

Perception Of Medical Students Towards Online Learning During The Covid-19 Pandemic: A Cross-Sectional Inter Based Survey.

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Abstract

Introduction: The Covid-19 pandemic led to a lockdown that disrupted face-to-face learning. The lockdown was implemented to help curb the spread of the virus. Hence, most institutions resorted to online learning platforms.

Aim: This study aimed to assess the perception of online learning among medical students at Family Health University College.

Methods: A cross-sectional inter-based survey was used. It was designed using google forms and distributed via the WhatsApp platform. A consecutive sampling technique was employed, and the Likert effectiveness scale was used for assessment. Data were analyzed with SPSS version 25 and presented using charts and tables.

Results: The number of respondents was 134 (response rate: 100%). Majority of the respondents were females 81(60.4%), and level 600 students

47(35.1%). Comparing online to face-to-face learning in terms of increasing knowledge and skills, face-to-face learning was more effective in increasing skills ($p=0.000$) and increasing knowledge ($p=0.004$). In total, 72.4% of participants found online learning enjoyable, with 62.7% finding it somewhat enjoyable, and 9.7% finding it very enjoyable. About 69% of respondents were of the view that online learning was very useful and 53.7% agreed that online learning should continue partially after the pandemic.

Conclusion: More than half of medical students of the Family Health University College had a positive perception towards online learning during the Covid-19 pandemic, and agreed that it should be used in conjunction with face-to-face learning.

Keywords: Ghana, internet learning, medical school, pandemic, Covid-19.

Introduction

The novel coronavirus (2019-nCoV, or COVID-19) pandemic that first broke out in Wuhan, China, in early December 2019 served as a global public health threat. It affected more than 180 countries worldwide across all continents (Europe, Africa, Asia, North America, South America, and Oceania/Australia).¹ The rapid spread of this virus, as well

as, the increase in the number of coronavirus cases globally resulted in the World Health Organization declaring the coronavirus a global pandemic on 11th March 2020.² This pandemic greatly affected social, political, economic, and educational activities, and medical education was no exception.

On the 15th of March 2020, the President of the Republic of Ghana, Nana Addo-Dankwa Akuffo

Addo announced the closure of all educational institutions nationwide to help curb the spread of infections. This led to the disruption in ongoing face-to-face classes resulting in disruption of students' cognitive progress, delay in graduation and change in academic calendars amongst others. To bridge the gap, most educational institutions in Ghana resorted to online learning methods/platforms such as zoom, google classroom, Sakai, and WhatsApp to deliver lectures and assess students. Online learning is a form of learning which is dependent on the use of the internet and other important technologies with no physical recourse to classrooms between the students and lecturers.³ Online platforms provide tools for students to be in contact with peers and teachers outside the classroom without spreading Covid-19.⁴ Online learning has played a key role in medical education over the past few years and has demonstrated several benefits in enhancing student learning.⁵ Being a new form of educational tool with challenges and merits, it is essential to ascertain the perception of students and find practical solutions to the challenges in order to make the learning experience more pleasant and valuable. In this study, we aimed to assess the perceptions of online learning among medical students of Family Health University College and to find out ways to improve this experience.

Method

This was a descriptive cross-sectional online study conducted 13th May to 21st June, 2021 among undergraduate medical students of Family Health University College at Teshie, Accra. All regular students (level 200 or above), and graduate entry medical students (GEMP) were eligible to participate. The included students were those who participated in online learning during the COVID-19 pandemic and agreed to participate in this study. The consecutive sampling technique was used for the online questionnaire administration. Data were collected using self-administered

questionnaires sent to participants via WhatsApp. Confidentiality of the information provided by the participant was ensured. The minimum sample size considered was calculated using the Yamane formula as used in previous reports related to perceptions towards COVID-19.⁵ A total number of 123 participants were recruited for the study. The collected data were cross-checked for accuracy, completeness and uniformity. Data was exported from Microsoft Excel 2019 version to SPSS version 25 for statistical analysis. Descriptive analysis was used for socio-demographics. Categorical variables were presented as frequencies and percentages. Ethical approval was granted by the Community Health Dissertation Review Committee of Family Health University College.

Results

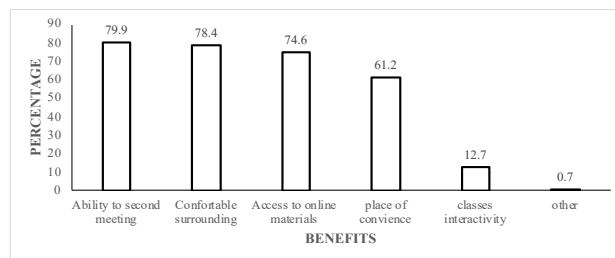
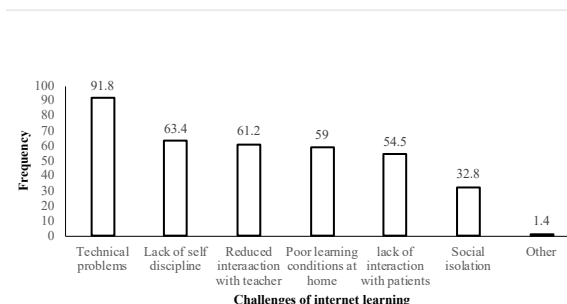
A total of one hundred and thirty-four (134) medical students participated in this study with a modal age group of 21-25 years. The majority of respondents were females 81(60.4%). Although all the students had exposure to information technology, just a little over half of them 75(56%) had previous experience with e-learning. The socio-demographic information of the sample is presented in Table 1.

Table 1 Socio-demographic characteristics of study participants

Characteristics	Frequency	Percentages
Sex		
Female	81	60.4
Male	53	39.6
Total	134	100.0
Age		
15-20	34	25.4
21-25	39	29.1
26-30	34	25.4
31 and above	27	20.1
Total	134	100.0
Academic Level		
200	32	23.9
300	12	9.0
400 GEMP	11	8.2
400	32	23.9
600	47	35.1
Total	134	100.0
IT Skills		
Poor	14	10.4
Moderate	97	72.4
Good	23	17.2
Total	134	100.0
Previous experience in online learning		
Yes	75	56.0
No	59	44.0
Total	134	100.0

Abbreviation: GEMP, Graduate Entry Medical Program; IT, Information Technology

According to the responses by the students, the benefits of e-learning included: ability to record meetings (79.9%), comfortable surroundings (78.4%), access to online materials (74.6%), and freedom to learn at your own pace (61.2%). (Figure 1). On the other hand, the biggest challenge of online learning according to the present study was technical problems (91.8%). This was followed by a lack of self-discipline and reduced interactions with teachers (Figure 2).

**Figure 1 Benefits of online learning****Figure 2 Challenges faced during internet learning**

Participants preferred face-to-face learning (4.03 ± 1.040) to online learning (2.90 ± 0.908), ($p=0.004$). Some participants reported that e-learning as compared with face-to-face learning was less effective in terms of increasing skills (1.66 ± 0.794) (4.04 ± 1.300), respectively ($p=0.000$). In terms of activity, most respondents had neutral opinion.

Most students, 97(72.4%) rated online learning as enjoyable, with many of them, 84(62.7%) adding that it was somewhat enjoyable. However, 18 out of the 37(27.6%) students who did not enjoy online learning found it extremely unenjoyable, and 19 of them said it was very unenjoyable.

Table 2. Opinions of students about online learning

OPINION	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I can connect to the online teaching platform on my computer or mobile phone smoothly	23.10%	47.00%	17.90%	11.20%	0.70%
During the online lectures, I was able to communicate better with the teacher, compared to a traditional course	4.50%	10.40%	29.90%	39.60%	15.70%
Regarding the lectures, I prefer a combination of face-to-face and online	13.40%	55.20%	11.20%	14.90%	5.20%
In general, I consider it useful that online teaching partially continues, even after the Covid-19 pandemic is over.	14.90%	38.80%	22.40%	14.90%	9.00%
For the practical activity, I would prefer a combination of online tutorials with face-to-face labs and clinical practice	14.20%	25.40%	11.90%	28.40%	20.10%
The video tutorials presented were more useful than the live demonstrations during the labs / clinical practice	3.00%	6.70%	29.10%	36.60%	24.60%
During these weeks of online learning, I consider that I have received a lot of information that will be useful to me during my career	6.00%	32.80%	40.30%	14.20%	6.70%
During online classes I was to follow and fully understand the concepts taught.	3.70%	25.40%	35.10%	30.60%	5.20%
Online classes were useful to me during the covid-19 pandemic	17.20%	52.20%	15.70%	11.20%	3.70%

Discussion

Perception is essential in understanding human behavior because each person perceives life differently. Individuals behave on the basis of their perception; hence their behavior can be predicted by understanding their current appreciation of a phenomenon.⁶

In our study, it was evident that most students had a positive perception of online learning during the pandemic as evident by more than 69% of them agreeing to its usefulness. This result is consistent with a previous report by Bączek et al.⁷ In contrast, the students perceived that face-to-face learning was significantly more effective than online learning in terms of increasing knowledge ($p=0.004$). This is not in agreement with the finding by Bączek et al. which reported same increase in knowledge using both methods.⁷ In this study, more than 53% of the respondents agreed that online learning should be continued partially after the pandemic. Concerning increasing clinical skills, the result of the current study was similar to that of Bączek et

al.⁷ Respondents were of the opinion that face-to-face learning was more effective regarding gaining skills ($P<0.001$). Activities during face-to-face and online learning were not significantly different in our study ($p=0.248$) in contrast with the report by Bączek et al.⁷

The ability to record meetings, comfortable surroundings, access to online materials, and the freedom to learn at student's own pace were the strongest benefits of online learning. This finding is similar to a Polish study where medical students cited ease of access to educational materials and convenience as the strongest advantages of online learning.⁷ Another study reported the ability of students to study at their own pace as a key benefit of online learning.⁸ The challenges of online learning as reported by current study included technical problems, lack of self-discipline, reduced interactions with the teacher and poor learning conditions at home. Most technical problems were attributed to poor internet connectivity. A study also reported technical problems as a barrier

when it came to online learning.⁹ This finding was attributed to students not having prior exposure to online learning before the pandemic. This confirms our findings as some of our study participants (44%) also reported no experience with e-learning prior to the pandemic.

Conclusion

More than half of the study participants had positive perceptions towards online learning during the Covid-19 pandemic, and agreed that it should be used in conjunction with face-to-face learning.

Student cited ease of access to study materials and flexible study time as some of the benefits of online learning and lack of self-discipline as a hindrance to online learning

Competing interest

The authors declare that they have no competing interest.

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