The teaching of anatomy during the Covid-19 pandemic

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Abstract

A COVID 19 pandemic led to the closure of Mozambican schools. The government urged educational institutions to start the distance learning process during this period of sudden and unprecedented interruption. In Mozambique, 7.993.520 students at all levels were affected, with 213.9309 from higher education. This work aims to describe a teaching experience in anatomy at a private university in Mozambique.

Introduction

In December 2019, a disease developed in a city in China quickly turned into a global pandemic leading to several countries to proclaim a partial or total state of emergency, with the closure of borders, schools and economic activities leading to a consequent increase in poverty for the most disadvantaged population.

As a way of controlling the COVID-19 pandemic, most countries have closed all schools and universities, impacting 87% of the world's student population, equivalent to 1.5 billion students in 165 countries [1].

From the 23rd of March, the President of the Republic of Mozambique announced the closure of all educational institutions.

In Mozambique, 7.993.520 students from all levels were affected, with 213.930 specifically from the tertiary level [1].

The government urged educational institutions to start the distance learning process during this period of sudden and unprecedented interruption. Distance learning is characterized by interaction at a distance between teacher and student. The teacher must be involved in receiving feedback from student [2]. *Distance learning* can be defined as a method of studying in which lectures are broadcast or classes are conducted by correspondence or over the Internet, without the student's needing to attend a school or college. Refers to a variety of programs that are away from the main campus. *E-learning* is frequently associated with activities involving computers and interactive networks simultaneously, generally involves completing a course of instruction on the internet [3]. E-learning is not only internet class, but it involves a more active learning by the student where all the teaching is given by electronic means, whether synchronous or asynchronous.

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Case report

In this context, the university introduced the Teams platform to teach. Tutorials about platform were sent to lectures and students to familiarize themselves with the system, maybe it would have been helpful if the significance of the Microsoft Teams platform had been explained to students.

WhatsApp working groups were created between the Information technology department and the lectures and students to communicate the difficulties and to help with the installation of the system.

Theoretical classes and seminars have started. Practical classes are suspended. The assistants of the practical classes were placed to give theoretical classes, so as not to be without work.

The online classes are made up of the same number of students from the presential classroom. Class I of 100 students and II and III of 50 students in anatomy I and Class I and II in anatomy III, respectively, with about 50 students respectively. Each group is allowed to communicate (or work) with each other offline.

Each lecturer is required to should deposit on the platform the analytical plans and objectives of each class, the slides, the electronic books, the sheets, the questionnaires and other materials. The course coordinators monitor these classes and check whether the lecturers complied with the requirement to conduct timely updates. Each class has up to 8 supervisors to monitor the classes.

The institution opened spaces in the campus with WiFi for lectures to give classes online.

Theoretical classes of gross anatomy were taught using the TEAMS platform. The practical anatomy classes this way is a challenge. At this stage there were no practical classes. No anatomy laboratory component adapted. Lecture/theory sessions are often given online.

Lectures and students, very quickly, without a transition process, were forced to change and adapt to teaching and learning strategies.

As determined by the country's educational authorities, there was no continuous assessment, because there were many difficulties for students to access the internet, and at the end of the semester an online theoretical exam was taken.

Comments

The practical classes modules will be made after the President of the Republic authorizes the commencement of classes. The themes were grouped in large devices, such as digestive, respiratory, nervous system, etc, for anatomy III and osteology of the upper and lower limbs for anatomy I.

During the classes and in the Whatsapp groups of the classes, it was possible to listen to the students' opinions. The online classes brought several difficulties for students and lectures: 1) Lack of knowledge of online platforms by lectures and students. 2) Need to have a computer with microphone and camera to teach classes by lectures or for students to present on topics in seminars. These tools only exist on laptops. On desktop computer, it is necessary to associate a mobile device to talk to students, spending double on the internet. 3) Impossibility to teach with a cell phone.

4) Need to have good quality Internet and the ability to teach classes with high consumption of megabytes.

Difficulties of lecturers: 1) Lack of knowledge of online platforms by lecturers and students. 2) Teach without seeing students. 3) Students do not answer questions immediately, taking up to 2 to 3 minutes. 4) Less and less students in class. 5) Not being able to schedule absences or make assessments as directed by the institution. 6) Lecturer's demotivation. 7) Difficulties to access the platform. 8) Teams platform consumes a lot of internet. 9) Some lecturers did not teach classes due to financial difficulties to support the internet.

Difficulties of students: 1) Students' lack of knowledge of online platforms. 2) Absence of an android application phone to receive classes. 3) Financial inability to buy a good quality phone. 4) Not all neighborhoods in the city of Maputo have a good mobile telephone network and access via optical cable from TV Cable. 5) Many students traveled to their home provinces, where the connection is poor. 6) The internet network fluctuates, making it difficult to attend the class. 9) Lack of motivation for studying alone and without seeing the lecturer.

Perspective

Tests were cancelled for this semester. But not seeing the end of COVID, we have to think of ways to give practical classes to students, probably using anatomy software. But this software is very expensive and institutions in poor countries usually do not have the capacity to acquire these platforms. In the same way that several online courses on various topics have been released all over the world, we propose that this software also be released at this time of pandemic, but only inconvenience in online courses would be the English language, because students do not speak English. A study in the UK and Ireland showed that 43% of universities started using digitized cadaveric resources and 3D virtual anatomical platforms were in an attempt to emulate canceled practical sessions [3].

Competing interests

The authors declare no competing interest.

Authors' contributions

Mahomed Sidique Abdul Cadar Dadá: Teacher of anatomy. Writing the article
Abdul Habib Dadá (anatomy monitor). Help with draft, correction and looking for students' problems

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