

Original Article

Adherence to Principles of Medical Ethics Among Physicians in Mazandaran Province, Iran

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Abstract

Background: Considering that medical ethics is an applied subject providing systematic solutions to help physicians with moral issues, this research aimed to evaluate adherence to the principles of medical ethics among physicians on the basis of attitude of physicians of Mazandaran province.

Methods: This cross-sectional study was conducted in Mazandaran province, Iran during 2015. A researcher-made questionnaire was used for data collection. The questionnaire was first completed by 40 physicians and its reliability was confirmed by obtaining a Cronbach's alpha coefficient equal to 0.818. Its validity was confirmed by medical ethics experts. Therefore, the questionnaire was reliable and valid. Analytical and descriptive analysis were performed.

Results: According to our findings, there is a significant correlation between some of variables of medical ethics principles. The results show that adherence to indicators of beneficence, non-maleficence and justice has been almost good; however, physicians' ethical behaviors which pertain towards the principle of autonomy have not been acceptable. There was not any significant difference in adherence to the principles of autonomy, beneficence and non-maleficence, and justice on the basis of sex, residency, education and occupation.

Conclusion: According to the present study, more training is required to improve physicians' adherence to the principles of medical ethics.

Keywords: Autonomy, Beneficence, Justice, Medical ethics, Non-maleficence

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Introduction

Medical ethics is a main component of medical education aiming to empower physicians in ethical decision-making.¹ Principles of medical ethics can facilitate the training of physicians, improve their knowledge of biomedical research, and guide their clinical practice. These principles need to be coherent, clear, accurate, logical, compatible, and measurable.² Medical ethics consists of four fundamental principles including autonomy, beneficence, non-maleficence, and justice.³ In other words, medical ethics is a science which examines physician-patient relationships, seeking to help people enjoy their lives by providing the highest standard of human health.⁴ These four principles are acceptable criteria for determining the adherence of health care professionals to medical ethics.^{2,5}

Autonomy values people's right to determine their own destiny and obligates physicians to respect patients' independence.⁶ It is actually defined as patients' right to

make choices.⁷ According to the principle of beneficence, physicians should adhere to programmed actions for patient,⁸ and try to provide the patients with the greatest benefits.⁹ Non-maleficence should be considered as a basic principle of the treatment process. The main duty of therapists is to provide the best service without doing any harm to the patient.¹⁰ On the basis of principle of justice, regardless of socioeconomic status and race, all patients who suffer from a particular kind of disease should benefit from equal health services.¹¹

Considering that medical ethics is an applied subject providing systematic solutions to help physicians with moral issues, this research aimed to evaluate adherence to the principles of medical ethics among physicians on the basis of attitude of physicians of Mazandaran province.

Materials and Methods

This cross-sectional study was conducted in Mazandaran province, Iran during 2015. Physicians who participated

in continuous medical education programs were recruited in this study. A researcher-made questionnaire was used to study physicians' attitude toward physicians' adherence to the principles of medical ethics. Literature review and interview with medical ethics and health care services experts were used to develop the questionnaire. The questionnaire consisted of 25 specialized items and four general items. Content and face validity of the questionnaire were confirmed by recommendations of medical ethics experts (four experienced members of medical ethics department in education and research). The questionnaire was first completed by 40 physicians and its reliability was confirmed by obtaining a Cronbach's alpha coefficient equal to 0.818. Since the percentage of physicians' attitude of Mazandaran province toward physicians' adherence to the principles of medical ethics is not available in previous studies, it could be considered 0.50. The sample size was calculated 149 with a margin of error of 0.08 and 95% confidence level. In order to increase accuracy in this study, the sample size was increased to 300. Random sampling was then applied to select 300 physicians who participated in continuous medical education programs. The reliability and structural validity of the scale, evaluated by calculating Cronbach's alpha coefficient and factor analysis, were 83% and 87%, respectively. Therefore, the questionnaire was reliable and valid. The questionnaire is given in online Supplementary file 1.

Statistical Analysis

In analytical analysis, Kolmogorov–Smirnov test, Levene's test and multiple linear regression model were used, and also parametric and non-parametric methods (One-way ANOVA and Kruskal-Wallis test) were used without adjusting covariates. In addition, Pearson correlation coefficient was used to measure correlations between variables. In descriptive analysis, frequency and percentage were reported. All analyses were performed using SPSS 16. A *P* value below 0.05 was considered as statistically significant.

Results

There are different aspects of practical application of autonomy, beneficence and non-maleficence, and justice in the context of clinical practice and some of them (such as informed consent obtaining, minimizing physical and psychological harms to patients, protection of patient interests and prevention of the waste of national resources, etc) have been assessed in the present study. Considering the close meanings of beneficence and non-maleficence, these two variables were studied as one concept. The physicians' adherence to the principles of autonomy, beneficence and non-maleficence, and

justice was assessed by 11, 4, and 10 items, respectively. The participants' general characteristics are presented in Table 1.

Assessment of the Principle of Autonomy

Figure 1 shows physicians' adherence to the principle of autonomy. As seen, 44% of the participants believed that physicians needed to consult with patients before any action and 49.3% declared that physicians needed to obtain informed consent. The use of unethical methods for the diagnosis and treatment of diseases by physicians was indicated by 12% and 14% of the participants, respectively. Moreover, 40% of the participants declared that physicians kept patient appointments running on time. Most participants (59%) believed that physicians had good communication with patients and 44.3% stated that physicians showed fairly good communication skills when dealing with patient families. Furthermore, 39% of the participants indicated that physicians listened carefully to and conversed with patients. In addition, 43% of the participants declared that physicians informed patients of the diagnosis, cause, and treatment of the disease and 56.3% believed that physicians respected patient rights regarding freedom of decision-making. Most participants (91.7%) stated that physicians kept patient information confidential.

Multiple linear regression model was used to evaluate the association of general characteristics of the participants (sex, residency, education and occupation) with adherence to the principles of medical ethics. According to the outputs, there was not any significant difference in adherence to the principle of autonomy on the basis of sex, residency, education and occupation.

Assessment of the Principles of Beneficence and Non-maleficence

Figure 2 depicts adherence to the principles of

Table 1. General characteristics of the participants

Variables	Percent
Sex	
Male	67.7
Female	32.3
Residency	
Local	83
Non-local	17
Education	
General physician	63
Specialist physician	37
Occupation	
Governmental job	43
Self-employed	20.3
Working in a clinic	20.3
Governmental hospital employee	4.3
Private hospital employee	2.8
Other	9.3

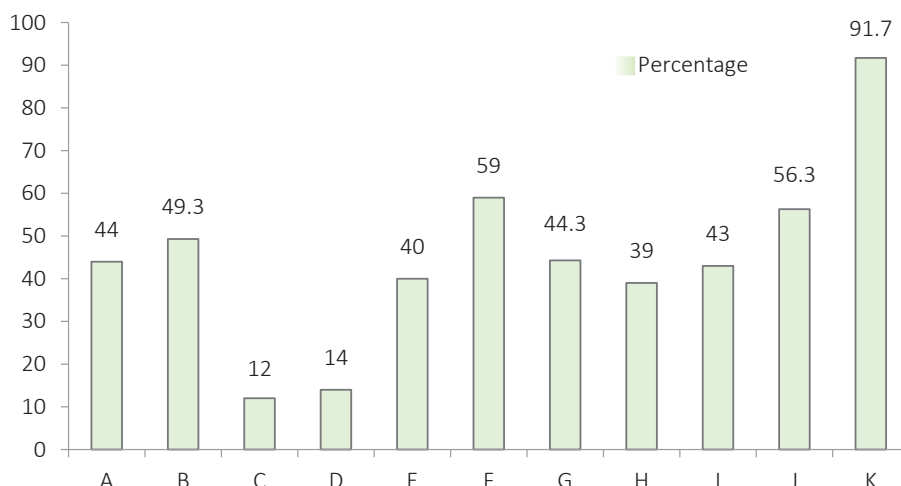


Figure 1. Physicians' Adherence to the Principle of Autonomy (A: consult with patients before any action; B: informed consent obtaining; C: unethical methods for the diagnosis; D: unethical methods for the treatment; E: patient appointments running on time; F: communication skills with patient; G: communication skills with patient families; H: careful listening to and conversation with patients; I: giving information to patients regarding the diagnosis, cause, and treatment of the disease; J: physicians' respect for patient rights in relation to freedom of decision-making; K: confidentiality).

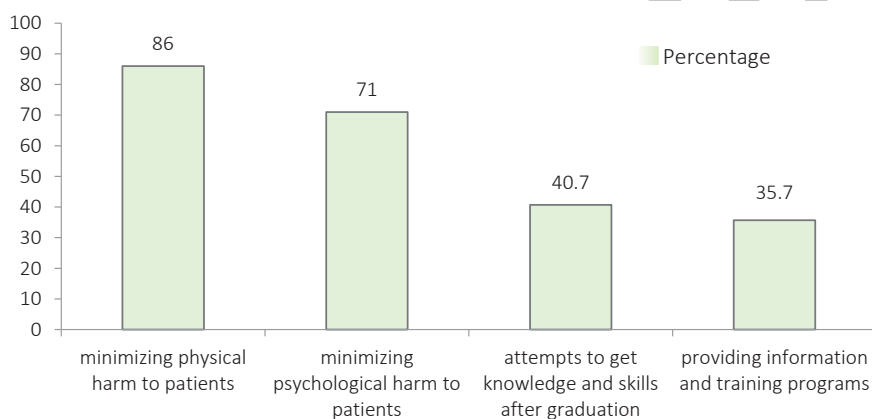


Figure 2. Physicians' Adherence to the Principles of Beneficence and Non-maleficence.

beneficence and non-maleficence among physicians. As seen, 86% and 71% of the participants stated that physicians attempted to minimize physical and psychological harms to patients, respectively. In addition, 40.7% of the participants believed that physicians tried to get knowledge and skills after graduation and during their work and 35.7% declared that physicians adhered to patient empowerment through providing them with information and training programs.

In the present study, there was not any significant difference in adherence to the principles of beneficence and non-maleficence on the basis of sex, residency, education and occupation.

Assessment of the Principle of Justice

Figure 3 shows adherence to the principle of justice among physicians. Over half (55%) of the participants believed that physicians did not allow their personal opinions to interfere with their health care practices.

According to 50.3% of the participants, physicians tried to provide health care services to completely cure patients. The majority (55.3%) of the participants indicated that physicians respected patients' rights to receive equal health care services and 63.7% believed that physicians provided health care services based on patient demands. Moreover, 71% of the participants indicated that physicians adhered to priorities in providing health care services and 59.7% reported that physicians provided health care services based on the rules determined by the Ministry of Health and the Medical Council. In addition, 47.3% of the participants believed that physicians protected patient interests and prevented the waste of national resources. In the viewpoint of most participants, physicians did not discriminate between patients on the basis of their economic or social status or race (61.7%, 54.7%, and 71%, respectively).

The statistical inferences show no significant difference in adherence to the principle of justice on the basis of

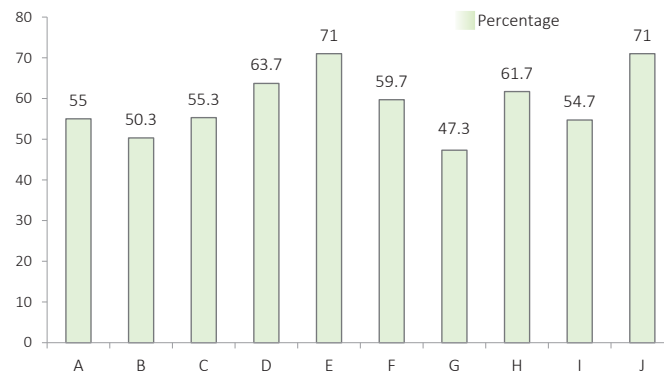


Figure 3. Physicians' Adherence to the Principle of Justice (A: non-interference of physicians' personal opinions with their health care practices; B: health care services providing to completely cure patients; C: physicians' respect for patient rights to receive equal health care services; D: health care services providing based on patient demands; E: adherence to priorities in providing health care services; F: health care services providing based on the rules determined by the Ministry of Health and the Medical Council; G: protection of patient interests and prevention of the waste of national resources; H: non-discrimination between patients on the basis of their economic status; I: non-discrimination between patients on the basis of their social status; J: non-discrimination between patients on the basis of their race).

sex, residency, education and occupation.

Pearson's correlation coefficient was used to measure correlations between variables, indicating acceptable and high correlations between some of the variables (Table 2).

Discussion

Bagheri studied the priorities of medical ethics in Iran and suggested autonomy, patient rights, informed consent, and physician-patient relationships as the first priorities in medical ethics.¹² According to our findings about autonomy, fewer than 50% of physicians adhered to principles such as consulting with patients before any action, obtaining informed consent, running appointments on time, listening carefully to and conversing with patients, and providing patients with information about the diagnosis, cause, and treatment of their diseases. Lower level of adherence to the principle of autonomy

roots in the paternalistic approach of physicians, inadequate education of medical ethics principles, and some barriers such as time pressure for obtaining informed consent, leading to undesirable therapeutic results, disruption of physician-patient relationship, and damage to human dignity. Emami Razavi et al evaluated the adherence to the patients' rights charter among patients and physicians at the emergency department of Imam Khomeini Hospital, Tehran, Iran and concluded that about 55% of the patients were satisfied with their waiting time before visiting a physician.¹³ However, 65.5% of the patients complained that physicians did not provide adequate explanation about the treatment. Doumi examined the awareness and practice of the medical ethics among the physicians at El Obeid Hospital in Western Sudan and reported that 63.8% of the studied physicians established a good relationship with patients

Table 2. Correlations Between Variables of Medical Ethics Principles

Variables	3	6	8	9	12	17	19	21	23	24
4	0.668	---	---	---	---	---	---	---	---	---
5	---	---	0.441	---	---	---	---	---	---	---
7	---	0.661	---	---	---	---	---	---	---	---
9	---	---	0.495	---	---	---	---	---	---	---
10	---	---	---	0.433	---	---	---	---	---	---
13	---	---	---	---	0.431	---	---	---	---	---
17	---	---	---	---	---	---	0.421	---	---	---
18	---	---	---	---	---	0.513	0.464	---	---	---
20	---	---	---	---	---	---	0.452	0.414	---	---
24	---	---	---	---	---	---	---	---	0.629	---
25	---	---	---	---	---	---	---	---	0.461	0.508

3: Using unethical methods for disease diagnosis; 4: Using unethical methods for patient treatment; 5: Running patient appointments on time; 6: Communication skills of physicians when dealing with patients; 7: Communication skills of physician when dealing with patient families; 8: Listening carefully to and conversing with patients; 9: Informing patients of the diagnosis, cause, and treatment of the disease; 10: Respecting patient rights in relation to freedom of decision-making; 12: Minimizing physical harm to patients; 13: Minimizing psychological harm to patients; 17: Providing health care services to completely cure patients; 18: Respecting patients' rights to receive equal health care services; 19: Providing health care services based on patient demands; 20: Adherence to priorities; 21: Providing health services based on the rules determined by the Ministry of Health and the Medical Council; 23: Not discriminating between patients on the basis of their economic status; 24: Not discriminating between patients on the basis of their social status; 25: Not discriminating between patients on the basis of their race.

and provided them with adequate consultation before examining them.¹⁴ Khademolhosseini et al indicated that about 37% of physicians adhered to the principle of autonomy.¹⁵ In the present study, 88% of the participants stated that physicians did not use unethical methods to diagnose diseases. However, in a similar study, Rafizadeh et al identified misdiagnosis as an important instance of medical malpractice.¹⁶ The present study showed that physicians respected not only the confidentiality of patient information, but also patient rights in relation to freedom of decision-making based on their beliefs. Ghaljeh et al concluded that physicians and nurses maintained moderate adherence to patient rights.¹⁷ In a study in Mexico, Lopez assessed the attitudes of physicians toward patient rights and found that only 34% of physicians allowed patients to make decisions.¹⁸ Parsapoor et al performed a study in educational hospitals of Iran and examined the attitudes of patients, physicians, and nurses toward patient rights.¹⁹ They reported that the patients' right of decision-making was not well-respected in the mentioned hospitals. Mousaei et al. reported low respect for patient rights in Shariat Razavi hospital, Iran.²⁰

According to Garbin et al, 44.8% of dentists were aware of the principles of professional ethics, but failed to respect confidentiality.²¹ Respect for patient confidentiality and privacy has a long history in the medical world and is one of the most important moral duties of physicians. It is even included in the Hippocratic Oath. In fact, physicians should maintain confidentiality to win patients' trust, respect patient autonomy, make an implicit commitment, and ensure better outcomes.²² Nazari Tavakoli and Nejadsarvari defined respect for patient confidentiality as an old professional rule in medicine that improved physician-patient relationships, protected the individual interests of both patients and physicians, and performed several social functions.²³ Seif Farshad believed that patient confidentiality had to be maintained during diagnosis, counseling, care, and treatment.²⁴ Health care personnel's breach of confidentiality can decrease trust in physicians and the medical community and create a feeling of discrimination. Patients would, hence, avoid visiting health care institutions for fear of disclosure of their disease and its consequences such as stigmatization. Mahmoodian et al studied patients who visited the psychiatric clinics affiliated to Shiraz University of Medical Sciences (Shiraz, Iran).²⁵ According to their findings, the lowest and highest levels of patient satisfaction related to physicians and other health care personnel's behaviors with the patients and physicians' respect for patient confidentiality and privacy, respectively. Moreover, the patients had a moderate level of satisfaction with the health care team's overall respect

for the principles of medical ethics.

Issues such as physicians' respect for patient's freedom of decision-making, providing diagnostic and therapeutic information to patient, confidentiality, avoiding patient deception in diagnostic and therapeutic procedures, and patient time adjustment are mentioned within the professional ethics guideline that was published by Iran Medical Council and the Iranian patient's rights charter. Moreover, the issues such as medical decision-making with patient participation, and obtaining informed consent are considered within the above-mentioned guideline.

Benevolence and non-malevolence are included in the medical quiddity, and also physicians believe that benevolence and non-malevolence increase patient trust; thus, these issues can be the etiologies of higher level of adherence to these principles. Benevolence and non-malevolence improve patient satisfaction and desirable therapeutic results, and decrease complaint against physician. The principles of benevolence and non-malevolence have long been considered in medical oaths. Evaluation of these two principles in the current study showed that fewer than 50% of physicians try to acquire knowledge and skills after graduation and during work. Fadare et al reported inadequate knowledge of medical ethics among Nigerian physicians and highlighted an urgent need for enhancement of medical ethics training.²⁶ According to Su et al, 81% of physicians in China believed that medical ethics training was necessary for all medical staff.²⁷ Rafizadeh et al identified physicians' lack of skills as the most common cause of their malpractice.¹⁶

Evaluation of the principle of benevolence in the present study suggested an acceptable correlation between physicians' actions to minimize physical and psychological harm in patients. Ebrahimi et al showed that Iranian nurses perceived harm prevention as a major moral conflict in the context of ethical decision-making.²⁸ In a study on clinical academic staff and members of the hospital ethics committee in Saudi Arabia, Alkabba et al found patient safety (including physical, emotional, and social safety) as a major ethical issue.²⁹ Fayeze et al studied medical residents, nurses, and medical staff in Saudi Arabia and detected unethical behaviors such as lack of empathy (47.8%) among the physicians in hospitals.³⁰

Subjects such as providing training programs to patient, and minimizing psychological harm to patient are considered within the professional ethics guideline that was published by Iran Medical Council. In addition, continuous attempts to acquire knowledge is taken within the above-mentioned guideline and the Iranian patient's rights charter.

Observance of justice is included in human nature, improves patient satisfaction, and causes just resources

allocation; thus, these subjects can be the causes of higher level of adherence to the principle of justice. The results of justice are similar to the results of beneficence and non-maleficence. According to the principle of justice, physicians should not refuse to treat patients because of racial discrimination. In the present study, physicians did not discriminate between patients on the basis of their race. Abbasi et al assessed the rights of patients with mental disorders in Iran and concluded that physicians had to provide health care services without discriminating the patients based on their socioeconomic status, ethnicity and similar factors.³¹ Bahrani et al reported that 71% of dentists did not allow patients' sex, nationality, race, or color affect their selection or treatment.³² The findings of Bahrani et al are in complete agreement with ours. However, Parsapoor et al indicated that respect for the principle of non-discrimination was significantly lower in teaching hospitals than in other hospitals.¹⁹ Ducinskiene et al examined respect for patient rights in Lithuania and showed that only a small percentage of health care personnel considered nationality, language, and social status of patients in care provision.³³ In the principle of justice, fewer than half of our participants (47.3%) believed that physicians adhered to protecting patient interests and avoided wasting national resources. However, based on ethical principles and professional commitment, physicians should protect patients' interests and prevent the waste of national resources. In the present study, 55.3% of the participants stated that physicians considered the patients' right to enjoy equality in decision-making and receiving health care services. In contrast, according to Kuzu et al, 91% of patients in Turkey complained about lack of equitable access to health care services for all patients.³⁴ Issues such as providing health care services without discrimination, and provision of welfare facilities for patient are mentioned within the Iranian patient's rights charter. Furthermore, subjects such as adherence to the guidelines developed by the Ministry of Health and the Medical Council, and patient demands are taken within the professional ethics guideline that was published by Iran Medical Council. Observance of priorities is considered within the above-mentioned charter and guideline, too.

The present study had some limitations. First, only one province was studied and physicians who participated in continuous medical education programs were recruited. Moreover, it only included general practitioners and specialists, not subspecialists. There was also a time limitation in this study. Therefore, larger studies without the mentioned limitations are recommended to evaluate physicians' adherence to the principles of medical ethics on the basis of attitude of greater numbers of general physicians, specialists, and subspecialists.

In conclusion, medical ethics as a basic branch of public morality provides a valuable framework to define medical care norms. According to the present study, there is a significant correlation between some of the variables of medical ethics principles. The results show that adherence to indicators of beneficence, non-maleficence and justice has been almost good; however, physicians' ethical behaviors which pertain towards the principle of autonomy have not been acceptable. Physicians pay less attention to:

- a. consulting with patient before any action,
- b. obtaining informed consent,
- c. keeping on time attendance at appointment,
- d. listening carefully to patients and having conversation with them, and
- e. giving information to patient about diagnosis, cause of disease and treatment.

Since participants' attitude have not been desirable about adherence to some indicators of medical ethics, it is recommendable for the health care system to provide more workshops and continuous medical education programs for both education of medical ethics principles and promotion of medical community culture so as to change physicians' attitude toward adherence to the principles of medical ethics.

Authors' Contribution

Study concept and design: AG; Acquisition of data: AG and SRM; Analysis and interpretation of data: AG and SAM; Drafting of the manuscript: AG and MM; Critical revision of the manuscript for important intellectual content: AG, FM and MM; Statistical analysis: AH; Administrative, technical, and material support: AG and AH; Study supervision: FM.

Conflict of Interest Disclosures

The authors have no conflicts of interest.

Ethical Statement

This study was approved by the ethical committee of Mazandaran University of Medical Sciences (Ethic code: 4/1707).

Supplementary Materials

Online Supplementary file 1: The questionnaire.

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