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Medical education and ethical training: a scoping review

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Abstract

The medical education curriculum is undergoing profound transformations aimed at developing practical skills for medical practice. Ethics must occupy a central place in this restructuring to enable patient-centered practice. This study aims to conduct a scoping review of articles from the last five years addressing ethics in medical education. Two results stood out from this review: the structuring of ethics content in the curriculum and the development of ethical sensitivity. The ethical training of future physicians cannot be reduced to a cognitivist perspective of knowing how to argue and formulate moral judgments. However, it must also assume an affective perspective to create ethical sensitivity that includes attitudes and skills to understand the ethical problem in its context.

Keywords: Medical education. Ethics. Curriculum. Health knowledge, attitudes, and practice. Informed consent.

Resumo

Educação médica e formação ética: revisão de escopo

O currículo da educação médica passa por profundas transformações visando desenvolver competências práticas para o exercício da medicina e, para possibilitar uma atuação centrada no paciente, a ética precisa ocupar lugar central nessa reestruturação. Este estudo tem como objetivo realizar uma revisão de escopo de artigos dos últimos cinco anos que abordam o tema da ética na educação médica. Dessa revisão, dois resultados se destacaram: a estruturação dos conteúdos de ética no currículo e a formação da sensibilidade ética. A formação ética do futuro médico não pode reduzir-se a uma perspectiva cognitivista de saber argumentar e formular juízos morais, mas necessita assumir também a perspectiva afetiva para a criação de sensibilidade ética que compreende atitudes e competências para captar o problema ético em seu contexto.

Palavras-chave: Educação médica. Ética. Currículo. Conhecimentos, atitudes e prática em saúde. Consentimento livre e esclarecido.

Resumen

Educación médica y formación ética: revisión de alcance

El currículo de la educación médica experimenta profundas transformaciones que buscan desarrollar competencias prácticas para el ejercicio de la medicina y, para permitir una actuación centrada en el paciente, la ética debe ocupar un lugar central en esta reestructuración. Este estudio tiene como objetivo realizar una revisión de alcance de artículos de los últimos cinco años que abordan el tema de la ética en la educación médica. De esta revisión, se destacaron dos resultados: la estructuración de los contenidos de ética en el currículo y la formación de la sensibilidad ética. La formación ética del futuro médico no puede reducirse a una perspectiva cognitivista de saber argumentar y formular juicios morales, sino que también debe asumir una perspectiva afectiva para crear una sensibilidad ética que incluya actitudes y competencias para captar el problema ético en su contexto.

Palabras clave: Educación médica. Ética. Curriculum. Conocimientos, actitudes y práctica en salud. Consentimiento informado.

Research

The authors declare no conflict of interest.

Medical education is undergoing profound transformations, shortening formal teaching time and emphasizing the creation of skills and the dimension of care in practice settings [1]. From this perspective, if the objective is to educate for care and skills in professional practice, ethics must be part of the central core of undergraduate health courses. However, the practice of ethical reasoning of cases is noted to be scarce [2].

It is not enough to know what is right and wrong in professional practice; it is necessary to know how to reflect on the values of life and health and discern their applications in practice [3]. Therefore, education, as a broad process, should not be limited to transmitting ethics as mere content but should encourage students to think, reflect, and develop thoughts and behaviors based on ethics [4].

Ethics-based education is essential for humanized and qualified care and the development of a critical and reflective professional. The educational process is expected to form a professional who acts with ethical principles [3]. Therefore, it is essential *to include ethical and humanistic dimensions* in the education and development of the student following citizenship-oriented *attitudes and values* [5].

Some authors [6] conducted an integrative review on teaching ethics in undergraduate medical courses, finding. As a result, the use of different learning methods, teaching disconnected from the clinical experience of students, and the challenges of the teaching and learning process of medicine, warning of the danger of irresponsible use of the four principles of bioethics in undergraduate courses, creating the false sensation of having completed the ethics module.

This study is a scoping review of ethics teaching in medical courses. It focuses on structuring ethics in the curriculum and what is expected from this learning, explained by the creation of ethical sensitivity. The aim is to gather evidence on how and why ethics is taught in medical education. Thus, this article seeks to understand the scientific production of characterizing ethics teaching in medical training.

Method

This is a scoping review that aims to explore the main concepts regarding the extent, scope, and nature of a given area of knowledge in the literature [7]. The scoping design follows the guidelines of the PRISMA-ScR Protocol [8].

Based on the results described in selected articles, this scoping review will describe how and why ethics is taught in medical education during undergraduate and residency training. To this end, the research follows five methodological steps: identification of the research question, identification of relevant studies, selection of studies, data mapping, grouping, summarizing, and reporting results.

The focus of the research was to find out how the teaching of ethics is characterized in medical training. The search strategy carried out in January 2021 combined the descriptors indexed in the controlled vocabulary of the Medical Subject Heading Terms (MeSH) "education, medical," "curriculum," and "ethics" with the Boolean operator *and* for searching the PubMed and Virtual Health Library (VHL) databases, which includes the LILACS, IBECS, Medline, and SciELO databases. Original articles and experience reports (empirical research) from the last five years that addressed the theme of ethics in teaching and practice as an undergraduate student and medical residency were included. Articles inappropriate to the proposed theme and context, such as dissertations and theses, reviews, theoretical articles, and duplicate studies, were excluded.

After double screening by independent researchers, the titles of the pre-selected articles were read, followed by the abstracts, based on the eligibility criteria. After reading the articles in full, the selected studies were compared to obtain the final sample. The search identified 1,667 results. After the peer review of the titles and abstracts, 78 articles were included for analysis in full, resulting in 75 after excluding duplicates. The whole reading selected 25 studies as the final sample.

To map the data, a data extraction table was created consisting of the following topics: database, title, author, year, journal, country, objective, method, how ethics is taught in medical training, and main results. The results were entered into a spreadsheet in Microsoft Excel 2016 for later analysis (Chart 1). The main results were identified and separated into categories based on the findings.

Chart 1. Summary of the main data from the review studies

Author; year	Journal	Country
Gupta and collaborators; 2016 [9]	*Empirical Report*	Canada
Iki and collaborators; 2017 [10]	*Experimental Animals*	Japan
Stephens, Rees, Lazarus; 2019 [11]	*Anatomical Sciences Education*	Australia
Sherer and collaborators; 2017 [12]	*Education for Health*	United States
Saad, Riley, Hain; 2017 [13]	*Journal of Medical Ethics*	Wales
Marsden, Kaldjian, Carlisle; 2019 [14]	*Journal of Surgical Research*	United States
Aleksandrova-Yankulovska; 2016 [15]	*Nursing Ethics*	Bulgaria
Nickels, Tilburt, Ross; 2016 [16]	*Academic Pediatrics*	United States
Props and collaborators; 2019 [17]	*Journal of Surgical Education*	United States and Porto Rico
Revuelta; 2018 [18]	*Revista de Bioética y Derecho*	Spain
Goldberg and collaborators; 2018 [19]	*MedEdPORTAL*	United States
Giménez and collaborators; 2017 [20]	*Revista de Calidad Asistencial*	Spain
Komattil and collaborators; 2016 [21]	*Korean Journal of Medical Education*	India
Bowsher and collaborators; 2018 [22]	*BMC Medical Education*	United Kingdom
Friedrich and collaborators; 2017 [23]	*BMC Medical Ethics*	Germany
Brooks, Bell; 2016 [24]	*Journal of Medical Ethics*	England
Ozgonul, Alimoglu; 2017 [25]	*Nursing Ethics*	Turkey
Al Mahmoud and collaborators; 2017 [26]	*Taylor and Francis Group*	United Arab Emirates
Gulino and collaborators; 2018 [27]	*Acta Biomedica*	Italia
D'Ignazio and collaborators; 2019 [28]	*Medical Teacher*	Canada
Bennett and collaborators; 2017 [29]	*Annals of Plastic Surgery*	United States
Inerney, Lees; 2018 [30]	*Journal of Medical Radiation Sciences*	Australia
Iaconisi and collaborators; 2019 [31]	*Anatomical Science Education*	Germany
Esquerda and collaborators; 2019 [32]	*Atención Primaria*	Spain
Seoane and collaborators; 2016 [33]	*Ochsner Journal*	United States

Results

Twenty-five studies published between 2016 and 2020 were selected, with the highest number of publications in 2017 (n=8; 30.76%), 2019 (n=7; 26.92%), 2016 (n=5; 19.23%), 2018 (n=5, 19.23%) and 2020 (n=1, 3.84%). Most of the selected studies were qualitative (n=15; 57.69%), and data collection used questionnaires and interviews.

Considering the geographical distribution of the studies, 11 (42.27%) came from Europe, three (11.54%) from Spain; seven (26.92%) were carried out in the United States, three (11.54%) in Asia, two (7.69%) in Oceania and two (7.69%) in Canada. The data analysis from the selected studies shows two main topics: perception (n=16; 59.25%) and curriculum (n=11; 40.74%).

The thematic analysis of the articles that comprised the set of data for the scoping review pointed to two results: "structuring the curriculum," which includes both the content and the teaching method, what and how ethics is taught in the medical course, and "formation of ethical sensitivity," which includes the development of reflective capacity and ethical

understanding based on the teaching of ethics and its implications for practice.

Curriculum structuring: traditional content and innovative methods

The results demonstrate that the content taught is identified with the topics of ethics and professional behavior [9-14], bioethics [15,16], informed consent [14,16,17], leadership skills, decision-making, and communication [14,16], euthanasia [18], palliative care [19], values and competencies [20], and aspects of the physician-patient relationship [21]. Regarding the method, the studies describe several innovative methods in teaching ethics, considering the various ethical challenges experienced by students and future professionals [22] and the gap between theory and practice. This aspect has challenged teaching ethics in medicine over the years [23,24].

In general, through the practical application of ethical issues, more didactic ways of teaching have been described, with interactive, experimental, and reflective teaching methods that transcend the classroom, which can increase students' interest, curiosity, and active learning [12,25-27]. The importance of these different methods when teaching by a multidisciplinary team, including other healthcare professionals and professionals from related areas, such as philosophy, has also been described [12,27].

The articles dealt, in particular, with learning about cultural issues in the physician-patient relationship through pre-exchange training for a more global understanding of health, taking into account the mastery of culture and ethics in the treatment of patients from other contexts [28]; a personal and professional development module to acquire practical skills [21]; new methods of theory-based case discussion (TBCD) and principle-based structured case discussion (PBSCD) [23]; a standardized training program by residency type [29]; an online discussion of ethical cases [22]; and an online program for decision-making, the values exchange, to examine practice-based ethical issues [30].

Finally, other topics discussed in the articles were some more traditional teaching methods, such as classes and lectures, guided studies, discussions with colleagues [9,16], readings and simulation practices [17], questionnaires and forums [10,11], presentation of clinical cases and written reflections [19], movies and post-movie scripts, identification of dilemmas in the stories watched [15,31], and observation of the team during clinical supervision using simulated interactions with patients [26].

Formation of ethical sensitivity

Professionalism and moral values

The primary purpose of addressing ethics in medical education is to promote personal and professional development and provide growth in morals and ethical sensitivity so that, in practice, ethics is not limited to the purely technical act of the profession [15]. Thus, teaching must be linked to a commitment to values and skills in professional training [20,21] and seeking moral identity development in medical students [31].

Studies show evidence that some forms of ethics education can increase students' moral sensitivity, promoting virtuous physicians through the development of moral reasoning and greater ethical skills through sensitivity to resolve clinical cases [32]. Studies have also shown the evolution of physician involvement in patient care, changing the approach to medical practice [33] and awakening professional responsibility, focusing on the quality of care offered to the patient [16].

Thus, the development of ethical sensitivity is related to the different ways of teaching, clarifying their implications for professional practice. Cross-curricular teaching, which incorporates ethics into the different curricular components, and not only in specific subjects, fosters the development of a reflective professional who, in addition to identifying the ethical issues of practice, experiences them with skill, confidence, competence, and effectiveness in decision making [11,16,17].

Discussion

The results show little difference or novelty in the content developed in ethics classes. The search for innovation occurs concerning the method used, in which there is diversity and attempts at new, more participatory, and interactive learning techniques, focusing on practice. These include the

study of ethical theories and principles based on their application to specific cases, the use of media and digital tools to streamline the content taught, discussion of ethical problems that emerge from clinical practice, and training for the acquisition of values of medical professionalism and practical skills, such as respect for dissected bodies in anatomy classes, obtaining informed consent, and offering palliative care—all of these skills imply the ethical dimension.

This concern with the method is related to the objectives of teaching ethics. Seeking more active and participatory learning achieves these objectives. In an illuminating text from 1980 [34], which still has much to say about the motivation for teaching ethics, the famous bioethicist Daniel Callahan—co-founder of the Hastings Center of Ethics—points out, as its first objective, to stimulate moral imagination based on contexts of current challenges and problems in bioethics through movies, videos, case reports, and visits to places to awaken emotions through questioning about the context analyzed. The use of participatory and media means aims to activate the emotional dimension, which is the basis for achieving the other objectives.

The next aim of ethics education is to recognize the ethical issues in a case because emotional awakening is not enough. To detect ethical problems, a rational cognitive assessment of the situation is required. Once the problem has been recognized, it is necessary to develop ethical analysis skills and competencies to justify moral judgments and argue in favor of ethical decisions. Several articles point to this goal of developing analysis skills.

Once the appropriate ethical decision has been reached, awakening the sense of moral obligation is required since it is not enough to arrive at a moral judgment with justification and arguments. It is necessary to transform it into an ethical imperative since it is not a purely cognitive issue but a volitional one. Since ethical decisions occur in a sociocultural and organizational context, a final objective of teaching ethics is to know how to tolerate opposing opinions in deliberation and learn to reduce the ambiguities of any option, requiring continuous review of positions and openness to critical questioning and evaluation of proposed solutions [34]. These objectives point to a pedagogical itinerary for teaching ethics to train future physicians.

This pedagogical concern with practical learning shows that ethics cannot be reduced to a procedural judgmental act of cognitive dimensions since it implies behaviors and evaluative attitudes of emotional dimensions. This position was defended by Hofmann [35], who emphasized the role of empathy in moral development, unlike Kohlberg [36], who followed the cognitivist perspective and emphasized the formulation of moral judgments as a criterion for moral development. When the data point to the need for ethical training, educating in practice for professionalism and moral values means creating sensitivity that is demonstrated in attitudes and behaviors, not just in formulating correct judgments following principles.

Pellegrino and Thomasma [37] insist that the practice of medicine has an essential ethical component, both in its internal structure and in its sociocultural expression. Being a physician implies expressing specific moral values in medicine's internal practice and the public's role in society. The moral parameters of clinical practice and social role need to become internal dispositions, expressed in the physician's attitudes and behaviors, spontaneously manifested in their practices.

Therefore, physicians are expected to make judgments and correct ethical decisions, following the principles and standards of their professional code and to be recognized for their professionalism and moral behavior, expressed in virtues and moral sensitivity [38]. Thus, ethical education is the cognitive learning of applying bioethical principles and emotional learning of values and attitudes, as pointed out in an integrative review discussion [39].

The data demonstrate that introducing active, practice-centered methods encourages awareness, is perceived as internalizing moral values, and assumes professionalism, which are characteristics of the practice of medicine. It is necessary to distinguish between moral and ethical sensitivity. Moral sensitivity is knowing how to interpret a given situation as moral, understanding its causes and consequences, imagining solution scenarios, and creating empathy and responsibility. Ethical sensitivity is knowing how to apply professional codes of ethics principles and moral categories.

This second sense has a cognitive dimension in formulating moral judgments.

Moral sensitivity concerns the affective and practical dimensions expressed in values and attitudes. This difference is fundamental for the ethical education of students. Professionals with practical experience first demonstrate moral sensitivity to capture contextual dimensions that configure the morality of the case and only then express it ethically through guidelines. At the same time, students, in the initial years, are guided theoretically by the ethical sensitivity of applying principles [40].

Therefore, the importance of focusing on practice in teaching ethics increases as students enter internships and medical residencies. Several articles in the review collect experiences of the challenges faced by residents. Students need to mature from a purely theoretical application of ethical principles to concrete cases to sensitivity to know how to interpret the moral core of a given situation, discerning and deliberating paths to solutions that need to be confronted with ethical guidelines [41,42].

This finding points to another important distinction in ethics teaching: the differences between medical skills, referring to technical dexterity in the application of procedures and competencies, assuming both the skills and the ability to intuit innovative solutions for complex, unforeseen situations, always including the evaluation of the ethical and communicative dimensions of the case, which is acquired through practice [43,44]. From this perspective, ethics teaching in medicine cannot be reduced to a mere training of skills to apply bioethics principles to specific cases (ethical sensitivity). However, it must foster practical skills to discern and deliberate complex and challenging moral situations (moral sensitivity).

Several articles use the term "training" to express the practical dimension of ethics teaching, indicating a pure application of principles when the actual learning of practical wisdom consists of interpreting and understanding the moral configuration of the challenge or problem that manifests itself in a given context, and only then seeing which principles and norms are related to it. This points to the need for a hermeneutic perspective in ethics teaching, overcoming its reductionism to the pure procedural model of bioethics [45].

Another finding highlighted by the studies is the influence of the hidden curriculum on the moral learning of professionalism [46], determining the socialization process of medical students through informal environments of non-neutral behaviors, although related to morality, models of action of medical professors, biases, and omissions implicit in the content that encourage the incorporation of habits, values, and ways of thinking from the medical environment, often distant in cultural and moral terms from what is formally taught in ethics classes. Therefore, it is necessary to formulate pedagogical strategies to create resilience and critical thinking in students [47].

Semberoiz's positioning is also timely [48], according to which pure bioethics classes cannot create moral and ethical awareness in students if the medical course does not promote, in its environment, an ethical framework, and a moral culture characterized by professionalism, moral values, and ethical skills in its faculty and staff that can confront and question the hidden curriculum.

This means that the ethics curriculum cannot be reduced to the principles of bioethics and the legal norms of the code but must include critical content concerning the clinical reductionism of the biomedical paradigm and evidence-based medicine, taken as a path to solving the patient's needs, pointing out, for example, the moral and ethical demands present in person-centered medicine [49], in narrative medicine [50] and encouraging the understanding of the anthropological dimensions of the health/disease process, with their moral and ethical consequences for clinical practice.

Bastos [51] demonstrated how the dissection of cadavers in the early years of medicine could be a factor responsible for the gradual dehumanization and moral disengagement of students due to a lack of learning of how to deal with the personal body and the suffering of patients. The data from the literature review, on the contrary, indicate that dissection in anatomy classes, a necessary component of medical education, can be a valuable opportunity for learning ethics through reflection on the personal identity of these bodies and the ethical demands of their management [52].

A new challenge for ethics learning is the introduction of artificial intelligence (AI) technologies as pedagogical tools for medical education. Van der Niet and Bleakley [53] argue that AI is changing the face of medicine with positive results. However, its use presents negative consequences due to the proposal of an instrumental solution in which the computer assumes the patient's symptoms, offers the diagnosis and therapy, and replaces the care relationship, which directly involves the patient's body, with a technological connection.

Therefore, using mannequins, teaching through realistic simulation may be valid for simulating the actual practice environment. However, it can never replace direct contact with the patient's body to strengthen the physician-patient relationship and learn how to perform a physical examination, which is essential for a diagnosis centered on the person, not the disease.

Final considerations

Most of the articles are pedagogically concerned with using dynamic and interactive means to learn how to resolve ethical conflicts that arise in the practice of medicine. In this sense, several articles are focused on practical contexts in medical residencies. This involves learning more cognitive skills to argue and justify certain decisions in problematic situations. However, ethics is not limited to using methodological resources to resolve moral problems.

Some articles point to the issue of creating ethical sensitivity, which is not restricted to learning knowledge but also to acquiring attitudes toward patients. The issue is the affective dimension of recognizing their needs and responding with beneficence and autonomy. This is not part of pure cognitive learning but of an internalization of medical values and ideals that need to be captured in the academic environment and in the context of students' practices, moments in which professors both teach the skills and technical competencies for clinical reasoning and witness attitudes toward patients that students incorporate into their identity as future physicians.

In this sense, bioethics classes are intended to teach how to resolve problematic clinical issues. However, they are not enough to provide ethical training. Medical schools also need an ethical framework that introduces and inspires learning practices. Ultimately, this ethical framework, shared by all professors and expressed pedagogically in their ways of being and acting with patients in front of students, truly shapes the ethical sensitivity of future physicians.

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