

Med School Training During the COVID-19 Pandemic at Saint Luke's School of Medicine

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ABSTRACT

Introduction: The COVID-19 pandemic, an unknown situation, affected the teaching of Medicine in Mexico and other nations, since it had an impact on the medical education methods that require practice with the patient, being affected by the long period of mandatory isolation.

Objective: To present the effects of an unknown scenario on the training of physicians.

Background: In 1920, Abraham Flexner mentioned a solid scientific training to respond to future demands as curricular needs in doctors training; one hundred years later, we see that the scenario during the COVID-19 pandemic showed us that health programs and teaching-learning methods in most medical schools were insufficient.

Results: Coronavirus disease 2019 (COVID-19) caused a global crisis. It was shown that medical education, which involves developing quality educational programs and continuous improvement to respond to complex situations, was insufficient.

Discussion: Due to the socioeconomic condition in Latin America, the pandemic caused serious havoc in the population and had an impact on medical practice, patient care and outpatient consultation, which is where medical students gain experience. The appearance of new diseases, together with the differences and social inequalities between continents and regions, evidenced the harsh reality and vulnerability, especially of our population, in which it was presented as symptomatic. On the other hand, not all medical schools had the infrastructure that, as of 2008, was implemented in the teaching of medicine, such as simulators, which in addition to being insufficient, mandatory isolation made it even more difficult for all students to participate.

Conclusion: The new disease scenarios plus demographic changes require reflection on the implementation of health services medical partition. To develop quality educational programmers and continuous improvement to respond to complex situations and adapt to new scenarios which future doctors will have to live.

Keywords: COVID-19; General Medicine Practitioners Training; Pandemic

Abbreviations: COVID-19: The Coronavirus Disease of 2019; MIP: Medical internship Practitioner; MPSS: Social Service Medicine Practitioner; SIMED: Medical simulation; CESIP: Center for Postgraduate Simulation Teaching; USF: University of South Florida; IPN: Instituto Politécnico Nacional

Introduction

The COVID-19 pandemic affected the way Medicine in Mexico and other nations was instructed, as it was an unknown situation, medical education methods which require practice with the patient were affected by the long period of mandatory isolation. We live in an increasingly demanding society, for which schools and faculties of Medicine review and update the curriculum of graduates, to train competent doctors not only in knowledge but also in skills so that they can respond to complex situations; in 2010 an article was published on what should be the XXI century teaching medicine challenges [1]. For these purposes, SIMULATORS have been implemented, which are no longer only available for postgraduate courses, but also in the training of future doctors. Simulators do not replace teaching, but rather increase the preparation of doctors since they are a very useful tool in continuing education. In the last 15 years, clinical simulators have proven to be a tool for training and improving the performance of medical education [2,3]. Both the Universidad Nacional Autónoma de México (UNAM), as well as other institutions or Hospital Centers, are basically focused on Postgraduate; in other first world countries with other economic conditions, there are clinical simulation areas (SiMed), where the student enters a context very similar to reality where he develops and practices skills for patient safety benefit. At the same time, it gives them security, confidence, and decreases stress in complex situations.

In Mexico, this technology is already available, such as at the Universidad del Valle de Atemajac (Univa) inaugurated in 2020; which allows practice in a controlled space where hypothetical cases are presented, in which students can make mistakes and learn from it without a serious consequence, as commented by Dr. Raymundo Hernández Herrera, General Medicine Academic Coordinator at the conference given at the Sixth International Meeting of Clinical Simulation SIMex 2022, organized by UNAM Faculty of Medicine [4]. SiMed teaching has multiple benefits, and its scope covers both general practitioners and specialists, students and paramedical personnel. In Mexico, simulation centers have been incorporated into health institutions and universities; patient safety has taken on impressive dimensions in recent years; It is mentioned that adverse events rate in hospitals is 8% of all admitted patients and a large part of them are due to errors made by health personnel, most of them preventable [5]. SiMed is a useful tool in patient safety care, and it can improve the physician-in-training learning curve. It is not intended to replace teaching in the clinical setting, but rather seeks to improve preparation to enhance the experience for treating patients [6]. It tries to replicate situations close to reality (it can even resemble death as a complication, due to poor care), either with simulators or with standardized patients (people trained to simulate a disease on different scenarios to doctors in training).

Simulators are robotic mannequins that manifest vital signs and a wide variety of symptoms, as mentioned by Dr. Vianey Barona Núñez,

head of the Center for Postgraduate Simulation Teaching (CESIP). Recently, there are high-fidelity simulators that integrate multiple physiological variables for the creation of realistic clinical scenarios with life-size mannequins, in order to train advanced technical skills and crisis management skills, even interacting with the student [7]. Although in Mexico it began in the 80's, it is not until the beginning of 2000 that the National Institute of Medical Sciences and Nutrition "Salvador Zubirán" (INNSZ), with the creation of the Development of Medical Skills Center (CEDDEM), gives access not only to postgraduate students but also to undergraduate med students; however, it is insufficient for the apprentices population that is currently estimated at more than 133,000 students throughout the country, and above all, it was evidenced in this COVID-19 pandemic, coupled with the mandatory ISOLATION, where virtual classes were not enough, since practice with patients was missed where Telemedicine modules in closed circuit would have been useful [6]. The COVID-19 pandemic, as in 188 countries, caused the suspension of the medical teaching process. The lesson learned will force us to generate new laws, regulations, platforms and solutions for future cases, so that governments, the population and educational institutions are more prepared than today [8]. It also evidenced the enormous deficiencies in the number of health personnel resources available in Mexico and worldwide.

According to data reported by Dr. Ali S. Khan, dean of the College of Public Health at the University of South Florida (USF), there is a shortage of 15 million health workers in the world and in the United States health personnel average age is around 50 years, which highlights the great lack of young personnel in health institutions [9]. In Mexico, at the institutional level, the medical staff was reduced by the age and comorbidities of the medical care personnel, which also had a definitive influence on the pandemic care.

Results

Our objective was to present the COVID-19 pandemic effects on medical training of undergraduate physicians in our educational institution. COVID-19 caused a global crisis. It was shown that medical education, which involves developing quality educational programs and continuous improvement to respond to complex situations, was insufficient. The undergraduate internship, which is considered a fundamental phase in general practitioner formation, where MIPs carry out practices that consolidate knowledges in patients' prevention and treatment, was not possible to be done during pandemic, as health institutions withdrew the MIPs from hospitals and clinics for more than a year. Which means, this doctor's generation was unable to develop their full training with expected repercussions during evaluations and subsequent performance during its formation.

Discussion

Medical education, due to its close relationship with the Pandemic, was severely affected, posing new challenges in universities, in the context of reflection and solutions in this uncertainty scenario and

future events, for which it evidenced the need not only in our country, but globally, to generate adaptive processes and implement new teaching modalities [10]. Due to Latin America socioeconomic condition, where the pandemic was a totally unknown disease, it caused serious havoc in the population and had repercussions on medicine teaching. The new diseases emergence, together with the differences and social inequalities between continents and regions, showed us the harsh reality of vulnerability, especially of our population, which was presented as a syndemic. On the other hand, not all medical schools had the infrastructure that, as of 2008, was implemented in medical teaching, such as simulators, which in addition to being insufficient, mandatory isolation made it even more difficult for all students to participate. Demographic change requires reflection in the implementation of health services and medical practice. In our university, which is one of Mexico's medical private schools, 2 high fidelity simulators were not sufficient during pandemic due to isolation and lockdown. A similar situation occurred in other public academic units such as the Instituto Politécnico Nacional (IPN), in which despite having 3 High Fidelity simulators as mentioned by Dr. Julio Cesar Garduño Sánchez, Emergency subject teacher, attached to the Balbuena General Hospital, it was not enough, and a the same scenario in the University of the Valley of Mexico, which has 13 simulators where insufficient, confirmed by Dr. Pedro Sanchez Roman, MPSS.

The pandemic affected the teaching-learning process of medical students (planned and sequential actions that are carried out between a professor and his students to ensure that they acquire knowledge, skills and abilities in their training), affecting mainly MIPs (mandatory stage in training, in which students APPLY their basic and clinical knowledge that they have acquired) and med students since it lasted more than a year. As for medical residents, medical care was prioritized for COVID-19 cases which caused training deficiencies in their specialty learning curve chosen, where only urgencies were taken care of and most of the time misdiagnosed which lead to major complications in patients. The shortage of doctors also became notorious, as the age and comorbidities of the medical care personnel also had a definitive influence on the care of the pandemic. The COVID-19 pandemic caused an absolute transformation in medical practice, universities and health institutions must introduce new changes to the traditional way of patient care [11] and prepare for future scenarios that may be worse due to other situations such as self-medication and the generation of antibiotic resistance, which can be considered as another pandemic. The curricular needs in the training of future doctors, as Dr. Abraham Flexner mentioned in 1920, emphasized the need for solid scientific training to respond to future demands [12]. We should notice that telemedicine units would have been more useful due to visual contact between the patient and the medical instructor, always considering patients' privacy and prior informed consent. The use of virtual platforms caused the students to be distracted and, in the evaluations, however, gave false positive results.

Conclusion

The COVID 19 pandemic caused a crisis in the medicine teaching, which requires teacher-student and doctor-patient interaction. The scenario during the COVID-19 pandemic showed us that the health programs and teaching-learning methods in most medical schools were insufficient, 100 years after what was stipulated by Abraham Flexner [12]. The new diseases scenarios plus demographic change require reflection of health services implementation. We must develop quality educational programs and continuous improvement to respond to complex situations and adapt to the new scenarios with which future doctors will have to live and implement educational strategies.

Conflict of Interest

The authors declare that there is no conflict of interest.

Ethical Responsibilities

Right to privacy, confidentiality of data and informed consent. The authors state that they have followed their workplace's protocols on publication of patient data and that no patient data appears in this article.

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