EDITORIAL

Bioethics and digital environment: current challenges in medical education
Bioética y entorno digital: desafíos actuales en la educación médica

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In October 2024, the School of Human Medicine at our university held, for the first time, one of the most significant events an institution of higher education can host: Bioethics Week. This event brought together the entire university community—students, teaching staff and employees—to reflect on the role of ethics in medical education. This collective effort aimed at strengthening in our students a deep commitment to ethics and bioethics: core values that must be firmly established in both their academic lives and their future professional practice. Throughout the week, key topics were addressed in lectures such as *La importancia de la bioética en el quehacer profesional del médico* (The importance of bioethics in the professional practice of medicine) and *La enseñanza de la bioética como eje transversal en la malla curricular de medicina* (Teaching bioethics as a cross-cutting component of the medical education curriculum) [1]. The week concluded with the drafting of a Student Code of Ethics, a meaningful step toward formalizing an ethical framework to guide students' conduct in both academic and professional settings.

Among the various topics explored, one that drew particular attention was *Reflexiones sobre el fraude académico* (Reflections on academic dishonesty), a social phenomenon defined as any action that undermines the legitimacy of academic work or performance by university students or professors [2,3]. This issue poses a direct threat to the comprehensive educational mission of any reputable institution. It is important to emphasize that such misconduct typically occurs during assessments, with the aim of obtaining grades that enable progression to higher levels of education. These practices—found across all levels of the educational system—represent a serious challenge to the educational integrity of our university and have become increasingly prevalent in recent years, largely driven by technological advancements, especially the widespread use of the Internet and artificial intelligence (AI).

The modalities of academic dishonesty have evolved. Traditional practices—such as copying from another student during an exam, consulting notes or textbooks during tests, inappropriately assisting others (e.g., passing notes with answers), or obtaining exam questions in advance from someone who had already taken the test—have now been supplemented by technology-enabled methods. These include using smartphones to search for answers, engaging in cyber impersonation during online assessments, hacking computers used to administer exams, transmitting information via discreet earpieces with real-time input from accomplices, and employing AI tools to generate written assignments. These new variants have emerged alongside ongoing technological advances.

The central issue in this context is understanding what motivates students to engage in such dishonest practices. Although some research has been conducted, it remains insufficient. In his 1993 study, McCabe [4] identified contributing factors such as group pressure (peer behavior), the need for social acceptance, and unclear or unenforced academic integrity standards within the university's code of ethical conduct. By 2012, he had included emotional factors, such as social and familial pressures to meet expectations of success [5]. These elements may foster an environment in which students resort to academic dishonesty as a coping mechanism to manage anxiety related to academic performance and progression to higher levels of education.

In educational systems where grades are often regarded as indicators of quality and merit, it is understandable that some students may resort to academic dishonesty as a means to secure favorable marks and improve their academic standing. However, this approach ultimately undermines their holistic development and damages the reputation of both the institution and the educational system as a whole. While disciplinary sanctions—and, in some cases, legal consequences—exist to discourage such behavior, these measures are not always sufficient to halt the phenomenon. As a result, educational institutions face the ongoing challenge of addressing this issue in a deeper and more effective manner.

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Thus, institutions of higher education, including our own, face the critical task of answering fundamental questions: How can we combat this unethical behavior? How can we prevent our students from resorting to dishonesty? More importantly, how can we foster a culture of genuine academic integrity?

The answers lie in two main areas: the individual development of students and the active involvement of the teaching staff.

It is well established—and even codified in the ethical and deontological principles of professional medical associations—that professional competencies are maintained through lifelong self-directed learning. The education provided by our school and its campuses lays a strong foundation in basic, clinical and surgical sciences; however, continuous improvement ultimately depends on the intrinsic motivation of each future professional.

In medical students, one indicator of emotional maturity is self-awareness, which in turn leads to the practice of self-control—a critical skill that fosters the discipline necessary to bridge academic gaps and keep pace with the rigorous demands of medical education. This progression shapes a personal learning style or "rhythm," which contributes to satisfactory academic progress and reduces the likelihood of academic dishonesty. Conversely, those who do not follow this path may fall into the "path of least resistance" and, in the worst-case scenario, resort to fraudulent methods.

The external front involves the teaching staff, who must make thoughtful and sustained efforts to demonstrate the relevance and practical application of their course content to medical practice. At the same time, educators are expected to promote in students, with empathy, an appreciation for the intellectual challenge of medical study and the privilege of entering the profession. The goal is to foster an understanding that attempting to pass exams through dishonest strategies undermines the legitimate efforts of peers and professors and diminishes the distinction of pursuing higher education.

There is no better way to conclude than by recounting the experience of a group of penultimate-year students who requested a change of exam upon realizing that their professor was administering a previously used test. This anecdote, along with the efforts we make each day, reminds us that every student holds the potential to become an ethical professional committed to truth. Shaping physicians of integrity is not merely about imparting knowledge but about instilling a deep sense of responsibility and respect for the noble vocation they have chosen. Ultimately, every step we take toward values-based education is an investment in the well-being of society and in the trust of every patient, who will look to these future physicians not only as medical professionals but as individuals of integrity, worthy of that trust. May these values take root in our future physicians and remain their guiding force throughout their lives.

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