
TRADITION AND INNOVATION IN MEDICAL TRAINING: A BRIEF OVERVIEW

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DOI: 10.24411/2500-1000-2019-11286

Abstract. *This article is dedicated to tradition and innovation in modern medical training. Due to scientific development, innovative methods are implemented in medical education alongside with the traditional ones. Despite valuable benefits these methods are arguably associated with insufficient amount of survival knowledge and well as fewer acquired skills. The article discusses current medical training, its problems and solutions. The authors compare advantages and disadvantages of different methods in medical training, and offers possible compromises. The problem of functional illiteracy, which is associated with the internet is pointed, possible keys to the problem are proposed.*

Keywords: *medical training, traditional methods, innovative methods, simulators, functional illiteracy.*

Introduction. Medical training is known as one of the most complicated questions in the present-day medicine and education. The XXIst century has accelerated scientific development thus posing new challenges to the whole system of healthcare education and continuous professional development. Medical education has always been a sphere where traditional teaching methods and techniques are cornerstones of healthcare theory and practice. Dissection is a one of the basic training procedures that has been supporting medical training for centuries and still remains most appreciated for anatomy and surgery skills development.

Recent technological advances have resulted in creation of innovative teaching simulators which dramatically broaden the range of medical skill development. Clinical simulation centres provide medical students with breathtaking opportunities to use all types of simulators imitating all human organs for all kinds of invasive procedures [1]. However, even the smartest simulators are unable to replace traditional 'by word of mouth' teaching when students come across communication problems, especially at interviewing patients, taking their medical history, having a talk on preventive measures, trying to make a positive communicative effect on patients [2]. Similarly, innovative techniques in medical training should go alongside with moral, eth-

ics and value development in future healthcare professionals, including tolerance and empathy [3].

The objective of this paper is to briefly discuss traditional and innovative teaching methods and techniques in medical training nowadays. The educational forms and examples for illustration have been collected from undergraduate, graduate and postgraduate academic and clinical practice at Voronezh N. N. Burdenko State Medical University.

Traditional methods. Traditional forms of medical training include thorough study of fundamental medical literature and recent research, study in the anatomy theatre, doing situational tasks, taking case studies and assisting at surgical operations and other invasive procedures.

It is important to mention that reading medical literature and studying in the anatomy theatre develop imagination and creativity, which is very important in medicine - a borderland between science and art. However, the only assistance on manipulations, even with proper scientific basis, is insufficient to acquire proper skills, only practice can get trainees' hands in shape.

Studying in anatomy theatre with reading form the first step in the professional development of the healthcare specialist. The basis made of anatomy and normal physiology form a backbone for experimental and clinical

disciplines. The importance of basic disciplines, as well as traditional ways of education, is impossible to underestimate: without proper basis, composed of human anatomy and normal physiology, the further training become less effective, or absolutely useless. So, the role of traditional methods elevates dramatically in the first years in university.

During the first years of education, the information about psychology, different ways of doctor-patient communication, tips when taking a case history should be taught more thoroughly. Many students cannot properly suppress their stress when talking to a patient. It results in communicational difficulties, mistrust from the patients' side which can negatively affect compliance and degrade further treatment [4]. These difficulties are naturally connected with lack of practice, but doctor-patient communication training must take place before the first conversation between a student and a patient, not after.

Modern methods. Medicine is well-known as a practice-oriented specialty in which mistakes or errors can be incredibly expensive. Nevertheless, the technologies of the new centuries include video materials, virtual reality and robotic simulators. On-line master classes and chat rooms became very effective instrument in specialist training. Phantoms and bionic systems, despite high prices, can help undergraduates to achieve important confidence and skills for further implementation [1].

Furthermore, modern simulators can solve many moral and ethical problems: it is almost impossible to imagine the training of the intensive care unit specialists without bionic phantoms with the wide variety of adjustable scenarios. Many invasive procedures can be trained on the robotic systems with the further discussion. Many clinical situations can be simulated with the virtual reality simulators. Different surgical operations- arthroscopic, laparoscopic, even key-hole methods in the neurosurgery can be uploaded and demonstrated. On-line master classes and chat rooms

can help students and trainees to get consultations of prominent specialists in any place.

Nevertheless, there are some spoons of tar in this honey barrel. It is important to notice that the survivability of knowledge is linked with the price of achievement. In the era of rapid distribution of any information, the price of it became much lower. Students ceased to refer and memorize information. Referring became useless when videos could be played any time. Video materials should become an effective addition to the whole medical training rather than a replacement of reading, analyzing and critical thinking which medical literature study can provide [1; 4].

This is associated with a problem known as functional illiteracy. Functionally illiterate people know how to write and read but they never or rarely use these skills [5]. Video clips, on-line games, social networks literally turned the literature out of mind of the youth. This may also negatively affect medical training. This is the reason why a proper balance between traditional methods of medical training and innovative ones should be achieved to provide a reasonable solution to modern challenges healthcare and medical education encounter nowadays.

Conclusion. Medical education is subject to global transformations and challenges. In order to meet these challenges, it should be flexible enough to adapt traditional teaching approaches to innovating methods and techniques which modern medical training have been implementing at a large scale.

Communication skills, values and attitudes must be an integral part of any medical training. They can be developed by both traditional and innovative teaching methods throughout all the stage of medical training and during continuous professional development

Creativity and imagination are vital in medical training as well as in future medical practice. Functional illiteracy might be a serious threat for medical training and should be a topic for further investigation.

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ТРАДИЦИИ И ИННОВАЦИИ В МЕДИЦИНСКОМ ОБУЧЕНИИ: КРАТКИЙ ОБЗОР

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***Аннотация.** Данная статья посвящена традициям и инновациям современной медицинской подготовки. Благодаря научным разработкам в медицинском образовании наряду с традиционными внедряются инновационные методы. Несмотря на ценные преимущества, внедрение этих методов, как представляется, связано с недостаточным количеством знаний, необходимых для поддержания жизнедеятельности, и незначительным количеством приобретенных навыков. В статье рассматривается современное медицинское образование, его проблемы и пути решения. Авторы сравнивают преимущества и недостатки различных методов медицинской подготовки и предлагают возможные компромиссные пути решения. Указана проблема функциональной неграмотности, которая связана с Интернетом, предложены возможные ключи к решению данной проблемы.*

***Ключевые слова:** медицинская подготовка, традиционные методы, инновационные методы, тренажеры, функциональная неграмотность.*