Virtual learning during the COVID-19 pandemic for obstetrics students

Aprendizaje virtual en estudiantes de la carrera de obstetricia durante la pandemia por COVID-19

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Abstract

University education in the medical sciences continued its development during the pandemic, through the implementation of methodologies designed for a virtual context. The objective was to analyze the perception of obstetrics students in a public university about virtual learning of specific courses. The study followed a non-experimental, descriptive design with an intentional sample of 102 students, to whom a validated questionnaire on the perception of virtual learning during the pandemic was applied. It was evidenced that virtual learning had a favorable acceptance in three of the four dimensions (Quality, platform characteristics, and satisfaction were favorable), but the quality of virtual courses compared to face-to-face courses was not favorable. It was concluded that virtual learning is accepted by students; however, this modality does not satisfy the learning in laboratories and practices that requires face-to-face teaching.

Keywords: learning; education; student; pandemic; technologies.

Resumen

La educación universitaria de las ciencias médicas continuó su desarrollo durante la pandemia con la implementación de metodologías diseñadas para un contexto de virtual. El objetivo fue analizar la percepción de los estudiantes de obstetricia en una universidad pública sobre el aprendizaje virtual de los cursos específicos. El estudio siguió el diseño no experimental, descriptivo con una muestra intencional de 102 estudiantes, a quienes se aplicó un cuestionario sobre percepción del aprendizaje virtual durante la pandemia, debidamente validado. Se evidenció que el aprendizaje virtual tiene una aceptación favorable en tres de las cuatro dimensiones evaluadas (Calidad, características de la plataforma y satisfacción) y desfavorable en la dimensión ventajas, en cuanto a la calidad de los cursos virtuales frente a los cursos presenciales.

Se concluye que el aprendizaje virtual es aceptado por los estudiantes; sin embargo, esta modalidad no satisface el aprendizaje en laboratorios y prácticas que requiere de la enseñanza presencial.

Palabras clave: aprendizaje; educación; estudiante; pandemia; tecnologías.

Introduction

The COVID-19 pandemic affected the global education system, however, the way of teaching was modified in educational institutions[1,2], and resulted in the need for an immediate transition of all medical education to online education[3,4]. Higher education had to use digital platforms and tools, as the only alternative to continue with their learning[5,6], at the same time, this allows the confinement and social distancing measures recommended by the World Health Organization[7].

However, the Peruvian government authorized the universities to adapt the teaching-learning process for virtual education through to use of technologies and internet access[8], with the purpose that students could continue and complete the academic semesters corresponding to their professional careers to ensure[9], by Resolution of the Board of Directors No. 039-2020. In the case of medical schools, the curriculum was modified and adapted to virtual teaching to guarantee quality education for future professionals[10,11]. In this scenery, the point of view of the teachers is the need to improve their digital skills for virtual teaching and achieve the academic goal progressively[12,13]; even so, limitations were evidenced in the virtual didactic processes[14,15].

At the same time, E-learning and globalization are processing and establishing tendencies in education, which gained importance in virtual teaching sciences health of education. In the same way, allowing students to develop skills and competencies for clinical care, since thanks to information and communication technology (ICT), pedagogical processes were modified as well[16,17,18]. In some parts of the world, like London and Korea, have established teleteaching in hospitals[19], where students can learn at any time and place according to their own pace or ability[20,21], as a result of the virtual teaching showed the greatest advantage

The obstetrics students of the university under study received their training through virtual courses taught on the Microsoft Teams platform, and access it through the internet, entering the page "unfv.office.com)" with their institutional email (@ unfv.edu.pe), to later include, the university's Office 365 applications and Microsoft Teams[22] to provide to use. From this perspective, the objective of the study was to analyze the obstetrics student's perception at a public university in Peru about the virtual learning of specific professional training courses.

Methodology

In this study, a non-experimental design of descriptive level and cross-sectional was followed to identify the perceptions in the virtual learning context of 102 obstetrics students during the academic period 2021-I. A questionnaire on the Perception of virtual learning during the COVID-19[23] was sent to the students. The questionnaire was structured with 20 items through a Likert scale that measured four dimensions: quality, characteristics, advantages, and satisfaction, After the internal and external questionnaire was validated, and determined with Cronbach's alpha coefficient, greater than

0.8, and a Pearson correlation coefficient different from zero. The students received the Informed Consent of the instrument, notifying the participating students about the study's objective, the ethical principles, the confidentiality of the information, in addition to the voluntary nature of participation. Then for data collection, a Google form was created with the 20 items, which was shared via email. Finally, the collected data was automatically exported to a sheet in Microsoft Excel 2019 for further analysis.

Results

In Table 1 are presented the results related to the quality of the digital platform provided by the university and the didactics visualization sequence which are the best-valued items with 91% and 81%. On the other hand, in reference to the characteristics dimension, the teacher's time availability to complete the development of the course was the best-valued option with 85%, then the proper handling of the necessary tools to continue with the course followed by 73% (Table 2). However, in the advantages dimension, the best-valued item is the relevance of virtual courses while the pandemic lasts with 73%; the item with the least disapproval was the use of the platform to have international teachers with 67% (Table 3). Finally, in the satisfaction dimension, the best-valued item is the planning and organization of content by the teacher to provide the virtual course, with 92%, and the least valued with 42% was the statement that it is believed that it is being learned, more than with face-to-face courses (Table 4).

Table 1 Percentage levels of the quality dimension

Item	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Totally agree (5)
The university has a platform to take a virtual courses.	0%	2%	7%	64%	27%
The university has information and communication technology (ICT) resources enough to develop virtual clasess.	3%	10%	31%	44%	12%
Easy access to the university's information and communication technology (ICT) resources.	3%	11%	24%	49%	13%
The virtual classroom is accessed at any time.	2%	6%	20%	56%	16%
The contents of the course are displayed in the virtual classroom.	3%	5%	11%	59%	22%
The didactic sequence of the virtual classes is displayed.	2%	2%	15%	61%	20%

Table 2 Percentage levels of the characteristics dimension

Item	Totally disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Totally agree (5)
information and communication technologies (ICT) to take the virtual courses.	1%	7%	19%	57%	16%
The virtual platform has technical support and permanent maintenance.	4%	12%	48%	30%	6%
The teacher has available time to teach the virtual courses.	1%	4%	10%	60%	25%
There is a mechanism to control the learning progress of students' courses.	4%	11%	23%	50%	12%

Table 3 Percentage levels of the advantages dimension

Item	Totally disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Totally agree (5)
The university trained you on how to use virtual classroom	14%	25%	28%	28%	5%
The university trained you on how to use ICT	14%	28%	32%	21%	5%
The university's website has a link to get the virtual library for the research.	16%	39%	29%	11%	5%
The university contracts with international teachers through virtual classes.	29%	38%	19%	9%	5%
It seems to you that virtual courses are relevant during the pandemic time.	5%	2%	20%	48%	25%

Table 4 Percentage levels of satisfaction dimension

Item	Totally disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Totally agree (5)
You think you are learning with virtual classes.	4%	9%	31%	41%	15%
You think you are learning more in the virtual classes than with face to face- to face classes.	13%	29%	33%	20%	7%
You are satisfied with the virtual classes you are taking.	1%	7%	29%	51%	12%
The teachers know virtual platforms during the development of the virtual classes.	2%	4%	18%	56%	20%
The teacher planned and organized the assignments to provide the virtual classes.	2%	0%	6%	67%	25%

Discussion

The study's results showed a positive perception of the obstetrics students' virtual learning, in three of the four dimensions evaluated expressed in acceptance percentage (Quality, characteristics, and satisfaction). A similar result shows the study carried out in Saudi Arabia, where students show a good level of agreement with virtual teaching for the continuity of classes in times of COVID-19[24].

In the same way, there is a favorable perception about the availability of a digital platform in the university to carry out virtual courses, this being consistent with what was identified in Croatia, in terms of the availability of platforms for virtual learning in medical students[25]. Likewise, they considered that they could have easy access at any time to the university virtual classroom; these results agree with the studies showing that students consider access to digital resources of the university to be positive easily[26,27].

As regards the platform's management during the development of the virtual classes, a high percentage was evidenced; relating to the research carried out in Chile, where an 88% acceptance was evidenced in the digital platforms and tools used for Anatomy's course development[26]. Likewise, the study favorably perceived the teachers' time to carry out a positive job in the virtual classes' development, with content planning and organization. In Argentina, medical students rated the teacher's dedication as significant, in the virtual classes execution orderly and clear[28]. The innovation of technologies provides the opportunity to the teacher. How to apply scientific models in virtual classes to achieve learning in the health department[29].

In respect of the advantages dimension, considering that under this modality the participants responded unfavorably because they are learning only in a face-to-face course. These studies results are also evidenced and carried on in Spain, where university students are not satisfied with virtual learning in relation to face-to-face learning. The fact is that laboratory practice is necessary for the acquisition of a patient's care skills and abilities[30,31]. Likewise, a high percentage of students failed health's virtual health in Chile, considering that these do not replace laboratory hours[26]. Therefore, quality in clinical teaching requires the implementation in a participatory approach. Where we are considered the opinions of the students to know their appreciations about learning[32].

Finally, the possibilities of interconnecting learning through the virtual classroom and ICT tools were presented less favorably since the students stated that they did not receive training from the university for the management classroom's virtual and technological tools. Highlighting limitations are having international professors in terms of access to resources through the platform and the unwillingness of the university.

Conclusions

The undergraduate student's obstetrics Professional schools who participated in this study have mostly favorable professional training courses during the pandemic perception of virtual learning; however, they also consider that they are not adequately learning the contents of the courses they attended during the execution of this study (General Semiology and Obstetrics, Obstetrics I, II and III), demonstrating that access is limited to certain technological resources.

For this reason, it is recommended to carry out other studies to find out the level of medical science students' satisfaction in relation to their training in competencies and skills in clinical care cases in pandemic times and to identify other variables that may be being valued negatively for effective learning.

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