

Foreword

In the nineteenth century, there was a rapid development of technology and industry, which significantly changed our civilization. This development continues and is gaining momentum. Not only technology is developing, but also knowledge, with almost unlimited access. The development of technology influences and even forces changes in various fields, including medicine and health care. An indispensable element of civilizational progress is also a change in education systems, in which the benefits of technical development are taken into account and innovative solutions are introduced, mainly to improve the quality of education, but also to make this process more attractive. An effect of these changes is the currently flourishing method of teaching in medical professions, such as medical simulation.

Although this method has been present in healthcare since the beginning of the twentieth century, it has recently gained in popularity. Simulation is one of the most modern teaching methods that allows you to gain knowledge and experience by participating in realistic scenarios of hospital cases, enabling the reconstruction of a clinical situation in laboratory conditions. This method uses virtually created reality, advanced ICT technologies, trainers, phantoms and patient simulators that faithfully reproduce a person, their physiological parameters and selected pathologies. In addition, by making the teaching process more attractive, it is possible to introduce a simulated or standardized patient scenario. In the context of educating medical staff, not only the quality of education is important, but also the broadly understood safety of patients, by shaping skills in a controlled and safe environment. The teaching process, based on gaining experience, takes place in safe and repeatable conditions. The participant has the opportunity to learn and improve various procedures, has the opportunity to make mistakes, without the real consequences of causing harm to the patient. Education based on simulation (SBE) has great potential both to improve technical and manual skills, together with a teamwork and communication. It provides a unique opportunity for interprofessional training in a safe learning environment, as well as the opportunity to receive immediate feedback from specialists/instructors, which enables the evaluation of the learning process. Medical simulation is a key element of the education process for medical students, it is a bridge connecting theoretical knowledge with practical knowledge, as well as a preparatory stage for the final phase of preparation for the medical profession, i.e. teaching in direct contact with the patient and the clinical world. It is worth noting, however, that this method is used in both pre-graduate and postgraduate education. Medical errors committed by staff during their work

cause a real risk to the health or life of patients. Therefore, simulation-based CPD is an excellent initiative to improve patient safety and provide the highest possible level of care.

Medical simulation is not only a didactic method, it is also a broad issue for insightful scientific analysis, which allows for the development and improvement of this method. The dynamics of improving medical simulation in the teaching process, based on scientific evidence, will significantly create the quality of education, which at a later stage will translate into professionalism in the provision of health care and the safety of the patient/ward. Therefore, in this publication, the authors want to present a certain range of international experiences related to medical simulation, both in the didactic and scientific aspects. The authors hope that this book will be an inspiration for the implementation and development of medical simulation as a creative educational method and an area of scientific inquiry.