

Medical ethics and bioethics among medical students

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Abstract

Knowledge of medical ethics and bioethics are fundamental for the correct performance of the medical professional. This study sought to understand and evaluate discussions about medical ethics and bioethics among students of a medical course via the application of a questionnaire. Most (89%) students consider the theme extremely important. For only 9.2% the approach to the theme was great, for 34.5% it was good, 34.5% considered it regular and 21.8% bad. They claim that the subject is best approached in practical activities or in discussions in small groups. This study concludes that the theme of medical ethics and bioethics was considered of high importance by almost all participants, and it is necessary to identify the parameters considered appropriate and to specify how the theme is understood by students to have an adequate approach in medical education.

Keywords: Medical ethics. Bioethics. Medical undergraduate education. Medical students. Standards of medical practice.

Resumo

Ética médica e bioética entre estudantes de medicina

Conhecimentos de ética médica e bioética são fundamentais para o correto desempenho do profissional médico. Neste trabalho, procuramos conhecer e avaliar discussões a respeito de ética médica e bioética entre estudantes de um curso de medicina por meio da aplicação de questionário. Foi verificado que, em sua maioria (89%), esses alunos consideram o tema extremamente importante. Para apenas 9,2% o desenvolvimento do tema foi ótimo, para 34,5% foi bom, 34,5% consideraram regular e 21,8% ruim. Eles afirmam que o assunto é melhor debatido em atividades práticas ou na discussão em pequenos grupos. Conclui-se que a temática ética médica e bioética foi considerada de elevada importância por quase todos os participantes, sendo preciso identificar os parâmetros considerados adequados, bem como especificar como a temática é entendida pelos estudantes para haja uma abordagem adequada na formação médica.

Palavras-chave: Ética médica. Bioética. Educação de graduação em medicina. Estudantes de medicina. Padrões de prática médica.

Resumen

Ética médica y bioética entre estudiantes de medicina

Los conocimientos de ética médica y bioética son claves para el correcto actuar del profesional médico. Este trabajo pretende conocer y plantear discusiones sobre ética médica y bioética entre estudiantes de medicina a través de la aplicación de un cuestionario. Se constató que la mayoría (89%) de estos estudiantes consideran el tema muy importante. Solamente el 9,2% consideró el desarrollo del tema excelente; el 34,5%, bueno; el 34,5%, regular y; el 21,8%, malo. Los estudiantes sostienen que hay una mejor discusión del tema en las actividades prácticas o en discusiones en grupos pequeños. Se concluye que el tema de la ética médica y la bioética fue considerado de gran importancia por casi todos los participantes, lo que es necesario identificar los parámetros adecuados y precisar cómo los estudiantes entienden el tema para aplicar un enfoque adecuado a la formación médica.

Palabras clave: Ética médica. Bioética. Educación de pregrado en medicina. Estudiantes de medicina. Pautas de la práctica en medicina.

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The concept of medical ethics, sometimes related and discussed along with bioethical issues, is usually considered a fundamental part of medical education. Advances in bioethical discussions and their transdisciplinary character make the insertion of these issues in medical schools increasingly complex, as these institutions try different ways to include medical ethics and, sometimes bioethics, in their curricula without clearly stating the purpose of studying these topics^{1,2}. Far beyond the simple presentation of the medical ethics code, or bioethical principles, the discussion and application of these concepts in practice must be an objective to be achieved.

The objective of this study is to highlight the importance given to medical ethics and bioethics among medical undergraduates, to investigate how these students are being introduced to these issues and, finally, to question what their posture would be in a hypothetical situation of bioethical conflict.

Method

This is a cross-sectional study, with a quantitative and qualitative approach, carried out with the analysis of anonymous questionnaires. The study was submitted to the Research Ethics Committee via Plataforma Brasil. A questionnaire was prepared (Appendix) consisting of 11 questions, four about demographic aspects, one about how important bioethics and medical ethics were for the student, four to identify how and at what moments of the medical course bioethics and medical ethics were addressed, one presenting a clinical picture in which bioethical principles were opposed, and a final question to identify the prevailing bioethical principle in approaching a proposed clinical case.

The questionnaires were anonymous and submitted by e-mail. The students invited to participate were attending the second to fifth year of medical school. Data collection took place in the middle of the school term and there was an interval of 30 days between sending and returning the questionnaires.

Results

From 145 students invited to participate in the study, 110 questionnaires were returned, that is, about 75%. Despite the wide distribution by age—from 19 to 37 years—, the participants were mostly young, with a concentration of participants aged between 19 and 25 years old, which corresponds to about 89%. Gender distribution was balanced, with 54.5% women and 45.5% men.

The group of students surveyed was also well distributed in relation to the period of the medical course. Of the total, 27.3% were in the second or fourth year, 20% were in the third and 25.5% were in the fifth year. Most, about 71%, had no previous experience in an undergraduate course, 16% had been enrolled in another course without completing it, and 13% had completed previous undergraduate training.

When asked about the importance of medical ethics and bioethics, all of them considered them relevant subjects, being extremely important for more than 90% of the participants. However, regarding the quality of learning about the subjects in the course, only 9.2% considered the teaching great, for 34.5% it was good, the same percentage of 34.5% considered the approach regular, and for 21.8% it was bad.

Regarding the moments when the topic was addressed, 31.8% stated all years had discussed them, for 51% the discussion took place in some years, and for 17.3% there was no discussion. The scenario that concentrated most of the discussions was the basic health unit, with 45.5%, followed by the tutoring scenario, with 21.8%, conferences for 12.8%, and laboratories with 2.1%.

When asked about the quality of the discussion on medical ethics and bioethics, most students (62%) considered the approach adequate, for 31% it was a little adequate, being inadequate or a little inadequate in the remaining 7%.

When confronted with a clinical case, which presents a patient with indication for surgical treatment, but with high risk and different possibilities of conduct, most (60%) opted for surgery as long as authorized by the family. For 25.5%, clinical treatment would be the appropriate option, 9.1% would consider discharge

for the patient, and for 5.4%, surgery would be an option even without authorization.

When questioned about the bioethical principle to be observed when dealing with the proposed case most answered non-maleficence (49%), followed by beneficence (36.4%), justice (7.3%), autonomy (0.9%) and competence (6.4%).

Discussion

The initial analysis of the data reveals that the medical course studied is, for the most part, composed of young students, aged between 19 and 25 years, with a predominance of women. This situation is similar to that of most medical courses in Brazil³. Regarding the importance of the medical ethics and bioethics topic, the results are in accordance with common sense, as apparently there is a consensus regarding the high relevance of the subject for both physicians and medical students^{4,5}.

However, great divergence exists among those responsible for coordinating medical courses on what the topic of medical ethics actually involves and how it should ideally be developed in undergraduate courses. There is a dogmatic defense of the mandatory nature of a discipline on medical ethics⁶, extending over several semesters, up to the proposal of a diffuse insertion of the theme in the most diverse scenarios, with multiple approaches^{1,4,5,7}.

In this study, students attend a course based on active methodologies and no isolated subjects, but scenarios in which multiple competences are addressed. Ethics and bioethics-related concepts are thus addressed, ideally, in all scenarios and in all years of the course. However, a specific situation called “conference” exists, taking place once a week. In this circumstance, there may be a lecture that, among other subjects, addresses medical ethics and bioethics.

The data indicate that the opportunities for discussing the theme were scattered and at several moments, as mentioned by about 80% of the students. The results also show that the contact took place in multiple scenarios, with a predominance of those in which students spend most of their time in health units (45%) and in tutoring (21%). In these two scenarios, the study

of ethical or bioethical issues is not guided, but undertaken when an opportunity for discussion of these themes arise from other debates. The conference scenario, which occasionally serves for discussions guided towards medical ethics/bioethics, was mentioned in only 12%.

Opportunities for discussion were only considered as optimally offered for 9.2% of participants, good for 34.5%, the same percentage (34.5%) considered them moderate, and 21.8% as bad. Therefore, for most (56.3%) the theme was developed in a moderate or bad way. Although worrying, these data can be partly attributed to the lack of a specific analysis by year—or even to an individual interpretation—than to a good or adequate learning about bioethics. This theme is not usually the subject of formal evaluation in this medical program.

However, what is the concept of medical ethics and bioethics that medical students should know and be competent to apply? In fact, there is a big difference between knowing the articles of the medical ethics code and developing communication and interpersonal skills. Such competences contribute to the adoption of more appropriate postures in various professional situations that involve multiple conflicts of interest, not only in the relationship with patients and their families, but also with medical and non-medical colleagues, hierarchical superiors, health operators or insurers, pharmaceutical or prosthesis industry, and others.

Would the medical course be able to supply concepts of anthropological, sociological and psychological nature—and others—that support a humanistic substrate and allow physicians to position themselves more adequately? And, after all, what is ethics⁸⁻¹¹?

The definition of ethics can be so difficult to the point that philosophers such as Benedictus de Spinoza, in the 17th century, used this word as the title of a work and defined it with arguments that start from God, passing through the explanation of affections regarding its origins, nature and strength¹².

In a less complex and more current way, Morin¹³ also addressed the issue, proposing that ethics would be a “moral requirement” that would arise in human beings as a duty. For him, this “moral requirement” is the product of three parts:

the individual themselves, their spirit; society and, therefore, the culture in which they were formed and are inserted; and, finally, the biological needs of the living being. The author thus considers that *when it comes to obeying a simple and evident duty, the problem is not ethical, but having the courage, strength and will to carry out one's duty. The ethical problem arises when two opposing duties are imposed*¹⁴.

Medical ethics originated with Hippocrates, from abstract concepts based on Greek philosophy—mainly Aristotelian, with the concept of the virtuous person. However, the 20th century was when questions about the allocation of limited resources for health treatments brought about reflections about the added value related to health care and forced physicians to choose between two legally appropriate conducts¹⁵.

Bioethics, on the other hand, is considered a contemporary creation and is usually associated with 1979's *Belmont Report*, which basically consisted of a response by the United States government to research with human beings carried out in an inadequate way, putting participants at risk. The Report aimed to establish principles, which began to guide research from then on. As a consequence, a conception of bioethics was developed based on these principles, namely: beneficence, justice and autonomy, with non-maleficence being added later^{15,16}.

Turned into bioethical principles, these concepts were already in use and fostering discussions since the 1950s due to the use of machines—such as respirators and hemodialysis machines—that could prolong the lives of people who had hitherto no chances to survive. However, such equipment raised previously unknown suffering to patients, as the quantity available was not enough to serve all individuals¹⁵.

Ethical and bioethical aspects mainly related to patients' life and death issues have always been the subject of discussions in medical practice. The use of the principlist approach represented a possibility of performing a more precise and not as subjective analysis, since it would only use predetermined criteria. However, practical situations showed that the simple application of bioethical principles is insufficient to determine the most appropriate choice on a specific occasion.

Moreover, in some contexts the application of a principle makes another unfeasible^{17,18}.

To respond to this additional gap, some researchers developed methods of moral analysis to be applied individually in situations of bioethical conflict, which came to be called clinical bioethics. Such an approach, considered clinical, does not refute bioethical principles, but is probably more suitable to manifest all the plural characteristic of bioethics, in the sense of dialoguing with other areas of knowledge to provide a more individualized answer to particular questions of each clinical situation and its respective actors^{17,18}.

The clinical approach to bioethics is of paramount importance for the training of medical students since, when acting directly in clinical situations, they will be exposed to decision-making situations that involve aspects discussed and deepened in a more adequate way in the clinical bioethics topic, as compared to the principlist approach or just to the ethical discussion.

It is important to keep in mind that the concept—or definition—of moral values is not exactly the same across the different students in a medical course. The greater or lesser degree of importance ascribed to a given value is closely related to the real concept that each individual has about a given moral value^{9,10}.

This study found that discussions and hands-on activities with small groups were the most propitious moments for the debate on the topic of ethics and bioethics. This fact was also observed in a recent Brazilian study in which medical students pointed to disciplines with practical activities and circumstances that imply contact with the patient—such as semiology and fieldwork—as privileged spaces to address medical ethics-related issues, even surpassing the discipline of ethics itself. Corroborating this reasoning, the same students stated that, for discussing important moral values for the formation of a good physician, hands-on and small-group activities are more relevant than lectures or debates¹⁰.

In view of the topic's complexity and the need for a continuous and progressive exposure of these concepts and this topic, the discussion of bioethics-related moral values should take place before individuals enroll in undergraduate courses, preparing and qualifying them so that

undergraduates can start from a minimum level and thus reach more complex levels of bioethics-related discussion with greater ease¹⁹⁻²¹.

Final considerations

The complexity of the topic herein discussed relates to both its transdisciplinary nature and the multiplicity of definitions and concepts adopted by different people. However, almost unanimously, students and professors attach great importance to the topic, perhaps driven by an opinion based on common sense that ethics is something positive

and that everyone should have as a goal—even though the goal and how to achieve it are not and common to all.

Any discussion related, albeit tangentially, to the ethics and bioethics topic is important and should be encouraged. However, such debates need to move forward to find humanistic, anthropological and sociological foundations. The discussion should thus provide the construction of solid knowledge that allows students to identify how people in different cultures or social contexts face ethical and bioethical challenges, especially in common situations that occur in the daily practice of health professionals.

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Participation of the authors

Alexandre Faraco de Oliveira participated in research planning, literature review, data collection and writing of the manuscript. Evelise Faraco de Oliveira contributed to research planning, literature review, writing and revision of the manuscript.

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Appendix

Questionnaire: medical ethics

1. Age
2. Sex M/F
3. Year of course
4. Have you ever taken a degree?
5. What is the importance of knowledge about medical ethics and bioethics?
 Extremely important/indispensable for the medical professional
 Important but not essential
 Somewhat important
 Not important
6. How do you evaluate learning in medical ethics and/or bioethics in the medical course?
 Great
 Good
 Moderate
 Bad
7. At what points in the course was medical ethics discussed?
 Every year
 In a few years. Cite:
 In no year so far
8. In which course settings was medical ethics discussed?
 Basic Health Unit
 Tutoring
 Internship. Which year:
 Professional practice lab
 Conferences
 Morphofunctional Laboratory
9. At times when medical ethics was addressed, this approach was:
 Very adequate
 Adequate
 Little adequate
 Inadequate

10. Problem situation:

A 91-year-old female patient is admitted to your care. She was referred due to extensive injury to her right leg. According to family members, the patient has been bedridden for about 6 months, follows orders with difficulty and does not eat (she receives a tube diet). Pallor +1/4, slightly dehydrated, arrhythmic (AF). The right leg has a reduced temperature, fixed cyanosis, no pulses. The patient has not had a relationship with her family for months. Although she does not communicate, she does not seem to feel pain. You conclude that this is a patient with established gangrene in the right leg, with no possibility of saving the limb, the only option being amputation. Given the above situation, what would be your conduct?

- a. Amputation surgery, as long as authorized by family members, because, despite the risks, it is the only possibility of improvement;
 - b. Amputation surgery, even if not authorized by family members, as the patient is unable to decide for herself and, despite the risks, it is the only possibility of improvement;
 - c. Supportive clinical treatment, focusing on the possible comfort of the patient;
 - d. Hospital discharge with guidelines for home care, with support from the health unit, considering that the hospitalization will not be able to bring benefits to this patient and will entail a great cost for the health system;
11. Among the bioethical principles, which do you believe should prevail in this situation:
- a. Justice
 - b. Beneficence
 - c. Non-maleficence
 - d. Autonomy
 - e. Competence