervention groups. The most important reason for this is likely the insufficiency of educational intervention with satisfactory intensity, or the lack of exposure of nursing students to moral tensions and dilemmas in the clinical setting, as well as the lack of need for ethical reasoning and judgment about the issues that arise. But one month after the educational intervention, following the introduction of the subject of internship into a new phase and the presence of intern

Table 3. Comparison of the mean \pm standard deviation scores of ethical reasoning of nurse interns

Indicators	Measurement time	Group		P value
		Intervention group	Control group	
		Mean \pm SD	Mean \pm SD	
Ethical reasoning	Baseline	39.1 \pm 22.09	39.5 \pm 16.74	0.831
	Post-intervention	39.6 \pm 41.58	39.5 \pm 8.26	0.370
	1 month post-intervention	47.6 \pm 77.71	38.5 \pm 94.68	<0.0001
	Intragroup p-value	<0.0001	0.088	<0.0001*
	Changes during study	8.55 \pm 0.751	0.14 \pm 0.672	<0.0001

* Group-by-time interaction effect.

students in real and clinical settings, as well as the follow-up of the researcher with more training and with sufficient intensity, the results of the study reflected that one month after the intervention, the educational intervention was effective. Therefore, it can be argued with 95% confidence that these programs had a positive and significant impact on the level of moral reasoning of nurse intern students. The results of the present study are in line with the studies of Mohamadi and Azizi, Zirak et al, Namadi et al, Park et al, and Kim and Park (32,38-41).

According to the results of the present study, it can be concluded that the integration of ethics into nursing programs has led to an increase in nurses' understanding of the ethical needs of clients and also to the improvement of their performance in providing better services by improving their levels of ethical reasoning and judgment of patients.

It can be argued that the most important reason for the effectiveness of the ethics-based intervention on the level of moral reasoning is that when the nurse interns are in stressful conditions in the hospital or when they are faced with the critical condition of the patients and see their difficult and difficult tasks, they ask themselves Why me? And this is where the component of moral needs is formed in a person and becomes stronger over time and leaves the person waiting for a solution to answer his/her questions. When a nurse becomes aware of ethics, ethics becomes important in his/her life and he/she seeks to perform ethical actions, and finally his/her ethical reasoning is improved and helps him/her to adapt to issues such as job difficulties and sincere delivery of services to patients without material expectations, to improve in terms of moral health, and through growth and improvement of energy, to build enough hope to deal with patients.

For this reason, it can be argued that the statistically significant change in the moral health area and the statistically significant change in this area due to the moral intervention are due to this reason (42).

However, Goethals et al found that nurses reason at a lower level after entering the clinical environment despite ethics training (43). This finding is inconsistent with the findings of the present study, which can be due to several reasons that need further investigation, one of which is the complexity of decision-making in clinical environments. Also, this difference may be due to the inappropriateness of education during studies, or the tension caused by the conflict between personal values and organizational policies may lead to the inability of nurses to make an ethical decision. To what extent nurses can act ethically and what action and under what circumstances is it considered the most suitable action and what action is really beneficial or harmful to the patient is related to the level of ethical reasoning of the person who is in the decision-making position.

In general, understanding the concept of ethics in the health system is the basis for creating and maintaining an ethics system in society and following it in organizations.

Given the importance of professional ethics in the development of organizations and moral values, it is necessary to pay attention to determining the effectiveness of training and directing human resources to its extent. In general, as mentioned in the literature related to ethics and social responsibility, ethics and responsibility have a strong relationship; however, they do not completely match. The working environment of nurses and their daily encounter with death and decision-making causes moral tension in them (44). In fact, moral tension is created when a person knows what the right thing to do is, but work restrictions prevent him/her from doing the right thing (45). However, recognition of ethics codes alone is not enough, and giving importance to ethical action is the most important guarantee of performing ethical action, which is created by judging in moral behavior (46).

Numminen and Leino-Kilpi also compared a group of nurses who did not receive ethics training and a group that receive the ethics training course and showed that the trained group had less anxiety when making moral judgments than the group without training, and that ethics training was effective on students' moral decision-making. More clearly, moral training can cause nurses to better understand the situation and lead to better ethical reasoning (47). Also, in a study conducted by Ersoy and Göz on nurses in Turkey, it was observed that training in ethical issues increased nurses' awareness of ethical issues and increased moral sensitivity to patients' needs and better decision-making (48). In one study, Sirin et al observed that students who had completed the ethics course had significantly higher moral sensitivity than the group that had not completed this course (49).

On the other hand, the stressful environment of hospitals and clinics causes working nurses to often face conflicts and moral distress. The creation of conflicts between ethical principles and work conditions causes moral tensions in them. The provision of ethics-oriented training programs helps nurses to know how to face ethically sensitive situations and to become better acquainted with professional values and ethics codes. The psychological health level of nurses can be improved by improving the level of moral awareness through teaching moral principles, so that if they face internal and external conflicts related to moral dilemmas in hospital settings, they can make the right judgment at the bedside of patients by relying on ethical reasoning to solve the dilemmas (50).

In general, the present study showed that the education of ethical principles increased ethical reasoning in nurse interns. Therefore, the teaching of ethical principles is recommended as an effective method to improve the ethical reasoning of nurse interns. One of the most important limitations of this study was the exclusive use of teaching ethical principles and ignoring other effective interventions in teaching ethics to nurse interns. It is therefore recommended to investigate the effectiveness of this type of intervention in comparison with other educational programs. Teaching the principles of ethics

in only four sessions and not following them up in the long term was one of the limitations of this study, which seems not to be able to explain the promotion of ethical reasoning. The limitations of this study also included the reduction of the sample size to 36 people in each group during the intervention and the lack of follow-up after the post-test. Therefore, in order to increase the external validity of the findings, it is also recommended that ethics-based interventions be repeated and followed up periodically for all working nurses due to low cost and greater effectiveness.

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