Editorial

The impact of the progresses of knowledge and technologies in pediatrics

In the world of business, industry and marketing, "innovation" generally means the practical implementation of ideas resulting in introduction of new goods or services, or improvement in offering goods or services (1). From the Greek and Latin societies, innovation was for centuries mainly limited to the cultural and political aspects, where the concept of innovation was seen mostly as negative, as an early synonym for rebellion, revolt and heresy (2-4). Galileo, Leonardo da Vinci, Einstein, Steve Jobs, are only a few names of great minds with creativity, not necessarily appreciated by the contemporaneous people for their innovative proposals. The concept of innovation become popular only in the last century, after the World War II, when people started accepting the technological product innovation, tied to the idea of economic growth and competitive advantage (5,6).

In the past, the innovation cycle was very long. For water, power, textile and iron in the 18th century, and rail, steel and steam in the 19th century, it took years to move from the stage of idea generation to mainstream commercial usage. Nowadays, the innovation cycle is compressed and much shorter. Change is the only constant in today's world, and every industry has to innovate and invest in new technologies and ideas in order to grow and sustain in the ever-changing markets. Healthcare is no exception to this (7).

In the last few years innovation, moving from sustaining to disruptive innovation (8,9), was introduced in institutions involved in medical care, starting with the creation of electronic medical records, and continuing with medical robots, telemedicine, artificial intelligence and machine learning (10-12). Nowadays innovation permeate healthcare settings on an ever-increasing scale, and health technology innovations have an impact on our perceptions and experiences of health, care, disease (13). Across all the health care systems, data storage and data communication infrastructure are critical for the appropriate exploitation of the data, which besides its use by the healthcare provider can even be shared through social systems. Moreover, intelligent data processing helps to improve diagnosis, prognosis, and alarm detection (13).

Despite all the advances of modern technologies, their clinical implementation doesn't always occur.

The daily clinical practice is influenced by many factors, rather than just by the available evidence, including the availability of resources, training and skills, health economics, patient and physician preferences, local culture and traditions, as well as influence of the health policy makers (14). The main obstacle is the psychology of the caregivers, as the human beings can be resistant to changes, particularly when suggested by disruptive innovation.

Ethics should be used to decide what we can do and what we should do. How can the benefits of progresses of knowledge and technology be made available to all patients, not only to those in countries of high income? Are we only building knowledge and technologies for the rich? (15).

At the end, implementation is driven by motivation, self-efficacy and the needs of the sick children and their families. The relationship between doctor and patient remains very important, which reflects that medicine practice is an art, not just a science.

We believe that this Special Series on "The impact of the progresses of knowledge and technologies in pediatrics", with overall contributions across the field of Pediatrics, will help improve the readers in the daily decision making for their patients.

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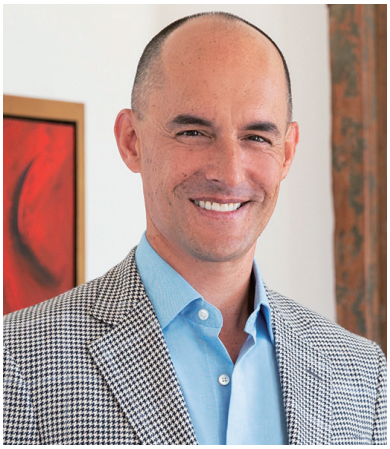

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