

Innovation and creativity in medical practice

The dilemma between the absurd and the obsolete

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Abstract

There is a close relationship between innovation, creativity, and the evolution of medicine. The complexity of the medical act, influenced by constant knowledge updating and the tension between the obsolete and the novel, is a challenge faced by healthcare professionals in adapting to change. Below, we propose a reflection on the need to balance innovation and the essence of human relations (communication, empathy), as well as the social, cultural and economic determinants of health, which are essential in medical care and often affect the acceptance or rejection of new treatments. We propose a comprehensive perspective of medicine that considers both scientific advances as well as the needs and context of the patients and society. (*Acta Med Colomb* 2025; 50. DOI: <https://doi.org/10.36104/amc.2025.4000>).

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Discussion

Over the years, the history of medicine has shown a close relationship between innovation and creativity in the evolution of diagnostic and therapeutic strategies, as well as the transformation of human thinking in both those practicing the profession and patients seeking care to maintain their health (1). The pairing of science and art encapsulated in the medical act represents the complexity of this field, in which there is a constant struggle between the obsolete and the acceptance of the absurd. Medical knowledge undergoes constant evaluation and updating, to the point that the standard of treatment of a disease may be supported by evidence and recommended or rejected at different points on the same timeline, especially if there are social, cultural, environmental and economic determinants that directly affect people's response and behavior (2).

Accepting existing and emerging challenges in the health-disease process is a challenge for healthcare staff, as these changes converge with contextual shifts. This is especially true in a science that is not exact (as are physics or mathematics), because the human factor has considerable value. Here, the psyche takes on particular importance, along with the culture, social relationships, family setting, values and ethics. Which begs the question: Should what is obsolete always be replaced, when people often want to delve further into what is essential? In this case, "essential" refers to the fundamentals of human relationships, based on communication, empathy, and an understanding of needs as ancient as human existence itself. The above illustrates why many patients or physicians reject new treatments at times, given

the need to adapt the change to individual needs beyond the pathophysiological and organic process that explains the disease (2-3).

On the other hand, there is a need to evolve, to find new solutions for needs that change over time. Solving medical problems does not always entail applying existing answers; there is a need for ingenuity, adaptation to unpredictable situations and the acceptance of change. Thus, creativity becomes more of a need than a privilege for healthcare staff, especially in resource-limited settings with access barriers or budget deficits. Colombia is a clear example of this situation, when compared to other countries, considering the current need for care in remote areas with harsh geographical settings and variable resource distribution, where unconventional materials and techniques are often used to save lives. However, this situation is not unheard of in developed urban areas, as, while there has been significant progress in health care, resources are finite and technology is not as widely and promptly available as in the countries where it is produced. Thus, national healthcare institutions and physicians must make logic-defying decisions to overcome inertia and habit, and dare to innovate (1, 3).

A specific example of this was provided by Sanín E. et al., Colombian physicians who reported their experience with abdominal vascular surgery in eight children weighing less than 10 kilograms, using an unconventional technique that had not been previously described in this population. They designed this intervention using the available supplies and achieved a 100% success rate, making it an internationally recognized technique today (4). This shows how altruism and creativity can overcome the expected limitations and

poses another frequent point: ethical dilemmas with no easy answers or which contradict scientific beliefs and challenge medical knowledge, often creating both individual and institutional barriers to the transformation of medical practice. The absurd and the obsolete coexist at this point; new ideas face bureaucratic healthcare systems or cultural barriers that prevent change, and the absurd ceases to be a novelty to be implemented and becomes an obsolete technique that is maintained (2).

What are the options, then, for facing these dilemmas between innovation and tradition in medical practice?

First, paradigms must be changed, avoiding individual and institutional inertia. This is achieved through interdisciplinary effort, in which knowledge, opinions and skills are exchanged, and joint decisions are reached that provide value for the patients and society. Creating value entails integrating knowledge and technology, using resources efficiently to achieve the best possible result (5).

Second, instate health policies to integrate public and private medical care in order to improve funding, knowledge and care networks, seeking the best possible coverage and optimizing expenditures. To innovate in this aspect, the actors involved in the process must be recognized: patients with dynamic needs, governmental and private institutions, foundations, healthcare providers, and other related companies (1).

Third, recognize the various possible innovation fronts that are not necessarily linked to the application of new technology. The concept of innovation goes beyond a specific novel product and includes the set of activities that can be done differently to achieve a goal or outcome more quickly, with better quality and/or sustainability. Thus, there can be innovation in product packaging, care and business models, and individual and collective ways of working, to make the processes more efficient (1, 3).

Finally, understand social and cultural development as classic health determinants that have a greater impact today

due to the speed of technological transformation. The 4.0 revolution highlights artificial intelligence, big data, machine learning and digitization in general as strategic allies of the social structure and economic model in all fields, including health. New methods of care, like virtual office visits, remote telemonitoring, the use of robotics, and real-time data analysis have gradually spread and are now part of daily practice. This digital transformation process will not replace all humans but will replace those who do not know how to use it, as its purpose goes beyond productivity through automatization: it seeks to generate value through awareness of people-centered service, social responsibility, environmental responsibility and individualization, for sustainability (6).

In conclusion, medical practice is a constant balance between innovation and tradition. Creativity allows healthcare professionals to respond to uncertainty without undermining the essence of their work: the value of human beings. We should accept and adopt change in search of innovative solutions, without disregarding what is ethical and legal, but using critical thinking to discern when obsolete things provide a lesson and constant opportunity for improvement, no matter how absurd the ideas may seem.

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