Reflection article

New perspectives in medical education in Colombia: technology, humanization and artificial intelligence

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Abstract

Medical education in Colombia is facing significant transformations due to the integration of educational technology, the growing use of artificial intelligence (AI) and training with emphasis on competencies aimed at developing critical clinical judgment and sound decision making within the framework of humanism and empathy. This article reflects on how these global trends are impacting teaching models in medicine, adapting to the needs of a modern and increasingly interconnected clinical environment.

Introduction

Medical education has undergone important changes in recent decades, driven both by globalization and by technological and pedagogical innovation. In Colombia, these transformations have been influenced by the integration of educational technology, the rise of artificial intelligence (AI), and a renewed emphasis on humanized training. In addition, new assessment methodologies have been developing, such as clinical simulation, the Objective Structured Clinical Examination (OSCE), and the Work Place Assessment (WPA), which redefined the way in which the clinical competencies of future physicians are assessed [1,2].

The use of technology in medical education has revolutionized classrooms and clinical simulation environments, promoting immersive and autonomous learning. Online learning platforms, virtual and augmented reality applications, and simulation laboratories allow students to acquire complex competencies in a controlled and safe environment [3]. In Colombia, many medical schools have begun to adopt these technologies, making it possible

to personalize learning according to the needs of each student and promoting equity in access to advanced educational experiences [4].

Artificial intelligence, on the other hand, offers new possibilities in educational data analysis and learning personalization. AI algorithms can provide instant feedback, detect learning patterns, and help in the creation of training paths adapted to the student's progress [5]. These systems are being explored in Colombia as potential tools to assess student competency in real time and more accurately [6].

The doctor-patient relationship has been one of the most discussed and valued aspects of medical training. In a global context where technology could seem dehumanizing, there is a growing trend towards humanized training that integrates scientific knowledge with communication skills, empathy, and cultural understanding [7]. Colombian medical education institutions are adopting this vision through curricula that address bioethics, effective communication, and patient welfare in a cross-cutting manner. Humanized training is not only a demand of the Colombian social context, but also responds to the expectations of a society that demands respectful, ethical and patient-centered medical service [8].

This humanistic orientation is aligned with international trends, such as the competency-based curriculum that fosters empathy and adaptability skills, essential to respond to the diverse needs of the population [^].

In this sense, and with the advent of new ways of understanding the training process in medicine, new evaluation methodologies seek to measure competencies in real or simulated clinical contexts, and Colombia is no stranger to this trend. Clinical simulation allows students to practice technical and non-technical skills in scenarios that replicate real situations. This practice not only strengthens learning but also improves students' confidence and performance in real life [10].

The Objective Structured Clinical Examination (ECOE) has been implemented in several Colombian institutions as a strategy to assess competencies in a structured and objective manner, which helps to reduce subjectivity in assessment [11]. Likewise, the Work Place Assessment (WPA) or workplace assessment is being used to assess student performance in their clinical setting, promoting a continuous and contextualized assessment that better reflects the capabilities of the future physician [12].

To conclude, medical education in Colombia is being transformed through the incorporation of advanced technology, increasingly humanized

training, and innovative evaluation systems. These trends reflect the effort to train competent, ethical physicians capable of facing the challenges of a constantly evolving health care system. Technological and pedagogical advances, together with a humanistic vision, represent not only an opportunity for improvement, but also a challenge for educational institutions in the country. It is hoped that these changes will continue to promote quality medical education that responds to the needs of a changing society.

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