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## **SIMULATING LEARNING IN STUDYING PROPAEDEUTICS OF INTERNAL DISEASES**

**Abstract.** *The article deals with ways to optimize teaching the subject propedeutics of internal medicine with the help of simulation teaching methods. Simulation training complements the training of students to real clinical practice. In addition, it provides control of the teacher for quality performance of each student practical skills and also contributes to the each student's professional competence.*

**Key words:** *simulation training, propaedeutic internal diseases.*

I heard and forgot.  
I saw and remembered.  
I made and understood.  
Konfucij

**Introduction.** Reforming of higher medical education require finding new methods to prepare students who would be professionally competent by graduation. In Ukraine in recent years a growing simulation training, following global trends and guided by the Law of Ukraine "about education" № 1556-VII from 07.01.2014 g., and as a way to create and implement new competitive technologies to provide innovative social development and training innovative type.

Received numerous evidence showing the successful use of acquired skills at the treating the patient [1, 2, 3, 4], which could not lead to intensive development of simulation centers. From 2003 to 2008 in the United States acutely increased the number of residency, which used simulation training doctors specializing in emergency medicine, in particular in 2003 simulation study, there were 33 (29%) residency of the 134 responded, and in 2008 - in 114 (85%) [5].

The history of modern simulation training starts from the beginning of the XX century, when in 1909 the aviation simulator was first used for testing aircraft management skills Antoinette. In 1929 American engineer Edwin Link patented simulator for training pilots the flight by radiopelenhur.

In medicine history simulation training has its own roots in ancient times and goes a step in step with the development of medical science. The first phantoms that have come to our days are

phantoms for delivery of XVIII century Angelica de Kyudre, who invented his own method of stimulation training for midwives. Peter Safar, founder of cardiopulmonary resuscitation at that time head of resuscitation in Baltimore City Hospital, USA, in 1957 published the book «ABC of Resuscitation», where were presented the basics of CPR (cardiopulmonary resuscitation), which were revolutionary in first aid principles (triple reception of Safar). This inspired norwegian doctor Byorna Linda and businessman Asmunda Laerdal to create the first dummy for CPR, which is known to us as Resusci Anne (Anna returned to life). The first computer dummy was designed by engineer Stephen Abrahamson and physician Judson Danson at the University of Southern California in the mid of 60s. [6] From this time begins the story of simulation training in medicine. The development of computer technology and microelectronics has led to the emergence of high-tech dummies that allow to reveal the true potential of simulation training. Because in 1994, was created European Association of simulation in medicine - SESAM, which initiated the annual conference. [7]

The theoretical basis stimulus, as one of interactive learning methods in medicine, have been formulated Harvard School of Medicine David Gaba. He defined simulations - technology (method) aimed at changing or expanding real experience using controlled based modeling various aspects of the real world in an interactive

mode. [8]

**Objective:** To evaluate the effectiveness of conducting stimulation training courses during practical classes of subject "Propedeutics of internal diseases" in the third year student of the specialty "medicine", to improve the quality of the educational process.

**Results and discussion.** The acquisition and improvement of practical skills in training of medical students is an important condition to ensure the quality of professional competence. In the study of clinical disciplines, there are some difficulties for performance and learning practical skills: a) is not always carried out a full analysis of each patient was selected for Supervision; b) lack of patient on the topic of class; c) depending on the patient's condition (emotional and overall); d) limited in time (a group of 10-12 students in a short time have to listen (auscultation) of the patient); e) the teacher can not completely control how much a student has mastered a certain practical skills (eg - auscultation).

The emergence of opportunities in the organization of simulation training - necessary and reasonable direction in the learning process. This is necessary to focus, beginning with the first course, and not just for certain groups of medical residents and interns.

At the Chair of Higher State Educational Establishment of Ukraine "Bukovinian State Medical University" except interactive teaching methods [9, 10], third year student of the specialty "Medicine" have an opportunity to practice their skills on the simulator auscultation with a stethoscope. Simulator perfectly reproduces the human physiology that allows auscultation of heart sounds as normal and in various conditions, as well as respiratory noise, physiological and pathological. The student must palpate to determine the correct auscultation area and hear different heart and lung sounds through a stethoscope, moving it on the model. The simulator has 6 heart regions and 5 lung on the front side as well as 10 different areas on the back and 2 armpit zone.

Practical training on the simulator gives the opportunity for students to better learn the techniques, in particular, the ability to repeat and refine it to automatism. Also, the teacher's ability to control a certain skill is increased, and add

complications to it: combine the norm with pathology (for example: the norm - the cardiovascular system, the pathology of the respiratory system), and also combine the various pathologies of these systems.

After the practical skills on the simulator, students better oriented in auscultatory picture not only on the simulator, but also on patients. If someone of the students still can not remember the sound phenomena, they have the possibility of re-hearing on the simulator until you remember, and then listen to the patients.

The teacher checks the survival of students' knowledge, by exhibiting any auscultative picture, while the student, having listened, should indicate what he heard. In some groups, this indicator was 100%, and on average 70-90%.

**Conclusions.** Simulation training complements the training of students to real clinical practice. In addition, it provides control of the teacher for quality performance of each student practical skills and also contributes to the each students's professional competence.

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