

Students' Perception towards the Challenges of Online Learning during COVID-19 Pandemic in Female Health Faculties at King Abdulaziz University

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Abstract

Background: The Covid-19 pandemic has brought about a major, unplanned change in several areas, including education. Rapidly shifting from traditional education to e-learning is the best solution during this crisis. Therefore, this study **aims** to evaluate the challenges of online learning during the phase of ongoing pandemic (Covid-19 period) from the perception of students. **Methods:** Quantitative descriptive cross-sectional design, electronic questionnaire. This research was conducted in health faculties in female campus at King Abdulaziz University. Randomly sampling technique was applied, sample size is 335 students of health faculties at King Abdulaziz University in Jeddah. **Result:** 45.4% of the participants are from nursing and medicine colleges

and the ranged ages is 19 years old and most of them believe that the e-learning considered as barrier because of the distance and the suffering from the noisy at home which disrupt their concentrating. **Conclusion:** The research study concluded that the challenges are affected by the socio-economic, low digital competence for students and faculties, heavy workload, financial and time cost. The researchers recommended that the study on the effect of the e-learning on the practical performance of the health faculties students. **Key Words:** COVID-19, Pandemic, Online learning, Challenges, E-learning, Perception, Health faculties, Students.

* **Introduction**

* **Background**

The pandemic of Covid-19 started in 2019 in China more specific in Wuhan city and spread quickly throughout the world in few months. All life aspects affected by this pandemic, involving education. To follow the educational lessons in safe manner online classes announced by Saudi Ministry of Educational to all educational stages including medical majors ^[18]. This critical unplanned change from traditional way of learning to an online learning has

transformed the protocols of medical colleges in courses delivering to their students. Medical students in the Covid-19 pandemic are depending on electronic books and power point to be explained by them and exams based on the computer. These teaching modalities evolution has been adopted by multi medical colleagues in the world [19].

The classifications of online learning are synchronous and asynchronous. In synchronous model, live interaction occurs between the students and the instructors for example videoconferencing, audio conferencing and web chats. On other hand, asynchronous model includes slow communications and marked lateness in time among instruction and its receipt such as Email and prior video recording [7]. Online learning may consider as a challenge for students due lacking of non-verbal communications. Other things were taking into consideration, for example the interactions between the students and professors, the availability of resources, and time management, all these aspects could affect online education students' opinions [10].

* Literature reviews

For students' performance

investigation in an online course and of face- to-face courses, the researcher should make comparison for both education ways. There were studies looked to these manners, one of them was a study that included using a dataset of many courses that were beingtaught at 23 colleges in Virginia's community college. The authors found that students' performance and grades were better in face-to-face courses compared to online courses [20].

A study done by Unaizah College of Medicine and Medical Sciences for assess the effect of online technology in lectures illustrations, discussions of the cases, online seminars, and online laboratory demonstrations, this study concludes that the medical students were well-received the online learning. On other hand, there were some of limitations in study participants such as technical issues, individual receiving to the information, the barriers of institutional methodology, and lacking for non-verbal communications [8].

On other hand, Khan M. A. implemented a research about university students' realizations towards E-Learning in the time of COVID-19 Pandemic and the study showed students' preferences into e-

learning because it supply easy communication to instructors and fellow students, quickly academic contents sharing and give flexibility regarding in time and place also ease of compiling educational resources .The research found that students tend toward the e-learning and they saw e-learning similar to traditional education [9].

A study assessed and identified the barriers that pharmacy students King Saud bin Abdul-Aziz University for Health Sciences see in online learning during the quarantine period achieved to a quick adaptation and good acceptance by the pharmacy students for this teaching method and the students were satisfied because distance education led to continuity of study despite the COVID-19 pandemic this study found some gaps and some defects such as motivation lacking , lack of feeling enthusiastic while online classes, and some of them need a longer period of time to adapt to this new educational method but they saw with the evolution process the on-line method might improve [17].

A study on e-learning difficulties conducted in a Ghanaian university concluded that some

students were not prepared for this educational method, on the other hand, some of them faced difficulties such as disrupting the Internet, lack of smart devices or laptop computers, in the other hand, it was good for some in terms of occupying students, spending their time studying, and not delaying their academic term [2].

Another study indicated that students are satisfied with distance education as it may be beneficial to universities that are large in number, so the information is communicated through the Internet to everyone with easy techniques and they indicated to students that the method of explaining the teacher and presenting educational materials satisfactorily and the tools used all contribute to student satisfaction and increase their interaction [11].

Another study indicated that larger number of the students demonstrated positive performance toward receiving scientific curricula online during the COVID-19 pandemic. The study was found that e-learning has many benefits for learners as it makes learners more comfortable and flexible. Students favored the scientific materials and recorded videos that were stored on the

university's websites; they also demonstrated their need for interactive classes, assignments and quizzes at the end of each lecture to support the learning. On the other hand, the majority of learners stated that e-learning faces many challenges that do not exist in traditional education, due to technical problems and the lack of responses, and also because of the teacher losing the skill of dealing effectively with technology^[13].

The study was aimed to determine the perceptions of learners and teachers towards e-learning, the study found that the majority of learners and teachers showed a positive perspective towards e-learning, which provided an opportunity for e-learning to continue after the Corona pandemic^[16].

Another study was indicated that distance education is a very useful learning method. The students' answers obtained through the questionnaire showed that distance education is useful in increasing information and knowledge, and that e-learning is highly approval. On the other hand, the focus should not be placed on increased information but also on clinical performance. The focus of distance education should not be on

presenting scientific material only, on the other hand, learners must be able to deal with the scientific material and receive responses^[4].

*** Statement of research problem**

At the beginning of this pandemic COVID19, many aspects of human life changed, including health, economic, social, psychological, and educational, as all countries made decisions on the continuity of education through e-learning, which led to challenges that affected the academic performance of students. One of those countries is Kingdom of Saudi Arabia so, it becomes more important to evaluate the perception of students' challenges towards this novel teaching methodology. The literature has shown students' proficiency in e-learning, and the effect of e-learning in lectures, laboratories, and exams, and comparison between e-learning and traditional education, and identifies barriers in e-learning.

This study will evaluate the challenges that health college students face in e-learning during the COVID19 pandemic. Academic performance of students might be affected by racial, economic and resource differences.

*** Purpose of the study**

To evaluate the challenges of online learning during the phase of ongoing pandemic (Covid-19 period) from the perception of students.

*** Research question**

What are the online learning challenges among undergraduate students during COVID-19 pandemic?

Methods

*** Design**

The primary research method for this study we used descriptive cross-sectional quantitative method.

*** Setting**

Study was implemented in health faculties in female campus at King Abdulaziz University. The University is affiliated to higher ministry of education, public university and none profit agency. The research was conducted on six health faculties, each faculty consist of two floors ground and first floor, classrooms and laboratories. The characteristic of each college is Medicine College has 1000 female students. The nursing college has 435 female students and it has the ACEN Accreditation Commission for Education in Nursing. The dentistry college has 421 female students and it has the National Center for Academic

Accreditation and Assessment (NCAAA). However, the applied medical sciences college consists of 248 female students and it has the German Accreditation Agency in Health and Social Sciences. The medical rehabilitation sciences college has 167 female students and it had APTA Commission on Accreditation in Physical Therapy Education. Finally, the college of pharmacy contains 309 female students and had the ACPE Accreditation Council for Pharmacy Education. We chose this site because the health facilities are facing the greatest challenges while clinical practicing because it's a must in health faculties and also this is the first time experiencing this kind of situation.

*** Sampling and sample size**

Participants were students from nursing, pharmacy, medicine, medical rehabilitation sciences and applied science departments at King Abdulaziz University. The sampling technique we used is a probability simple random. The Inclusion criteria are female students of health faculties at King Abdulaziz University and regarding the exclusion criteria are other faculty's students. We needed 335 students, as a sample size that

enrolled for this study.

*** Tool**

The questionnaire consisted of two parts:-

The first part was developed by the researchers it's the social, demographic data of students, which is age, marital status, number of children in the house, whether they are the student's siblings or her children, college, academic year, Residence, monthly allowance, the atmosphere at home like noise, number of individuals sharing the same room.

The Second part we used the online education tool questionnaire it was developed by Shawaqfeh, et.al (2020). It consists of 15 items which

assesses the challenges facing the students in online learning like lack of internet connection or lack of instructions and so on. In addition, the areas of development consists of 3 items which asked the participants to evaluate their needs of development like computer skills. The likert scale of the tool is each answer gives points-based score (strongly disagree = 1 point, disagree = 2, neutral = 3, agree = 4, strongly agree = 5 points).

*** Data collection process**

After we took the ethical permission, the data collection was through an online questionnaire that was sent by an Email to the student. University Email can assist in conducting the maximum randomly number of health faculties students and it's also very useful in this pandemic of COVID-19 as social distance is important and it is cost effective and a time saver method.

*** Data analysis**

The Researchers used the SPSS version 23 to analyze the data and output the results are shown in Tables. The statistical test used in this study is descriptive analysis, which includes percentages, frequencies. It used to give an idea of the distribution of our data, helps to detect outliers and typos, thus made us ready to conduct further statistical analysis. Descriptive statistics were computed and bivariate analyses were performed. Factors regression analyses were conducted to identify factors associated with the students' challenges towards online learning. The level of statistical significance was at $P < 0.05$.

*** Ethical Considerations**

The ethical approval of conducting the study was obtained

from King Abdul-Aziz University for data collection. Then, permission was obtained from King Abdul-Aziz University's health faculties after explaining the aim of the study. All the data conducted would be kept confidential and anonymously with no name, participants were informed that the researcher group would keep the confidentiality of individual responses; they would have the right to withdraw from the study at any time. After collecting data, the questionnaires were stored, nobody can access, except the research team. It did not affect their studies or university relationships. After providing the explanation of the study. As the consent was implied by the participants completing the survey. Regarding using the Questionnaire, we obtained permission to use the online education tool in our study by communicating with the author Mohammad S Shawaqfeh through writing to him on his e-mail. A copy of the message would be attached to the appendix field.

*** Reliability and Validity of Tool**

Five experts in the field of study tested the questionnaire for its content validity. A copy of the responses would be attached to the appendix field. Accordingly, the necessary

modifications for more clarity were done. For example, some doctors suggested changes in the demographic data, including eliminating the repetition of the word "college" in the census and only mentioning the name of the college without referring to it as a college. Eliminating the repetition of the word "year" and only counting academic year, such as the second, third, fourth ...etc. As for the second part of the questionnaire, most of the experts suggested writing the phrase "in your opinion, the following are real barriers or challenges to the e-learning process" before the start of the second part instead of repeating it at the beginning of each question. In addition, The Cronbach's alpha test has been used and the result was 85% which means that the survey tool had a good level of reliability. The reliability test is attached in the appendix field.

*** Pilot Study**

The pilot study was carried out on 10% of the studied sample at the previously mentioned setting in order to test the applicability and the clarity of the included tools. The pilot also served to estimate the time needed for each subject to fill in the questionnaire. The students estimated the time it took to complete the questionnaire to be

around four to five minutes. Accordingly, necessary modifications were done. For example, students had a problem distinguishing between the meanings of these two questions [Too challenging eLearning tools], [Too challenging eLearning materials]. This made us clarify the intended meaning by giving examples.

*** Results**

Table 1: the descriptive statistical for the social demographic data(n=335)

items		frequency	percent
College	Nursing college	76	22.7%
	Medicine college	76	22.7%
	Pharmacy college	50	14.9%
	Dentist College	51	15.3%
	-medical rehabilitation sciences	41	12.2%
	Faculty of medicinessciences	41	12.2%
Academic year	second year	69	20.6%
	Third year	65	19.4%
	Fourth year	147	43.9%
	fifth year	29	8.6%
	Sixth year	14	4.2%
	Seventh year	11	3.3%
Age	19	162	48.4%
	20-24	155	46.3%
	25 and more	18	5.3%

Marital status	Single	323	96.4%
	Married	10	3%
	Divorced	2	0.6%
If you are married or previously had a marriage experience: Number of children	One child	6	1.8%
	Tow child	2	0.6%
	More than tow	2	0.6%
	There are no children	325	97%
if you are not married Number of your younger siblings	One	69	21%
	Tow	68	20%
who need your care or noisy source at home also distracts you from listening to lectures and doing your college assignments	More than tow	71	24%
	None	115	35%
Residence	Rural	52	16%
	Urban	283	84%
Monthly allowance is appropriate to affordthe e-learning needs for example the internet fines	Yes	274	82%
	No	61	18%
Atmosphere of thehome during the lectures and studytime	Noisy	98	29%
	Quiet	60	18%
	Appropriate	156	47%
	Crowded	21	6%

Number of individuals sharing the same room is not an obstacle for studying	Yes	121	36%
	No	214	64%

According to the descriptive statistical for social demographic data which depend on percentages we found that most of the participants were from nursing and medicine colleges (22.7%, 22.7%) in fourth year (43.9%) and the high percentage of the age was 19 years (48.4%) and the marital status of the students was single (96.4%) regarding the married students their percentages were (10, 3%) six out of 10 have one child only, regarding the not married students the number of younger sibling who need care or noisy source at home the most frequency was for none (35%), the residence were urban (84%), regarding if the monthly allowance is appropriate to the afford the e-learning needs for example the internet fines most of responses were to yes answer (82%), the atmosphere of the home during the lectures and study time most of the responses were to appropriate answer (47%), in number of individual sharing the same room in not an obstacle for studding question the response was (64%) for no answer.

Table 2: the probability values of the survey data by finding theregression as reported by studied sample (n=335)

Q	P value
College	0.0145***
Academic year	0.0133*
Age	0.0488*
Marital status	0.0001
If you are married or previously had a marriage experience: Number of children	0.3270
If not married number of your younger siblings who need your care or noisy source at home also distracts you from listening to lectures and doing your college assignments	0.3906
Residence	0.2586
Monthly allowance is appropriate to afford the e-Learning needs for example the internet fines	0.4944
Monthly allowance is appropriate to afford the e-learning needs for example the internet fines	0.3709
Number of individuals sharing the same room is not an obstacle for studying	0.0001***
Limited technology experience	0.4145
Lack of past experience on using online tools	0.6032
Lack of motivation	0.0171*
Too challenging eLearning materials computer, Tablet, I pad... etc.	0.8897
Lack of instructions	0.9977
Avoiding commonly used online tools such as YouTube and Facebook by instructors	0.148
Living away from educational institutions	0.0053***
Inability to networking with expert the field	0.2023
Too challenging eLearning tools as Zoom	0.3104

app, Blackboard, Teams... etc.	
Inadequate school/faculty support]	0.2373
Lack of online community	0.6803
Online learning is boring	0.3239
Lack of trust in online systems	0.9183
High cost of hardware	0.3481
Time consuming	0.4864
Is there a need for computer skills literacy	0.0001***
Is there a need for skills training in using? computers and internet	0.0001***
In your opinion is there a need for training on online course delivery.	0.0002***

P value < 0.0001 extremely significant *** highly significant ** significant *

Table 2 shown the probability values of the survey data by finding the regression as reported by studied sample (n=335).

According to the P values of resulted data the significant results were in college with p value 0.0145, and if the number of individuals sharing the same room is not an obstacle for studying with p value 0.0001, living away from educational institutions with p value 0.0053. In development data the needing for computer skills literacy, the needing of skills training in using computer and internet with p value 0.0001, the needing for training on online course delivery with p value 0.0002. Academic year with p value 0.0133, age with p value 0.0488, and lack of motivation with p value 0.0171.

Table 3: the relationship between the social demographic data and the challenges as students' perception (n=335)

The relationship	Type of the statistical test	P value
relationship between the social demographic data and challenges	One tailed paired t test	0.0022**

P value < 0.0001 extremely significant *** highly significant ** significant *

Table 3 illustrate the relationship between demographic data and the challenges and by using one tailed paired t test the P value was 0.0022** which considering highly significant, this table indicate that the challenges affected by demographic criteria as reported from students point of view.

Table 4: the relationship between social demographic and the development data as students' perception (n=335)

The relationship	Type of the statistical test	P value
Relationship between the social demographic data and development	One tailed paired t test	0.0359*

P value < 0.0001 extremely significant *** highly significant ** significant *

Table 4 Shown the relationship between the demographic and the development criteria by using one tailed paired t- test the P value was 0.0359 which considering significant, this table indicate that the development affected by the demographic criteria.

* Discussion

The pandemic of Covid-19 started in 2019 in China more specific

in Wuhan city and spread quickly throughout the world in few months. At the beginning of this pandemic COVID19, many aspects of human life changed, including health, economic, social, psychological, and educational, as all countries made decisions on the continuity of education through e-learning, which led to challenges that affected the academic performance of students. One of those countries is Kingdom of Saudi Arabia. To evaluate the challenges of online learning during the phase of ongoing pandemic (Covid-19 period) from the perception of students. The study took a place in King Abdul-Aziz University specifically in the health faculties. The data was collected through an online questionnaire that was sent by an Email to the student. University Email can assist in conducting the maximum randomly number of health faculties students and it's also very useful in this pandemic of COVID-19 as social [19].

The results were showed that the e-learning lead to ask of motivation at $p=0.0171$ which considering significant, this result compatibles with Shawaqfeh, M. S.(2020) study which concluded that one of the e-learning disadvantages is lack of motivation [17].

The effect of living away from

educational institutions was significant where the P value was 0.0053 and according to the resulted data the living away from the educational institutions considering as barrier in the e-learning process and that compatible with a study done by Unaizah College of Medicine and Medical Sciences for assess the effect of online technology in lectures illustrations this study concludes that the medical students were well-received the online learning. On other hand, there were some of limitations in study participants such as technical issues, individual receiving to the information, the barriers of institutional methodology, and lacking for non-verbal communications [8].

For the Limited technology experience the P value was 0.0185 which considering significant high that indicate that the limited technology experience considers as a challenge in e-learning process which is match study done by Krishna Regmi in 2020 that found that lack of computer skills has been identified as a major barrier preventing the students and doctors from using computer-based learning methods, rather than a lack of preference for new technologies [15].

Lack of past experience on using

online tools was extremely significant at $p=0.0001$ and that indicate lack of past experience on using online tools considering as a barrier or challenges for the students which compatible with a study done by Alfaki (2019). Which concluded that e-learning among nursing students in Najran University has several limitations one of them is students at nursing college were using an E-learning environment for the first time in their academic career [6].

On other hand, The research results illustrated that the needing for computer skills literacy in e-learning and the needing for skills training in using computers and internet and the needing for training on online course delivery were significant high at $p=(0.0001, 0.0001, 0.0002)$ respectively these results congruent with many studies one of them is study done by Adnan (2020) recommended that to ensure an effective and productive online program, students must not only know how to cope up with the fast-paced online classes but they also need to have a sound computer and technological skills to learn from online lectures [3]. On the other hand, study was done by Abbasi (2020) the majority of learners stated that e-learning faces many challenges that do

not exist in traditional education, one of them is the technical problems, the lack of responses, and losing the skill of dealing effectively with technology [1]. Contradictory, study results disagree with Muller (2020) agree with Muller study (2020) concluded that the dental students gave positive rated aspects in e-learning in terms by computer using [12].

The research data showed that the relationship between the socio demographic data and the challenges highly significant at $p=0.0022$. The researchers indicate that the demographic criteria effect the challenges where the type of college and the studying year and age relate to the challenges and that matched with Emmanuel study [5].

The relationship between the socio demographic data and challenges at $P=0.0022$ which is highly significant, this result indicate that the developments areas affected by demographic criteria where according to the resulted data showed the computer skills related mainly type of college and the studying year and age and that compatible with Naresh study [14]

* **Conclusion**

Based on the findings of the

research study, it is concluded that the results concluded that 45.5% of the participants are from nursing and medicine colleges and the ranged ages is 19 years old and most of them are single status and suffering from the noisy younger children at home.

Additionally, the findings mentioned that the lack of motivation and the critical challenges were the living away from the educational institutions considering as barriers in the e-learning. In addition, the limited technology experience considers as a challenge in e-learning process. Moreover, lack of previous experience on using online tools considering as a barrier or challenges for the medical students.

Finally, the results illustrated that the needing for computer skills literacy in e-learning and the needing for training skills in using computers and internet and the needing for training on online course delivery were very important.

The relationship between the social demographic data as (college, age ...) and the challenges was considering highly significant and according to the responses the researchers indicate that the demographic criteria affect the

challenges where the type of college and the studying year and age relate to the challenges as reported by students.

According to the results, most of the students believe that the e-learning considered as barrier because of the distance and high percent suffering from the noisy at home which disrupt their concentrating.

*** Limitation**

There was a limitation in this study such as the covid 19 pandemic prevents us to make face to face questionnaire to reach to larger number of students additionally, due to lack of sufficient period of time we could not make surveys to various specialist in different colleges and different gender, not all the received students to our questionnaire survey respond.

*** Recommendations for future research studies are:-**

- 1- Study on the effect of the e-learning on the practical performance of the medical students.
- 2- Study on the effect of the economic situation on the e-learning academic performance.
- 3- Study on the relationship between the e-learning and outcome grades in nursing major.
- 4- Study on the effect of the e-learning on the social behavior of the medical

students.

5- medical students with e- learning.

6- The researchers recommended that the university can make educational videos on how to use the educational electronic services that the university provides to the students.

7- Since health colleges contain practical classes, it is preferable that online classes be similar as possible to what is the case in traditional learning.

8- Try making the online class more fun and motivate the students and make them feel there is no deference from traditional learning.

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