Conclusion. Therefore, it should be noted that on the whole students liked problem oriented teaching methods. They learnt to work in a team, to analyze and synthesize new information, to make decisions in different clinical situations and become able to identify and avoid medical errors.

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REALITIES AND PROSPECTS OF THE SIMULATION TRAINING IN THE MEDICAL EDUCATION

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Healthcare and medical training have no immunity to universal,rapidly changing technology. In medical education, advanceslike simulations, virtual patients, and e-learning haveevolved as pedagogical strategies to facilitate an active,learner-centered teaching approach [2, 3]. The medical educators need to rapidly evolvethe methods of teaching to minimize the onslaught ofdisrupted medical education, while also buildinginnovative systems to accommodate the medical studentcohorts stuck in the time of this SARS-CoV–2 pandemic.

Thecurrent situation demands use and furthering of thesepedagogical innovations. Use of e-learning modules(flash multimedia and digitized images), patientsurrogates such as virtual patients (to teach clinicalexamination, procedural, diagnostic skills andcommunication skills) and virtual-reality simulators (toteach

palpation, surgical and resuscitation skills) isneeded. Simulators have shown to be as effective as liveactor-patients for teaching purposes [3].

Patient simulation is a useful tool for training students andascertaining competency prior to students entering clinicalenvironments. Simulations using patient manikins allowstudents to acquire necessary skills and practice without fear ofharming patients. In order for knowledge gained during patientsimulations to translate into clinical practice, scenarios mustfeel realistic to students.Augmented reality, which combines virtual reality with physicalmaterials, instruments, and feedback, is increasingly being usedas a teaching and learning tool to make simulations even morerealistic for students [2].

Simulation to enhance patient safety has 4 generalpurposes: education (for example, in transitioning traineesfrom content knowledge to experiential practice, and incontinuing education); assessment (for example, in qualitycontrol or quality improvement, or usability testing); research (for example, regarding clinician behaviors) andhealth system integration (for example, team processes).

Virtual reality (VR) modalities may create a digital environment, designed to resemble aspects of the real world. As a result, trainees using VR simulation learn tasks in a setting closely mimicking relevant realistic situations. Relevant scenarios can thus be practiced in surroundings where exploration and troubleshooting are safe. Applications using VR have shown to be able to improve learning outcome for different training procedures for various medical specialists [1].

Augmented reality (AR) differs from VR because the focus of the interaction of the performed task lies within in the real world (AR) instead of the digital environment (VR). AR thus offers the opportunity of a digital, often interactive overlay onto a real or virtual environment. Augmented reality applications (ARAs) are digital applications offering such an extra layer. To the user, layers of the virtual and physical environment are blended in such a way that an immersive, interactive environment is experienced. Hence, ARAs may have great potential in training medical personnel [2].

Modern teaching curricula aim to educate trainees efficiently and in a safe environment. Educational methods currently being used in medical specialist training include practice-based learning, problem-based learning, team-based learning, eLearning and (VR) simulation training. Although VR learning environments offer opportunities for full- and partial-task training, they are often a mere representation of a task in reality. This may result in medical specialists that may be well trained for a particular task on the job in a set context, but who lack competencies needed to adapt to ever-changing situations in the real working

environment. To acquire stable, crossover competencies, it is necessary to create a training environment offering flexibility and adaptation in training true-to-life working processes in changing environments as is much needed in medical settings. As medical specialist training involves complex learning, ARAs are of great potential.AR allows the transfer of digital information into the real world, therefore blending two worlds together [5].

Mixed reality (MR) technology is a new digital holographic image technology, which appears in the field of graphics after virtual reality (VR) and augmented reality (AR) technology, a new interdisciplinary frontier. As a new generation of technology, MR has attracted great attention of clinicians in recent years. The emergence of MR will bring about revolutionary changes in medical education training, medical research, medical communication, and clinical treatment. At present, MR technology has become the popular frontline information technology for medical applications. With the popularization of digital technology in the medical field, the development prospects of MR are inestimable [4].

Despite theundoubted advantage of IT and simulation-basededucation, in the current situation, there are distinctdisadvantages. The foremost is the fact that all these toolscan be supplemental to clinical teaching but not areplacement. Secondly, setting up of a virtual learningenvironment or a simulation laboratory is costly and timetaking, making it especially unsuited for the low andmiddle income countries. Thirdly, while virtualsimulators will maintain the tenet of both non-contactwith patient and social distancing amongst students,mannequin simulators will flout social distancing needsamongst students precluding their use currently [3].

Conclusions. Increasingly integral to the practice of medicine, technologyendeavors to streamline a clinician’s work and medical education, and to offer credible,easily accessible information. To enhance trainee growthand empower innovative scientific leaders, educators shouldplay a crucial role in how technology transforms medical education.Trainees prefer technology-associated modalities thatoffer learning material that is interactive, reputable, simple,pragmatic, and coupled with relevant feedback. Innovationslike virtual reality and simulations effectively increase knowledge,performance skills, and team communication throughrealistic clinical cases.

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AN EXPLORATION OF THE EFFECT OF SIMULATION ON PERCEPTIONS OF MEDICAL STUDENTS' PREPAREDNESS FOR PROFESSIONAL PRACTICE

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Studies have shown that some medical students do not feel prepared to practice as a foundation doctor once they graduate. Preparedness is vital to ensure patients are getting the best, safest care, and to avoid stress, anxiety and burnout in junior doctors. Technology-enhanced learning has become commonplace in medical education; with this, simulation has been introduced in wide-ranging ways. Although the evidence for simulation improving patient outcomes is clear across postgraduate and continuing professional education, studies have failed to systematically show the same outcomes for undergraduates, despite the widespread use of simulation in undergraduate medical curricula. This mixed-methods, two-phase study was designed to explore the effects of simulation on perceptions of students' preparedness for professional practice. The study took a longitudinal format, over two academic years, gathering data (with questionnaires and interviews) from two participant groups; fifth-year medical students and key stakeholders. The study compared two diverse simulation formats; ward simulation and bleep simulation, both designed to develop the knowledge and non-technical skills required for the transition to professional practice. The results of this thesis suggest that simulation has a role in preparing students for the knowledge required for professional practice and may result in a change in behaviour longitudinally.