

Hour and time of translational medicine?

In the last few years, multiple innovative concepts have been proposed to propagate the medical sciences, with the aim of improving the way scientific information is assessed and valued. This concept was introduced by evidence-based medicine, which makes it possible to apply the information obtained from research directly to patient care. Therefore, the main aim of all medical studies is to use research results to benefit patients.

In keeping with this notion, studies that do not involve human beings, such as bench, experimental, or anatomical research studies, are considered to have low scientific evidence potential since the results may not be transferred directly or immediately to benefit the patient.

However, is this an absolute truth?

Certainly, the answer is no. The concept of evidence-based medicine should not be viewed as radical. It is possible to apply a variety of scientific findings from different areas to clinical practices.

The transfer of knowledge acquired in other scientific areas or even from bench experiments to the physician's clinical practice has created a new paradigm in scientific research known as translational medicine.

With similarities to evidence-based medicine, translational medicine aims to provide patients participating in the health care system with a better quality of treatments and outcomes.

The innovation of translational medicine relies on increasing the rewards for the development of current research while respecting its ethical principles. Moreover, this field reduces the need for a physician to spend a significant amount of time investigating less relevant details and engaging in basic research, allowing a greater focus on the goals of clinical treatment. Furthermore, the basic researcher does not require specialized theoretical knowledge, which is often considered as irrelevant¹⁻³. In fact, translational medicine brings various research areas together in different developmental stages; frequently, there are situations in which bench research is extremely advanced compared to clinical studies. In these cases, translational medicine may bring together the research arms of both. Additionally, developing technologies may be applied more rapidly, as in surgical procedures.

The primary goal is (and will continue to be) to unravel the most important findings in a speedy and reliable manner.

Translational medicine enables greater understanding of disease pathophysiology and encourages the development of new drugs and their clinical applications. It accelerates the transmission of knowledge and the creation of therapeutic protocols. The implementation of joint efforts will allow the rapid achievement of practical results for clinical and surgical treatments and the development of new medical technologies.

The structure that is necessary to apply translational medicine also implies changes in the concepts of medical education, a closer collaboration between different courses and disciplines (e.g., chemistry, physics, engineering, etc.), and the participation of students in transdisciplinary research. The curricular inclusion of this concept should occur soon to parallel the changes already present in various medical courses. The trend of medical courses to focus mostly on practical knowledge (known as PBL for *problem-based learning*) is in agreement with this new concept, in which information is transferred quickly from the laboratory to clinical practice.

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