

## The Moral Development Based on Kohlberg's Theory among Medical Students

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### ARTICLE INFO

### ABSTRACT

#### ORIGINAL ARTICLE

#### Article History:

Received: 17 Jul 2021

Revised: 24 Feb 2022

Accepted: 24 May 2022

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#### Citation:

Bidaki R, Saghafe F, Mansouri Majoumard M, Nadershabaz M, Hadavi M, Sajadi MA, et al. The Moral Development Based on Kohlberg's Theory among Rafsanjan University Medical Students. Journal of Social Behavior and Community Health (JSBCH). 2022; 6(1): 802-809.

**Background:** One of the main issues in treating, preserving and promoting the human dignity is caring for patients' satisfaction and preventing harm, maltreatment, or damage to the patient. Therefore, the level of moral development based on Kohlberg's theory was studied among medical students of Rafsanjan University of Medical Sciences.

**Methods:** In the current cross-sectional study, eligible medical students (N=220) of Rafsanjan University of Medical Sciences were enrolled over a 12-months period. Data were collected by demographic checklist and Kohlberg's ethical evolution questionnaires. Data were analyzed using SPSS-20, by Kruskal-Wallis, Mann-Whitney, ANOVA, and t-tests.

**Results:** There were no significant differences in terms of gender, educational level, marital status, and place of residence for decision-making positions and questions. The mean and standard deviation of the scores related to "questions, priority, decision-making position and degree" showed that the highest mean was obtained in "priority" with  $17.9 \pm 3.6$  and the lowest in "degree" with  $1.9 \pm 1.09$ . The frequency and percentage of similar decision-making were reported in the study participants; the highest score was related to the decision-making in position 3 (Adults death wish) with frequency of 94 and percentage of 41.6% and the lowest score was related to position 5 (Patient at the end stage of disease) with frequency of 8 and percentage of 3.5%. None of the indicators of age, sex, marital status, and the level of admission was not significant in this study and cannot be mentioned as a predictor in the stages of moral evolution.

**Conclusion:** Given the importance of discussing ethics as one of the most important modalities of the human and social sciences and its impressive impact on all aspects of human life, it is clear that applying a scientific approach can determine all aspects of the factors that affect the observance of ethical principles.

**Keywords:** Ethics, Kohlberg's, Ethical Evolution, Medical Students, Moral.

## Introduction

The term “ethics” is derived from the Greek word “ethos” which means character. Ethics is a branch of the human sciences, which discusses the recognition of the parable of values, indicates ways to acquire moral virtues, and abandon moral vices (Hegazi & Wilson, 2013). Immoral word refers to a conscious and intentional rejection of typical moral standards, while amorality implies no concern about whether behavior is morally right or wrong, which can be due to ignorance, indifference, or disbelief in moral principles (Chalmers et al., 2011; Lin et al., 2012). In modern psychiatry in the field of ethics, the course of changes during individual evolution is mentioned. Some psychologists have proposed theories to explain moral evolution that typically consists of different stages of individual moral development. Piaget Gene and Elliott Thorille have a cognitive-evolutionary perspective on moral evolution; according to this view, morality develops in organized and sequential processes in the individual (Murrell, 2014).

Ideally, for a medical practice to be considered “ethical”, it must respect all four of these. It seems that one of the most important problems facing a medical student in moral development is his mental conflict with his ethical values against the suppression of values for being in the medical team (Smith et al., 1994). The results of some studies show that medical students have less moral evolution in comparison with students of other fields, and even in the field of moral evolution, the trend of regress has been also observed (Hren et al., 2011).

The ethical view of physicians plays a significant role in quality of life of the patient and even saves his life; so, evolution in ethical decision-making is an important part of medical student education. Considering the neglecting of ethical development issues in medical students of our country, as well as the significant impact of the ethical and professional behavior of the medical and care staff on health care, we decided to investigate the level of moral development among

medical students of Rafsanjan University of Medical Sciences based on Kohlberg's theory.

## Methods

This cross-sectional study has been carried on medical students of Rafsanjan University of Medical Sciences within 12 months in 2015. Finally, 220 eligible medical students aged 18-35 years participated in the study. The sample was determined after coordination with the managers and the education office of the hospital affiliated to Rafsanjan University of Medical Sciences, and also with the cooperation and coordination of the staff of the hospital wards. The researcher also visited nearly all medical students in their dormitory in this university. He explained about this study at first. Then he presented the questionnaires to them. A two-part questionnaire was used for data collecting. The first part investigated the demographic characteristics of participants. The second part was designed to measure the level of moral development based on the ethical development of Kohlberg's theory. The latter consisted of five scenarios including infants with severe anomalies, medication compulsion, adult demand for death, new physician familiarization, and patient at the last stages of the disease. In this test, following each scenario, the students had to answer three main questions. The first question was about the action of the participants in a hypothetical position of the scenario. There were three options for this question. The first one represented an absolute moral decision; the second option was a relative moral decision, and the third one was the inability to make decisions. The elective option in this section did not have an impact on the student's moral development level. In the second question, six statements that indicated reasons for the decided option related to question 1 were presented to the participant, and they were asked to prioritize these options in order. Each option in each scenario represented the levels 2, 3, 4, 5, and 6 of ethical evolution in Kohlberg, and another option

also was allocated to the institution rules in decision-making. In the third question, participants should explain their familiarity with the position by choosing one of the 5 options given (Branch, 2000; Morton et al., 2006; Self et al., 1993).

Kohlberg's theory of moral evolution considers moral judgment as the basis for ethical behavior and consists of six distinct levels of evolution, in which each of them acts more appropriately and completely than the previous one in responding to the moral issues facing the person. Kohlberg identifies three levels of human moral evolution that encompassed the six stages:

1. Stage 1 (pre-conventional)

-Obedience and punishment orientation (How can I avoid punishment?)

-Self-interest orientation (What's in it for me?)

2. Stage 2 (conventional)

-Interpersonal accord and conformity (good boy-good girl attitude)

-Authority and social-order maintaining orientation (law and order morality)

3. Stage 3 (post-conventional)

-Social contract orientation (justice and the spirit of the law)

-Universal ethical principles (principled conscience) (Zirak Moghaddasian et al., 2012).

At the pre-conventional level, people are more egocentric in their decision-making as they seek to avoid punishment at all costs. Throughout the conventional level, people's sense of morality is tied to personal and societal relationship and the custom of society will be effective in making decisions of individuals. And finally, at the level of post-conventional, which is the highest level, people try to guide their behavior according to the principles of ethical index. In accordance with these principles, they make a moral decision in which the character is based on conscience (Rzyska et al., 2014; Self et al., 1998). Medical ethics is a system of ethical principles that apply values and judgments in the field of medicine (Self et al., 1989). Four commonly accepted principles of health care ethics, excerpted

from Tom Beauchamp and James Childress, include:

-Principle of respect for autonomy

-Principle of non-maleficence

-Principle of beneficence, and

-Principle of justice

The validity and reliability of the questionnaire were measured by Zirak et al. and translated into Persian and its correlation coefficient is 0.95 (Zirak et al., 2011).

The overall three important indicators for each student were calculated: the first one examined the level of moral development in a person based on Kohlberg's stages. In fact, the level of moral development determined which of theoretical options in each scenario has been chosen by students as the main choice in question 1. Therefore, considering that each option represented one of the levels of moral development, the final level of students' moral development was determined. The level of evolution of students' ethics could be determined in three levels of pre-conventional (the sum of the first and second levels), the conventional (the sum of the fourth and fifth levels), and the post-conventional (sum of the fifth and sixth levels).

The collected data were analyzed by SPSS20. Kruskal-Wallis, Mann-Whitney, ANOVA and independent t-test were applied to analyze data ( $P < 0.05$ ).

This thesis has been registered in Rafsanjan Medical School with the registration code: 758 in March 2016. In this study, all information obtained was confidential. All the students filled out informed consent form provided by Research Ethics Committee of Rafsanjan University of Medical Sciences, Kerman, Iran.

## Results

Over a period of 12 months, 220 medical students aged 18-35 years participated in the study. Demographic and characteristics of enrolled medical students are presented in Table 1. They were similar with respect to gender ratio, marital

status, scholarship, and residence ( $P>0.05$ ) (Table 1).

None of the indicators of age, sex, marital status, and the level of admission were significant in this study and cannot be mentioned as a predictor in the stages of moral evolution.

Table 2 demonstrates the frequency of different decision-making positions.

As illustrated in Table 3, the details of frequency and percentage of priority questions answered by participants during the study are listed.

The mean and standard deviation of the scores related to questions, priority, decision-making position and degree showed that the highest mean was obtained by "priority" with  $17.9 \pm 3.6$  and the lowest by "degree" with  $1.9 \pm 1.09$ . Thus, there is a difference in students' moral judgment skills. Regarding the results of this study, there was no significant difference in the skills of entering the course and leaving the course. It was also found that moral development did not change much during the school years. The frequency and percentage of similar decision-making were reported in the study participants; the highest score was related to "decision-making" in position 3 (Adults death wish) with frequency of 94 and percentage of 41.6% and the lowest score was related to position 5 (Patient at the end stage of disease) with frequency of 8 and percentage of

3.5%. Most students could put themselves in scenario 3, when it came to wishing for the death in an adult. It appears that human suffering from thinking of death was more conceivable and internalized by medical students. Nonetheless, understanding a patient in the later stages of life is less possible. As presented in Table 2, in the case of the first scenario, for infants with severe anomalies, most students mentioned their position as the same, and a smaller percentage of them thought of another position in the case of the patient. Regarding the second scenario, medication compulsion, most students stated that this situation was unreal or imaginary and not expected. As for the fourth scenario, new physician familiarization, it was an unrealistic position for most students. In the fifth scenario, patient at the end-stage of disease, the medical students had the least difficulty in imaginability of others' position for the participants and the most difficulty in imagination of others' position for the participants. The frequency and percentage of decision-making position in others and its conceivability in the study participants showed that the highest frequency and score was given to situation 3 with frequency of 102 and percentage of 45.1% and the lowest frequency and percentage was given to condition 5 with frequency 9 and percentage of 4%.

**Table 1.** Baseline Characteristics of Participants

Variable	Frequency (%)	P value priority	P value Decision position	P value questions	
Gender	Female	127 (56.2%)	0.82	0.81	0.87
	Male	93 (41.2%)			
Marital status	Single	196 (86.7%)	0.81	0.77	0.56
	Married	24 (10.6%)			
Educational cross-section	Basic sciences	110 (48.7%)	0.63	0.26	0.10
	Physiopathology	28 (12.4%)			
	Stager	58 (25.7%)			
Residence	Indigenous	160 (70.8%)	0.85	0.25	0.26
	Non-Indigenous	60 (26.5%)			

**Table 2.** Frequency of decision-making positions in medical students throughout 12 months

Decision position	Frequency (%)				
	Scenario 1 (Infants with severe anomalies)	Scenario 2 (Medication compulsion)	Scenario 3 (Adults death wish)	Scenario 4 (New physician familiarization)	Scenario 5 (Patient at the end stage of disease)
Positions in participants same	37 (16.4%)	56 (24.8%)	94 (41.6%)	25 (11.1%)	8 (3.5%)
Observing decision-making position of others by the study participants	35 (15.5%)	57 (25.2%)	95 (42%)	26 (11.5%)	7 (3.1%)
Imaginability of other's position for the participants	18 (8%)	57 (25.2%)	102 (45.1)	34 (15%)	9 (4%)
Difficulty in imagination of other's position for the participants	25 (11.1%)	52 (23%)	88 (38.9%)	32 (14.2%)	23 (10.2%)
Feeling unreal about other's position and not taking it serious by the participants	31 (13.7%)	48 (21.2%)	94 (41.6%)	37 (16.4%)	10 (4.4%)

**Table 3.** Frequency and percentage of priority questions answered by participants about Scenario 1 in the study (second questions)

Questions	Frequency (%)				
	1 <sup>st</sup> Priority	2 <sup>nd</sup> Priority	3 <sup>rd</sup> Priority	4 <sup>th</sup> Priority	5 <sup>th</sup> Priority
Do all neonates have the same rights for living?	25 (11.1%)	62 (27.4%)	71 (31.4%)	27 (11.9%)	35 (15.5%)
How can such a birth affect the parents?	22 (9.7%)	73 (32.3%)	67 (29.6%)	29 (12.8%)	29 (12.8%)
Do I have to obey the specialists order in this case?	35 (15.5%)	49 (21.7%)	75 (33.2%)	29 (12.8%)	32 (14.2%)
Who is responsible to decide about the neonate's death or life?	28 (12.4%)	36 (15.9%)	55 (24.3%)	34 (15%)	67 (29.6%)
Do I have any access to neonatal consultant?	35 (15.5%)	37 (16.4%)	35 (15.5%)	70 (31%)	43 (19%)
If I let the neonate die would I be subjected to law?	52 (23%)	57 (25.2)	34 (15%)	50 (22.1%)	27 (11.9%)

### Discussion

The purpose of this study was to investigate the evolution of the moral level among medical students of Rafsanjan University of Medical Sciences throughout a twelve-month period based on Kohlberg's theory of moral development. In this research, first the demographic characteristics of enrolled medical students were reported (age, gender, marital status, scholarship, and residence) and the evaluation was carried out. No significant difference was reported in terms of baseline characteristic, using Mann-Whitney test.

In a study by Bohm et al., the differences in moral judgment skills among students was assessed and there was no significant difference in the skills of entering and leaving the course (Bohm et al., 2014), which is consistent with the results of the present study.

The ability of interaction and performance of students' moral reasoning during education in 56 medical students were evaluated and the results revealed that the ability has significantly reduced, which is inconsistent with the initial hypotheses of the study (Chalmers et al., 2011). The inadequacy of ethical judgment by medical students is

identified, wherein they pay more attention to the practical and theoretical issues, while not considering the ethical judgments in decision-making. In another study, Hejazi et al. showed a significant decrease in the adequacy of medical students' moral judgment by increasing age and educational level (Hejazi & Wilson, 2013); this is incompatible with the findings of the present study. The studies by Murrel and Patenaude were consistent with the results of the present study, showing no progress in the moral development of students during medical education (Patenaude et al., 2003) (Murrel, 2014) (Patenaude, 2003).

Zirak et al. reported that 11.3% of the students were in the pre-conventional phase, 28.7% in the conventional course, 47.8% in the post-conventional phase. Besides, 12.1% considered clinical considerations in their ethical decision-making. No significant statistical relationship was found between the level of moral development of students and their age, sex, marital status, place of study, and academic year. These results showed that although about one-half of the examined students were at the acceptable level of moral development (post-conventional phase), there was still a significant percentage at lower levels of moral development. Indeed, it is expected that the level of moral development will vary in different parts of the world and in different countries and even different cities based on race, culture, and religious and social education (Zirak et al., 2012). Flexibility and changes in behavior and higher moral levels, according to Kohlberg theory, do not seem to be significant in medical students. According to this theory, the higher stages, stages 4 and 5, are called the upper deviation, and stages 1, 2, and 3 are called the lower deviation, and are part of the hidden extracurricular syllabus. The decision position is more about intellectual powers and social skills and the ability to solve problems and make decisions. Different scenarios may each contain a more dominant and prominent component, which includes moral excitement, especially in Scenario 4, moral reasoning in

Scenario 2, or moral judgment in Scenario 5, in particular.

In another study, the relationship between medical education and moral development using the Defining Issues Test (DIT) reported that the mean scores were 47.7, 53.7, and 56.5 in the first, second, and third tests, respectively. The change in mean scores of first test was significantly different compared to the second and final. The average change in mean scores from the second to final test was also significant, too. Statistical analysis did not show any significant relationship between the scores of moral reasoning and age; however, there was a significant correlation between the scores of moral reasoning and sex, in contrast to the present study, in which women had higher scores than men in all three tests (Self et al., 1998). It is noteworthy that medical students often practice medicine and patient care, which is very important in the field of moral development. Unfortunately, medical ethics and moral judgments are not implemented in medical students by medical and clinical centers, and their educational curriculum does not pay much attention to this issue.

This study had some limitations. The first limitation was that since it is self-reported by medical students, they may not respond honestly. Second, it was performed only on medical students of one university in a single-center manner; so, its generalizability is low. The last limitation was that the questionnaire used in this study was taken from the study of Tabriz on nursing students, which was slightly different.

### Conclusion

Analysis of the findings of this study showed that there is no significant relationship between the moral development level of the participants in the study and gender, educational level, grade, marital status, and place of residence. Regarding the importance of discussing ethics as one of the most important branches of human sciences and its deep impact on all aspects of human life, it is clear that applying a scientific approach to this issue can comprehensively determine the factors affecting

observance of ethical principles and foundations. It is suggested that ethics, and in particular medical ethics, be regarded as one of the most important principles of professionalism and human behavior. To show more and more valuable works of ethics, it is suggested that medical ethics be taught by experts so that more accurate and efficient research can be done professionally on the effect of education on ethics and ethical behavior based on it.

### Conflict of interest

The authors of the article have no conflict of interest in publishing the article.

### Acknowledgments

The authors of the present study acknowledge the Research Council of Rafsanjan University of Medical Sciences for their guidance in this research.

### Authors' Contributions

The principal investigator and manager of the study, design and conduction the study, R.B.; Design of the study, M.M.M and R.B.;; conducting the study, R.B and M.A.S and V.M.; Drafting the manuscript, M.N.SH and A.S.N and M.H and R.B and H.GH .; Data interpretation, study coordination, English editing, submission of the manuscript, A.S.N and F.S.

### References

Bohm, K. C., Van Heest, T., Gioe, T. J., Agel, J., Johnson, T. C., & Van Heest, A. (2014). Assessment of moral reasoning skills in the orthopaedic surgery resident applicant. *JBJS*, 96(17), e151.

Branch, W. T. (2000). Supporting the moral development of medical students. *Journal of General Internal Medicine*, 15(7), 503-508.

Chalmers, P., Dunngalvin, A., & Shorten, G. (2011). Reflective ability and moral reasoning in final year medical students: A semi-qualitative cohort study. *Medical Teacher*, 33(5), e281-e289.

Hegazi, I., & Wilson, I. (2013). Medical education and moral segmentation in medical students. *Medical education*, 47(10), 1022-1028.

Hren, D., Marušić, M., & Marušić, A. (2011). Regression of moral reasoning during medical education: combined design study to evaluate the effect of clinical study years. *PloS one*, 6(3), e17406.

Lin, C.-S., Tsou, K.-I., Cho, S.-L., Hsieh, M.-S., Wu, H.-C., & Lin, C.-H. (2012). Is medical students' moral orientation changeable after preclinical medical education? *Journal of medical ethics*, 38(3), 168-173.

Morton, K. R., Worthley, J. S., Testerman, J. K., & Mahoney, M. L. (2007). Defining features of moral sensitivity and moral motivation: Pathways to moral reasoning in medical students. *Journal of moral education*, 35(3), 387-406.

Murrell, V. S. (2014). The failure of medical education to develop moral reasoning in medical students. *International journal of medical education*, 5, 219-225.

Patenaude, J., Niyonsenga, T., & Fafard, D. (2003). Changes in students' moral development during medical school: a cohort study. *Cmaj*, 168(7), 840-844.

Rzyska, I., Rzymiski, P., Wilczak, M., Wloszczak-Szubzda, A., Jarosz, M. J., & Musielak, M. (2014). The influence of passive and active moral training on medical university on changes of students' moral competence index-results from randomized single blinded trial. *Annals of Agricultural and Environmental Medicine*, 21(1),161-166

Self, D. J., Olivarez, M., & Baldwin Jr, D. C. (1998). Clarifying the relationship of medical education and moral development. *Academic Medicine: Journal of the Association of American Medical Colleges*, 73(5), 517-520.

Self, D. J., Schrader, D., Baldwin Jr, D., & Wolinsky, F. (1993). The moral development of medical students: a pilot study of the possible influence of medical education. *Medical education*, 27(1), 26-34.

Self, D. J., Wolinsky, F. D., & Baldwin, D. C. (1989). The effect of teaching medical ethics on medical students' moral reasoning. *Academic medicine*. 64(12), 755-759



- Smith, S. R., Balint, J. A., Krause, K. C., Moore-West, M., & Viles, P. H. (1994). Performance-based assessment of moral reasoning and ethical judgment among medical students. *Academic medicine*, 69(5), 381-386.
- Zirak, M., Moghaddsiyan, S., Abdollahzadeh, F., & Rahmani, A. (2011). Moral development of nursing students of Tabriz University of Medical Sciences. *Iranian Journal of Medical Ethics and History of Medicine*, 4(4), 45-55.
- Zirak, M., Moghaddasian, S., Abdollahzadeh, F., & Rahmani, A. (2012). Level of Ethical Development in Nurses Working in Teaching Hospitals Affiliated to Tabriz University of Medical Sciences. *Qom University of Medical Sciences Journal*, 6(3); 32-39.