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PERCEPTION, EXPERIENCES AND CHALLENGES OF ONLINE AND VIRTUAL LEARNING DURING COVID-19 PANDEMIC AMONG STUDENT MIDWIVES OF THE GARDEN CITY UNIVERSITY COLLEGE, KENYASE-KUMASI, GHANA

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ABSTRACT

Purpose: *This study aimed to assess the perception, experiences and challenges of online and virtual learning during the COVID-19 pandemic among student midwives of the Garden City University College, Kumasi, Ghana.*

Approach/Methodology/Design: *The study adopted a descriptive quantitative design which was achieved by the administration of questionnaires through google forms to 158 respondents. A systematic sampling technique was employed to select the participants. Data were coded and entered into Statistical Package for Social Sciences (SPSS) version 22.0 and MS. Excel for analysis. The technology acceptance model was used to direct the study.*

Findings: *The study revealed that 51.3% of respondents perceived online and virtual learning to be useful and effective, 41.8% stated they were comfortable with the use of online and virtual learning platforms and tools. 44.3% of the participants were satisfied with the virtual learning, 50.6% stated that their experience with online and virtual learning has improved their ICT skills. However, challenges faced by the participants included the high cost of data (95.6%), poor internet connectivity (91.1%) and 81% expressed distraction when having the online and virtual learning classes.*

Practical Implications: *The study has practical implications for the various educational institutions and concerned bodies to address the issue of high cost, among others.*

Originality/value: *The study concluded that students found e-learning advantageous over conventional face-to-face teaching and learning, as they could study from any location despite some challenges.*

INTRODUCTION

As the COVID-19 Pandemic runs its course, many countries are implementing measures such as social and physical distancing that limit the number of people congregating in public places. Such measures have disrupted the normal functioning of schools and universities (Iguacu, April &Santos,2019). These measures are likely to continue in some countries for some time until a vaccine becomes available and effective. For this reason, leaders of public

and private education institutions have put in place alternative methods for students and teachers to continue with their lessons when attending school is not possible. Accordingly, they are working on modalities that will enhance continuity in teaching and learning in a safe environment (Rusmiati et al., 2020). The COVID-19 pandemic has resulted in schools shut down all across the world, which makes it clear that this pandemic has utterly disrupted the education system (Adeoye, Adanikin & Adanikin, 2020). While countries are at different points in their COVID-19 infection rates, worldwide there are currently more than 1.2 billion students in 186 countries affected by school closures due to the pandemic, resulting in dramatic and distinctive adoption of e-learning, whereby teaching is undertaken remotely and on digital platforms (Shahzad, Hassan, Aremu, Hussain & Lodhi, 2020). According to the report by United Nations Educational, Scientific Cultural Organization [UNESCO] (2020), the closure of educational institutions has impacted over 91% of the world's student population (Shahzad et al., 2020).

The ripple effect of this pandemic has been felt by both the educators and students in primary, secondary, colleges and universities as academic sessions were disrupted after the coronavirus was declared a public health emergency (Dhawan, 2020). This has left many students and educators in a rude shock as some of these institutions were at the point of preparing for the examination, admitting freshmen, beginning of a new semester, amongst others. Universities around the world including Africa have resulted in looking for ways to cope and adapt to academic changes due to this pandemic (Henaku, 2020). Even before COVID-19, there was already high growth and adoption in education technology, with global educational technology investments reaching US$18.66 billion in 2019 and the overall market for online education projected to reach $350 Billion by 2025 (Adeoye, Adanikin, & Adanikin (2020). Whether it is language apps, virtual tutoring, video conferencing tools, or online learning software, there has been a significant surge in usage since COVID-19 (Reimers et al., 2020). With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market (Dhawan, 2020).

Online education is a contemporary, thriving, and viable option for health care education in the United States today, including midwifery education. More than half of the graduates from midwifery education programs in 2013 in the USA were from either a partial or fully online program (Reimers, Schleeider, Saavedra & Tuominen, 2020). Online education can help to reduce the shortage of maternity care providers as they do not necessarily need to leave work and home to attend the conventional face-to-face classes but must be rigorous and delivered in a way that is challenging, engaging, innovative, and convenient to student schedules. Class sessions may occur in real-time or be recorded and viewed at a time convenient for the student within instructor-defined time frames (Rasmitadila&R, 2020).

On the African continent, the transition from face-to-face teaching to online teaching and learning due to the closure of schools is not that simple, as only 24% of the population have access to the internet coupled with poor connectivity, high cost of internet bundle and recurrent power interruptions (Aboagye, Yawson, Appia, 2020). In addition to these challenges are limited infrastructure, scarcity of resources and inadequate availability of online learning content. Despite these challenges, some African governments have established measures to ensure the continuity of teaching and learning. For instance, Ghana, Morocco, Senegal, Rwanda, Kenya and Cote d'Ivoire have instituted national online learning platform portals, and broadcasting of course modules on internet platforms for students at different levels to ensure that academic work continues (Henaku, 2020). In this study,

therefore, the term online and virtual learning refers to teaching and learning that is mediated by the use of electronic technologies.

Problem Statement

This COVID-19 pandemic has shaped a new normal for the higher education sector across the globe by opening up the importance of online education and distance learning (Henaku, 2020). There is a transformation to the online learning platform, restructuring of application processes, and stimulating crisis management strategies. The main educational methodology employed in Ghana is face-to-face classroom teaching for almost all basic schools and secondary institutions and some tertiary institutions, though some universities combine both face-to-face and online learning. The outbreak of the COVID-19 pandemic has led to the introduction of online learning at all levels of education in the country (Aboagye et a., 2020). The Garden City University College (GCUC) one of the renowned private universities in the country has started hosting online lectures for all cadre of students on various online platforms such as WhatsApp and Zoom. This paradigm shift from face-to-face to online or e-learning was met with some challenges and uncertainties on the part of some students as well as some lecturers, creating anxiety and worries. Against this premise, the researchers were motivated to conduct a study to assess the perception, experiences and challenges of online and virtual learning during the COVID-19 pandemic among student midwives of the Garden City University College, Kenyase, Kumasi-Ghana.

LITERATURE REVIEW

Reviewed literature has shown that students perceived online learning as very useful as most of them highly agreed with the effectiveness of online learning (Picciano, 2017; Wang & Hu,2019). According to the findings from their study, students have more control over their studies, have more opportunities at their disposal for reflection and tend to be organized self-starters who can accomplish their work without necessarily having face-to-face interaction with their lecturers. In a study by Dhawan, (2020) students perceived that online learning will give them easy access to information as compared to the traditional face-to-face lecture. In another study by Reimers et al., (2020) it was evident that some students believe that online learning will cause them to be overly dependent on computers, phones, ipads, tablets etc. Moreover, 64 (55%) students preferred online training because the virtual platform was considered realistic and useful by the vast majority of the participants. Students who participated in a study by Feldacker, Jacob, Chung, Narker & Kim, (2017) perceived the online learning web-based module to be useful and easy to use. They agreed that the module helped improve their understanding of course materials, time discipline, interactions with each other and with the teacher, and that e-learning was enjoyable. The students also claimed that it was easy to access the module. Presumably, the students' familiarity with ICT in their everyday life played an important role in their familiarizing with e-learning.

Pertaining to the ease of use of e-learning, in a study by Mamattah (2016) it was evident that an average of 50% agree that e-learning platform is easy to use (accessible). This was followed by 20% who were undecided as to the ease of use of e-learning systems. Furthermore, 13% expressed strong agreement that e-learning system is or could be easy to use. 10% disagree and 7% strongly disagree on the easy usage of e-learning systems. Concerning the level of comfort of using information technology (IT) tools that enable easy usage of e-learning system, on average, 52% of the respondents indicated that they were very comfortable using IT for various activities, while 32% indicated they could easily use IT for various functions Mamattah (2016). Regarding the perception on user friendly of IT tools that are used in online and virtual learning tools, a study by Henaku (2020), showed that 15% of

the respondents strongly disagreed that they were user friendly, disagree (10%), undecided (21%), agree (40%) and 14% of them strongly agree that the tools were user friendly. Participants in a study conducted by Henaku (2020) were undecided about the fact that online learning was a good initiative to ensure the continuity of teaching and learning while at home. However, they were of the view that due to the numerous challenges associated with online learning, it should be called off. The same study concluded that the e-learning system will completely reduce the issues of insufficient classrooms for lectures as students can easily take the lectures online without any disruption at their convenience (Henaku, 2020).

A large section of students in a study by Aboagye, Yawson, Appia, (2020)perceived that the adoption of an e-learning system for universities will enhance the efficiency of knowledge as both students and lecturers will have easy access to a large amount of information within the global village. In most universities, class space for lectures is usually a problem as sometimes there is a clash in timetables or overpopulated students. The e-learning system will completely reduce the issues of insufficient classrooms for lectures as a student can easily take the lectures online without any disruption at their convenience. Also, e-learning afford students and lecturers to participate in class in their comfort zone with basic amenities they need when compared to the traditional teaching method where sometimes these basic amenities are unavailable for conducive learning Aboagye, Yawson, Appia, (2020)

Experiences of students with online and virtual learning

A study by Fedynich, Bradley & Bradley (2015) indicated that participating graduate students generally are satisfied with their experiences in online courses. The students also indicated their satisfaction with the instructional design and delivery of online courses. Another study by Popovici & Mironov, (2015) showed that almost all students (98.11%) consider that they have medium and advanced expertise in using a computer or laptop, while 96.52% of the students declared the same level of expertise for Internet usage (search engines, e-mail). It is also important to underline that over 62% of the students spend at least 5-6 hours per day doing online learning, with 8% declaring more than 10 hours Popovici & Mironov, (2015). Online and virtual learning gives me more time to explore learning sources according to 84% of students in a study by (Vitoria, Mislinawati & Nurmasyitah, 2018). Some students in a study by Bali & Liu, (2018) in sharing their experience mentioned that online and virtual learning makes them independent in their learning. In a similar study by Fedynich, Bradley & Bradley (2015) 78% of the students were of the view that online and virtual learning experience was enjoyable, improves self-confidence, improves ICT skills and finally improves interactions with friends and lecturers.

Some students were also of the view that their experience with online and virtual learning is good in that it allows them to record the lecture and play it back at any time, something the face-to-face lectures do not have (Bali & Liu, 2018). However, the same study also revealed that some of the students also stated that the online sessions provided them with a great time to study and experienced better time management (Bali & Liu, 2018). Students in a study by Nwankwo, (2015) were of the view that online and virtual learning allows them to have lectures in the comfort of their homes, reducing the stress involved in transportation to school that is bedeviled with a lot of traffic congestion. Most participants were very comfortable with online and virtual learning because it gives them time to spend with their families. The nature of online learning as experienced by participants involved in a study by Aboagye, Yawson, Appia, (2020) was a prominent feature of participants' interviews. Participants described that their online learning is organized on WhatsApp, Telegram, Zoom, Google meet, and Google Classroom. Participants explained that lecturers and tutors usually send their lecture notes which is either a PowerPoint, word or a portable document format (PDF)

file to either the WhatsApp or Telegram platforms and then adds recorded audio or video that explains the lecture notes. Participants explained that their responsibility was to download the lecture note and the audio or video at that moment and listen to it and if they have any questions or contributions, they either text or send an audio to either the WhatsApp or Telegram platform (Aboagye et al.,2020).

Challenges with online and virtual learning

Apart from high cost of internet data identified by students as a challenge with partaking in online learning, other key issues that are of great concern to students partaking in online is the effectiveness and credibility of course content for online learning, the issue of availability of learning resources has also come out strongly (Nwankwo, 2015). Participants in a study by De Ponti, Marazzato, Maresca, Rovera, Carcano & Ferrario, (2020) were of the view that there were a lot of lectures scheduled in one day that makes it difficult for them to study. The participants in the same study mentioned slow or poor internet connectivity and communication software failure as some of the technical issues that they faced during online and virtual learning (Khalil, Mansour, Fadda, Almisnid, Aldamegh, Al-Nafeesah, & Al-Wutayd 2020). However, the same study highlighted that some students feel that campus learning allows discussion among students which is very helpful for clearing a lot of concepts (Khalil, et al., 2020). Findings from the study by Demuyakor, (2020) revealed that some students were of the view that online and virtual learning is good for theoretical courses but it becomes problematic with practical courses because they do not get the chance to practice in the demonstration laboratories. Additionally, 32 (28%) experienced troubles with the online access to the platform and/or technical issues with the system interface on most electronic devices.

Participants in a study by Bali & Liu, (2018) discussed that most of the disruptions they encounter at home were a result of the need to participate in household activities such as cooking for the family and taking care of younger siblings and to help their parents at their workplace. Participants elucidated that the performance of these household productions sometimes prevents them from participating in online lectures. Also, their parents complain that they spend too much time on their phones. With regards to participants' responses in a study by Ponti et al., (2020), one of the most common topics of concern by almost all participants was the internet bundle. Participants were much concerned about the internet bundle because they said it was expensive and online learning consumes a lot of the internet bundle. Some participants explained that they sometimes miss online lectures because they do not have money to purchase an internet bundle. Henaku (2020) also reported in his study that participants explained their online learning is characterized by connectivity problems due to poor mobile networks. They further expressed that the poor mobile network denied them of constant internet connection for online learning, while they sometimes miss lectures or cannot follow the discussion on their online platforms because of the network problems. According to them, a poor network sometimes causes some lectures to truncate with other lectures.

Conceptual Framework

This study is framed in the context of the Technology Acceptance Model (TAM) proposed by Davis (1989). TAM is an empirically validated theoretical model and widely accepted to help explain and predict users' behavior towards information technology acceptance and use Legris, P., Ingham, J., & Collerette, P. (2003). It also helps to explain why a user may accept or reject information technology (Davis, 1989). The model provides the basis with which one traces how external variables influence belief, attitude, and intention to use technology. The

two Cognitive beliefs postulated in this model for the use of technology are – Perceived Usefulness (PU) and Perceived Ease of Use (PEU). The model further implies that these two beliefs influence directly or indirectly the user's attitude towards the technology and also affect the user's behavioral intention to use the technology, which also affects the final decision to use or not to use. (Davis, 1989).

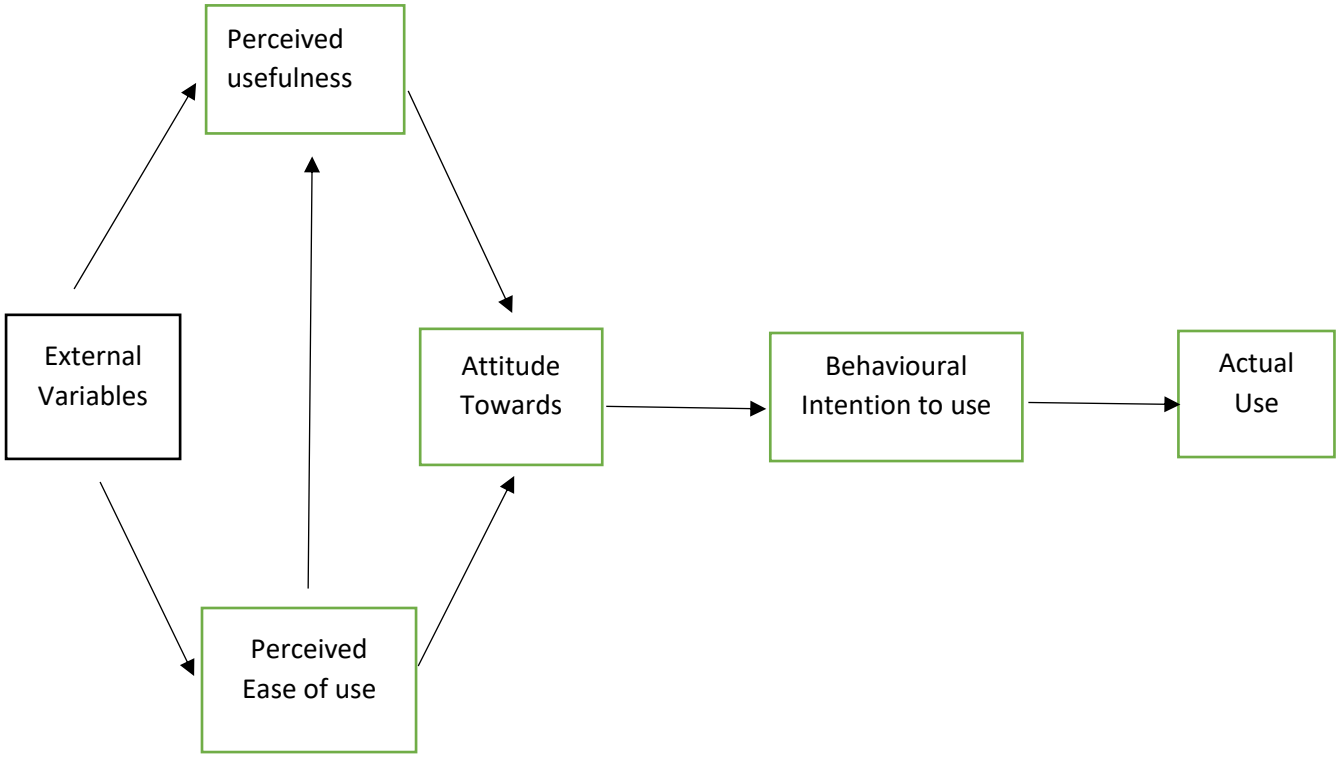


Figure 1: Technology Acceptance Model (TAM)

TAM is seen as a four-stage process, which starts with perceived usefulness, then perceived ease of use which leads to attitude towards usage and later the behavioral intention to use (Davis, 1989). Perceived usefulness (PU) is defined as "the degree to which a person believes that using a particular system would enhance his or her performance" (Davis, 1989). PU is also defined as the extent to which a potential user views technology as offering similar or better value in comparison to an alternative method of performing the same task (Davis, 1989).

In relation to this research, the model helps to deduce how students perceive e-learning as giving them an alternative means to acquiring and continuing their educational knowledge during the Covid-19 pandemic. Perceived usefulness can, therefore, be defined as the extent to which student midwives believe that using online and virtual learning to boost their learning. Perceived ease of use (PEU), in TAM refers to the degree to which a person believes using a particular technology will be easy to use without much effort (Davis, 1989). Since technology usage is a paramount part of online and virtual learning one requires a certain level of comfort with computer and internet technologies to be able to participate fully in e-learning. Students, therefore, require sufficient knowledge of a variety of modern hardware and software applications to easily make use of the e-learning system (Lee &Witta, 2001). Lack of these required technical skills could be a source of challenge to online and virtual learning. Furthermore, the student midwives' experiences, positive or negative could influence their perceived usefulness and perceived ease of use of online and virtual learning.

METHODOLOGY AND PROCEDURES

Study Area

Garden City University College was established as the College of Information Technology in 2002 and in 2004 the Board of Directors voted to convert the College into a University College. This was done to broaden the scope of the College and utilize the vast resources and facilities that had been assembled. It was officially accredited under the name Garden City University College, Kenyase-Kumasi by the National Accreditation Board in July 2005 to run degree and diploma programs. The University College currently has one school, three faculties and a Centre for Open Distance and eLearning (CODeL). The total number of students in the school is 2193, the total number of midwifery students is 522, and the total number of lecturers is 115. The university operates both weekend and regular programs. The weekend stream comprises of students who already have Diploma certificates in midwifery and are admitted for two years BSc degree program in midwifery, while regular students are admitted directly on completion of SSCE to do four years. Among its facilities are internet connectivity with Wi-Fi accessibility, fully equipped libraries, office equipment, state-of-the-art hostel, simulation rooms, dental clinic, fully dedicated satellite system, and many more.

Study Design

A descriptive quantitative survey design with a google based questionnaire was used for the study. This was due to COVID 19 pandemic which kept students away from the campus.

Study Population

The target population in this study were student midwives of GCUC (N=552)..

Inclusion criteria

The study included only level 400 weekend midwifery students who were willing to participate in the study and also those who were available during the data collection. This decision was based on the fact that 400 level students were the only group of students allowed on campus sparingly during weekends during the study period.

Exclusion criteria

The study excluded level 100, 200 and 300 midwifery and nursing students and those that were not willing to participate in the study. This was because these levels of students were asked to stay off the campus during the study period.

Sample Size

Regarding the sample size, the level 400 weekend midwifery students with a population size of 226 were used for generating the sample size.

Using Yamane's (1967) sample size formulae with a population size of 226, an alpha level of 5%, and a confidence interval of 95%.

$n = N / 1+N\,(e)^2$

Where:

n = required sample size

N= Accessible population

e = alpha level or significance level

Thus;

$n = 226 / [1+226(0.05)^2] = 144.4089 = 144$

However, an adjustment of 10% which was 14 was added making it 158. This was to allow for any drop-off of participants in the course of the study.

Sampling Technique

A systematic sampling method was used in this study. The class register was used as the sampling frame. This was because COVID-19 prevented a good number of students from being physically present on the campus, and through this sampling method, each member of the class still had an equal opportunity of being selected (Ishtiaq,2019). This was achieved by dividing the population size (226) by the calculated sample size (158) to get the sampling interval (226/158=1.43). The starting point was randomly picked as 1 then from No 1 name on the class register, others were selected after every 1 name until the desired number of 158 participants were selected. They were reached and consents gained through their phone contacts gotten from the admission office of the university.

Instrument and method of data collection

The researchers' self-developed questionnaire was divided into the following sections such as Section A: Socio-demographic data comprising of seven questions, Section B: Perception of student midwives on online and virtual learning comprising of four questions, Section C: Experiences of student midwives on online and virtual learning comprising of ten questions and Section D: Challenges faced by students during online and virtual learning comprising of four questions. The questionnaire after being pre-tested on 20 students of the Department of Applied Sciences (400 level), was administered in the form of online Google forms for data collection.

Validity and Reliability

The questionnaire was scrutinized by the ICT experts after designing for necessary expert corrections. However, a pretest of the questionnaires was done using twenty 400 level students of the Department of Applied Sciences with a reliability coefficient of 0.85 which was good enough for the study. All ambiguous questions were modified to ensure that the data collection tool produced consistent results in the main study.

Data Analysis

Data collected were coded and entered into Statistical Package for Social Sciences (SPSS) version 22.0 for analysis. The findings were presented in frequency distribution tables, pie charts, and bar charts.

Ethical Considerations

Approval was obtained from the Ethical Committee of the GCUC to conduct the study. Right to privacy or non-participation, Right to anonymity and right to the confidentiality of participants was ensured.

RESULTS AND DISCUSSION

Table 1: Socio-demographic Data of the respondents

Variables	Frequency (n=158)	Percentage (%)
Gender		
a. Male	1	0.6
b. Female	157	99.4
Age		
a. 20-25	40	25.3
b. 25-30	40	25.3
c. 30-35	55	34.8

d. 35 and above	23	14.6
Marital status		
a. Single	74	46.8
b. Married	75	47.5
c. Divorced	9	5.7
Number of children		
a. 0	76	48.1
b. 1-2	56	35.4
c. 3-4	24	15.2
d. 4 and above	2	1.3
Location		
a. urban	89	56.3
b. suburban	42	26.6
c. rural	27	17.1
Employment status		
a. Full time	93	58.9
b. Part time	14	8.9
c. Study leave	41	25.9
d. Self employed	10	6.3
Educational background		
a. Diploma in midwifery	158	100
b. Diploma in nursing	0	0
c. Certificate in nursing	0	0
d. Certificate in midwifery	0	0

Source: field data 2021.

The demographics of participants show that 75 (47.5%) were married. It was also evident that 76 (48.1%) of them had no children. The majority 89 (56.3%) were urban settlers and 93 (58.9%) of them had full-time employment as shown in the table1 above. The implication is that being a married woman and having children may be a source of distraction at home in the course of e-learning. full-time employment also may not allow enough time for e-learning.

Table 2: Perception on virtual and online learning

Variables	Frequency(n=158)	Percentage
It is necessary		
a. Strongly agree	65	41.1
b. Agree	72	45.6
c. Strongly disagree	11	7
d. Disagree	10	6.3
It is useful		
a. Strongly agree	59	37.3
b. Agree	81	51.3
c. Strongly disagree	4	2.5
d. Disagree	14	8.9
It is burdensome		
a. Strongly agree	39	24.7
b. Agree	51	32.3
c. Strongly disagree	15	9.5
d. Disagree	53	33.5
It is comfortable		
a. Strongly agree	42	26.6
b. Agree	66	41.8
c. Strongly disagree	16	10.1
d. Disagree	34	21.5

Source: field data, 2021.

Regarding the perception of online and virtual learning, 72(45.6%) of the respondents strongly agreed that it is necessary, majority 81(51.3%) stated that it is useful. However, 53(33.5%) felt it was burdensome and 66(41.8%) of them were comfortable with the online and virtual learning as shown in table 2 above.

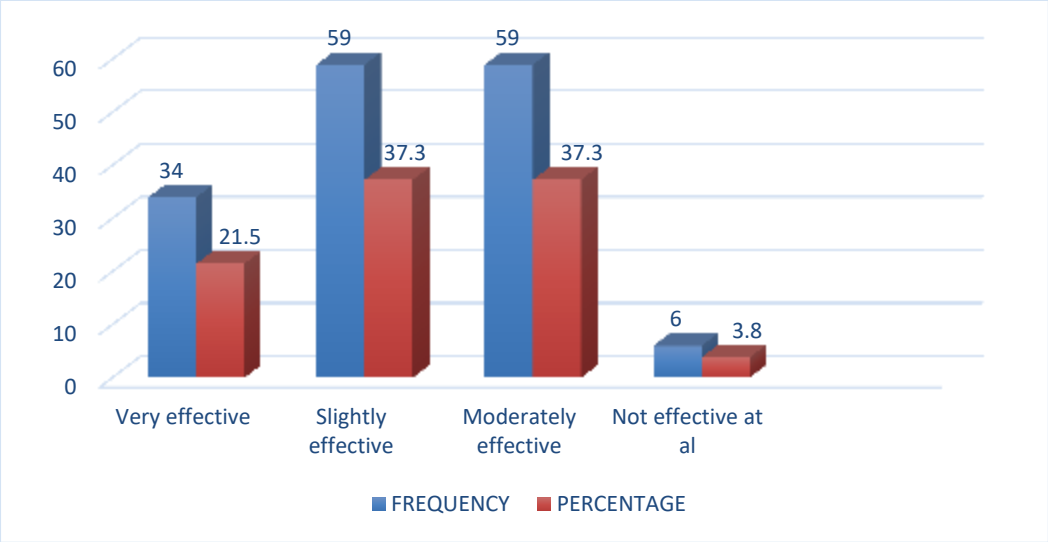


Figure 1: Effectiveness of online and virtual learning
Source: field data, 2021

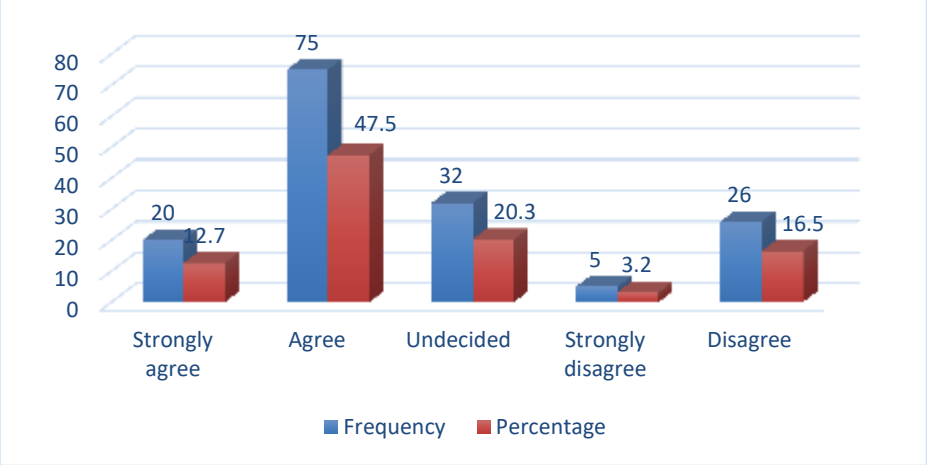
Regarding the effectiveness of online and virtual learning, 59(37.3%) of respondents were of the view that it was moderately and slightly effective. However, 34(21.5%) felt it was very effective and 6(3.8%) said it is not effective at all as shown in figure 1 above.

Table 3: Perceived impact of online and virtual learning

Variable	Frequency	percentage
It is accessible and less costly		
a. Yes		
b. No	46	29.1
It is flexible and convenient	112	70.9
a. Yes		
b. No	91	57.6
Need for orientation of student midwives on the use of online and virtual learning resources.	67	42.4
a. Yes		
b. No		
	143	90.5
	15	9.5

Source: field data, 2021

On the perceived impacts of online and virtual learning, the majority 112(70.9%) were of the view that it is less accessible and costly, 91(57.6 %) agreed that it is flexible and convenient, while the majority 143(90.5) of the respondents also agreed that there is the need for orientation for students on online and virtual learning resources as shown in table 3 above.



Source: field data,2021
Figure 2: User-friendly online and virtual learning tools

Regarding the user-friendliness of the online and virtual learning tools, 75(47.5%) of the respondents agreed that it is user-friendly as shown in figure 2 above.

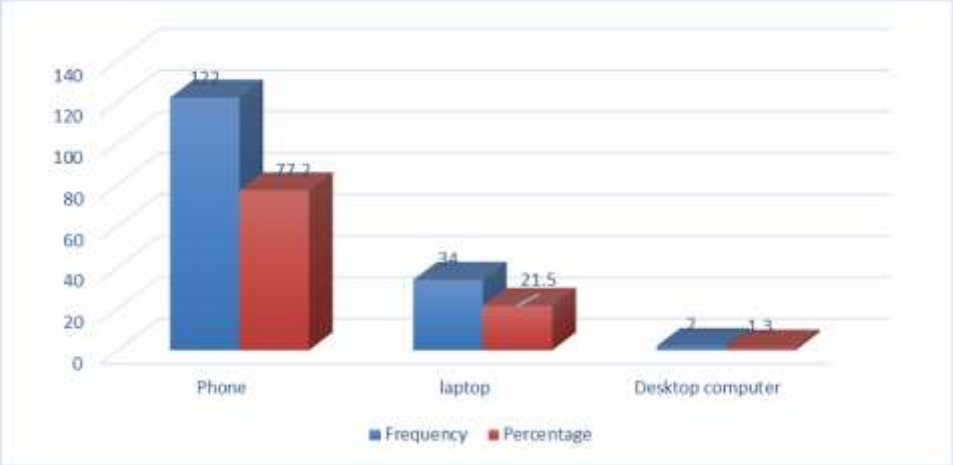
Table 4: Experiences of student midwives on online learning and virtual learning

Variables	Frequency	Percentage
Satisfaction with online and virtual learning experience		
e. Strongly agree	27	17.1
f. Agree	70	44.3
g. Strongly disagree	20	12.7
h. Disagree	41	25.9
Ability to explore all learning resources		
a. Strongly agree	24	15.2
b. Agree	76	48.1
c. Strongly disagree	19	12
d. Disagree	39	24.7
Improvement of ICT skills		
a. Strongly agree	64	40.5
b. Agree	80	50.6
c. Strongly disagree	8	5.1
d. Disagree	6	3.8
Comparing time management during online and virtual learning and face to face.		
a. Strongly agree		
b. Agree		
c. Strongly disagree	40	25.3
d. Disagree	61	38.6
Comparing stress level of online and virtual learning to classroom learning.	23 34	14.6 21.5
a. Strongly agree		
b. Agree		
c. Strongly disagree	37	23.4
d. Disagree	69	43.7
Online and Virtual learning builds confidence	21 31	13.3 19.6
a. Strongly agree		
b. Agree		
c. Strongly disagree	30	19

d.	Disagree	81	51.3
		8	5.1
		39	24.7

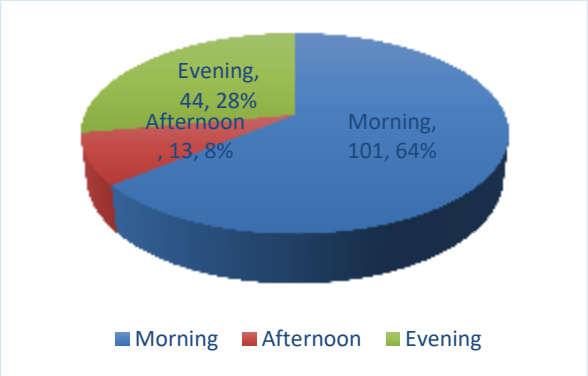
Source: field data, 2021.

Data collected on the respondents' satisfaction regarding online and virtual learning showed that 70(44.3%) of them agreed that it was satisfactory. On their ability to explore all the online and virtual learning recourses 24 (15.2%) of the participants strongly agreed to this assertion, 76 (48.1%) agreed, 19 (12%) of them strongly disagreed while 39(24.9%) disagreed that they were unable to explore all the learning resources. With regards to how online and virtual learning improved their ICT skills, the majority 80(50.8) of the respondents agreed that online and virtual learning improved their ICT skills. On their ability to manage their time regarding online and virtual and face-to-face classroom learning, 61(38.6%) of the respondents agreed that they had better time management with online and virtual learning as compared to face-to-face learning in the classroom. When asked whether online learning is stressful, most 69(43.7) of the respondents agreed that it is less stressful. With regards to whether or not online virtual learning boosted their confidence, the majority 81(51.3%) of the respondents were of the view that online and virtual learning made them self-confident as shown in table 4 above.



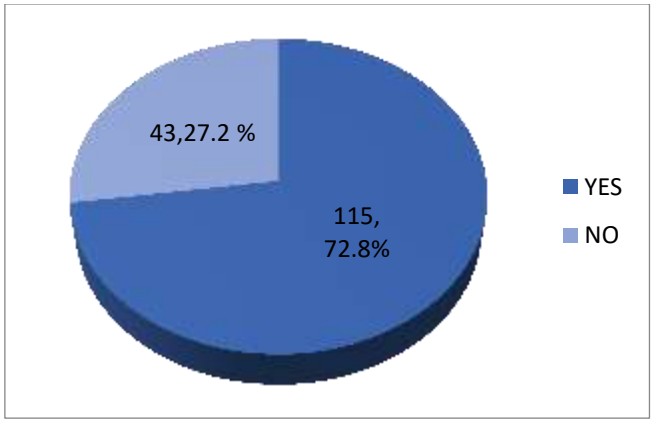
Source: field data 2021
Figure 3: Technology tools for online learning

The majority 122(77.2%) of respondents in this study used phones, whiles 34(21.5%), 2 (1.3%) used laptops and desktop computers respectively as shown in figure 3 above.



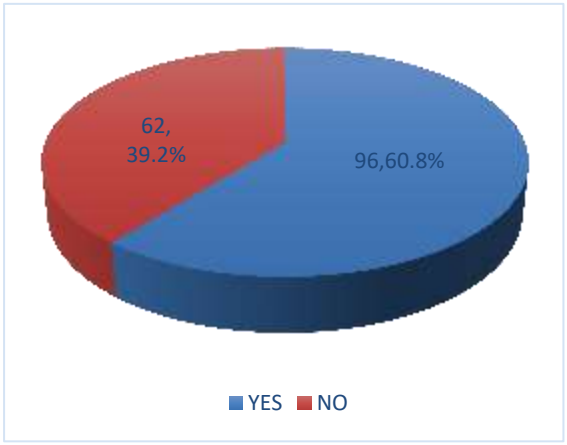
Source: field data, 2021
Figure 4: Appropriate time for online and virtual learning.

When asked about the appropriate time for online and virtual learning, the majority 101(64%) of the respondents were of the views that morning time is more appropriate as shown in figure 4 above.



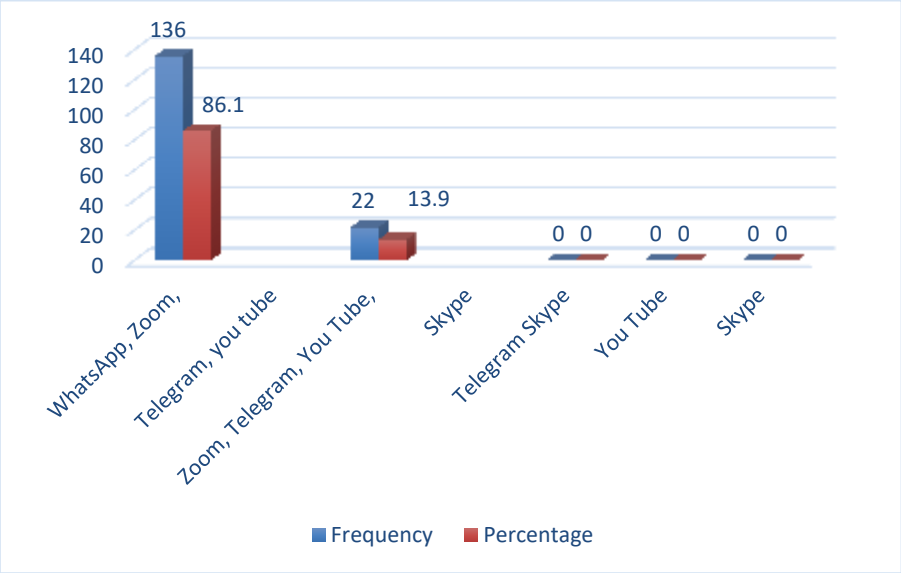
Source: field data, 2021
Figure 5: Familiarity with the use of online and virtual learning tools

With regards to the familiarity with the use of the online and virtual learning tools, the majority 115(72.8%) of the respondents were of the view that they are familiar with the online and virtual tools as shown in figure 5 above.



Source: field data, 2021
Figure 6: Opportunity to record online and virtual lectures

The majority 96(60.8%) of the respondents indicated that they had the opportunity to record e-lectures for future reference and replay as shown in figure 6 above.



Source: field data,2021
Figure 7: Medium through which online and virtual learning were organized.

The majority 136(86.1%) of the respondents in this study used WhatsApp, and Zoom while 22(13.9%) used Telegram and Youtube only as shown in figure 7 above.

Table 5: Challenges during online and virtual learning

Variable	Frequency	Percentage
The cost of data is expensive		
a. Yes	151	95.6
b. No	7	4.4
System software failure or poor network connectivity		
a. Yes	144	91.1
b. No	14	8.9
Long hours of lecture times		
a. Yes		63.9
b. No	101	36.1
Disruption or poor supply	57	
a. Yes		
b. No	135	85.4
The method of learning is not familiar to me	23	14.6
a. Yes		
b. No	96	60.8
Disruption from home, work places and to mention few	62	39.2
a. Yes		
b. No		
Inadequate knowledge for online learning and use of medium	128	81
a. Yes	30	19
b. No		
Insufficient bandwidth on your device		
a. Yes	96	60.8
b. No	62	39.2
Challenges in doing lectures		

involving practical's		
a. Yes	119	75.3
b. No	39	24.7
	149	94.3
	9	5.7

Source: field data, 2021.

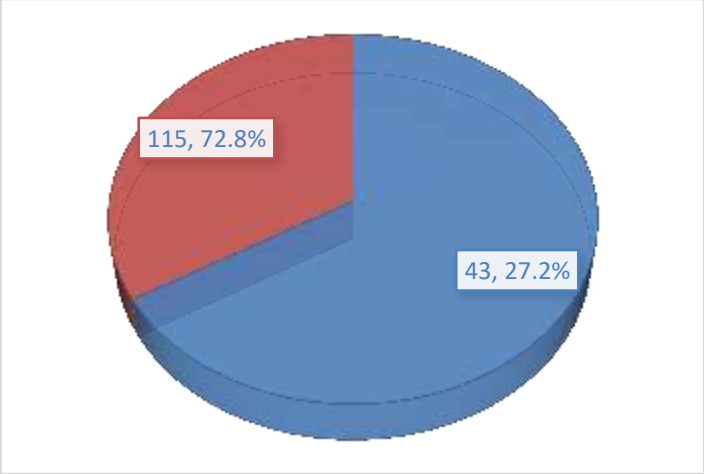
Regarding challenges student midwives encountered during online and virtual learning, whiles 151(95.6%) of the respondents were of the view that the cost of data is expensive, 144(91.1%) complained of system software failure or poor network connectivity and 101(63.9%) of the respondents had a problem with long hours of lectures. Long hours of lectures could probably be a choice of some lecturers to cover enough content or could even result from poor network interruptions. The majority 153(85.4%) of the respondents had issues with disruption or poor supply. However, 96(60.8%) were not familiar with the learning methods whiles 128(81%) had disruption from home and workplaces. Furthermore, 96(60.8%) %) of the respondents had inadequate knowledge for online learning and use of the medium, majority 119(75.3%) had insufficient bandwidth on their devices and a greater number of them 149 (94.3%) had challenges in online lectures involving practical demonstrations. This implies that in Midwifery courses, face-to-face and online teaching and learning should complement each other.

Table 6: Ability to download and transfer files

Variables	Frequency(n=158)	Percentage
The extent to which one can attach emails		
a. Very easily	47	29.7
b. Easily	73	46.2
c. I can't	15	9.5
d. Will try	23	14.6
The extent to which one can chat using the internet		
a. Very easily	83	52.5
b. Easily	64	40.5
c. I can't	4	2.5
d. Will try	7	4.4
The extent to which one can download using the internet		
a. Very easily	54	34.2
b. Easily	86	54.4
c. I can't	5	3.2
d. Will try	13	8.2
The extent to which one can send assignments using the internet		
a. Very easily	60	38
b. Easily	74	46.2
c. I can't	8	5.1
d. Will try	16	10.1

Source: field data, 2021.

Pertaining to the extent to which one can attach emails, 73(46.2%) of the respondents agreed that they can easily attach emails. Also, with the extent to which one can chat using the internet, the majority 83(52.5%) of the respondents indicated that it was very easy for them. Regarding the extent to which they can download files using the internet, the majority 86(54.4%) of the respondents said downloading files was easily done by them, while 74(46.8%) of the respondents indicated that they can easily send assignments using the internet.



Source: field data, 2021
Figure 8: Preparation for the online and virtual learning.

The majority 115 (72.8%) of the respondents were not adequately prepared for virtual and online learning while 43(27.2%) were of the view that they were adequately prepared as shown on figure 8 above.

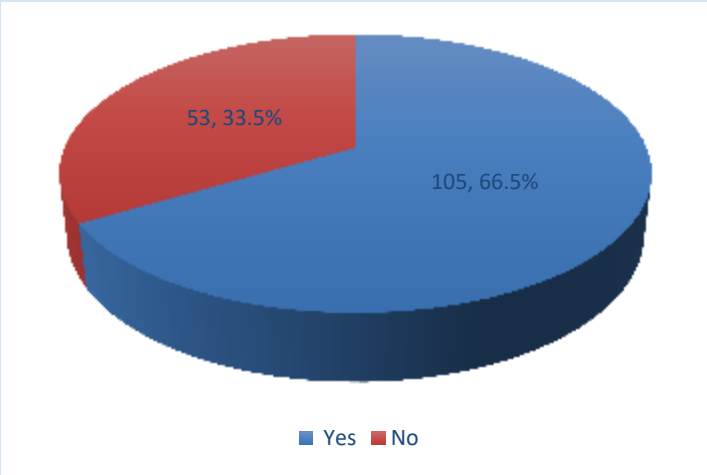


Figure 9: Support of lecturers during the online and virtual learning

The figure above shows that the majority 105(66.5%) of the respondents indicated that the lecturers were very supportive during the virtual and online learning by being patient with them in cases of the disrupted poor network that may affect connectivity and audibility of the lectures.

Discussion

Results of this study revealed that the majority (99.4%) of respondents in this study were females. This is however understandable since male involvement in the practice of midwifery has just been introduced by the Nursing and Midwifery Council of Ghana. Some of the respondents 34.8% representing the highest percentage in this study were between the ages of 30-35 years. This age range is because the majority of students in the class have already done their diploma in midwifery and are already practicing, hence they are adults in their middle age. The majority 56.3% were urban settlers, and the majority 58.9% of them had full-time employment. Very few are service personnel who are working and schooling simultaneously. These posed some of the challenges they encountered as they had not enough time for online learning. Rural settlement can also pose some hindrance to the internet network.

Our study found that the majority of the respondents (51.3%) perceived online and virtual learning as useful and (21.5%) as very effective. This agrees with a study conducted by Picciano (2017) which showed that students perceived online learning as very useful and highly effective. These findings are further corroborated with a study by Reimers, Saavedra & Tuominen, (2020), where 55% of students preferred online training because the virtual platform was considered realistic and useful by the vast majority. However, in this study, 70.9% of respondents stated that it is difficult and expensive to get access to information. This, however, is not in conformity with the findings of the study by Dhawan, (2020), which revealed that students perceived online learning gives them easy access to information as compared to the traditional face-to-face lecture.

Moreover, in this study, 47.5% of the participants agreed that the Information Technology (IT) tools used for online and virtual learning were user-friendly. This corroborates a study by Henaku, (2020), which showed that 15% of the respondents strongly disagreed that they were user friendly, 40% agreed and 14% of them strongly agreed that the IT tools were user friendly. Regarding comfortability, 41.8% agreed that the use of the online and virtual learning platforms was comfortable. This was concurred by a study by Mamattah, (2016) concerning the level of comfort of using information technology (IT) tools that enable easy usage of e-learning systems. On average, 52% of the respondents indicated that they are very comfortable using IT for various activities. On the whole, 44.3% of the respondents expressed satisfaction with their experience. This also confirms a study by Fedynich, Bradley & Bradley, (2015). The respondents (48.1%) also indicated their satisfaction with the instructional design and delivery of online courses which they expressed allowed them to explore other learning resources. Interestingly in a study by Vitoria, Mislinawati & Nurmasyita (2018) 84% of students were of the view that online and virtual learning pave way for them to explore more learning resources. Our study revealed that (50.6%) of the respondents indicated that their experience with online and virtual learning improved their ICT skills tremendously. These findings are in line with the study by Fedynich et al., (2015) where 78% of the respondents expressed that online and virtual learning experience was enjoyable, improved self-confidence improves ICT skills, and finally improves interactions with friends and lecturers.

Concerning their ability to record lectures, the majority 60.8% of the respondents in this study stated that online and virtual learning offered them the opportunity to record lectures which they could listen to later. In a similar study by Bali & Liu, (2018) some of the respondents believed that the use of online and virtual platforms affords them the chance to record lectures and play it back at any time, which is not possible with the face to face lectures. Regarding the issue of time management with online learning as compared to face-to-face learning, 36.5% of participants agreed while 25.3% strongly agreed that their

experience with online and virtual learning has helped them in time management. This finding agrees with Bali & Liu, (2018) who discovered in their study that some of the students stated that the online sessions provided them with a great time to study and experienced better time management. Comparing the level of stress in face-to-face or classroom learning to that of online and virtual learning, it showed in this study that 43.7% of study respondents agreed that online and virtual is less stressful and 23.4% strongly agreed with this accession. A study by Nwankwo, (2015) revealed that students were of the view that online and virtual learning allows them to have lectures in the comfort of their homes, reducing the stress involved in transportation to school that is bedeviled with a lot of traffic congestion. When it came to the medium through which online and virtual learning was organized, 86.1% of respondents in this study stated that it was majorly done through WhatsApp and Zoom. This corroborated a study by Aboagye et al., (2020) which revealed the same findings. Participants explained that lecturers and tutors usually send their lecture notes which are either a PowerPoint, word or a portable document format (PDF) file to either the WhatsApp or Telegram platforms and then add recorded audio or video that explains the lecture notes. Regarding the IT tool(s) used for Online and virtual learning, the majority 77.2% of the respondents in this study used phones, whiles 21.5%, 1.3% used laptop and desktop computers respectively. However, Mamattah, (2016) in his study disagrees with these findings as in his study majority of the students possessing personal computers.

The sudden shift from classroom learning to online and virtual learning because of the emergence of the Covid-19 pandemic has been bedeviled with a lot of challenges. The majority (95.6%) of respondents in our study indicated the cost of data is expensive. This also confirms the findings in the studies by Nwankwo, (2015); Ponti et al., (2020) , which revealed the high cost of data and internet bundles, hence they sometimes missed online lectures because of lack of money to purchase internet bundles. Internet connectivity was a major concern that was raised by the majority (91.1%) of study respondents. Study findings by Ponti et al., (2020); Henaku, (2020), in their study, acceded with this by showing that participants mentioned slow or poor internet connectivity and communication software failure as some of the technical issues that they faced during online and virtual learning. This caused lectures to be truncated, disrupting the free flow of lectures and discussions. Disruption of the online and virtual learning class sessions from home and workplaces was stated by the majority (81%) of respondents in this study. In agreement with this, a study by Bali and Liu, 2018 showed that participants elucidated that the performance of household chores sometimes prevents them from participating in online lectures. Also, their parents and spouses complain that they spend too much time on their phones.

The majority 94.3% of respondents in this study were of the view that it is very difficult holding practical sessions with online and virtual learning. A similar finding was observed by Demuyakor, (2020) in his study which revealed that some students were of the view that online and virtual learning is good for theoretical courses. In respect of the duration and the number of lectures held in a day majority (63%) of respondents in this study complained about the long hours of lectures, which makes them sometimes lose focus, feeling very tired. This was linked to the poor internet network and lack of technical know-how of some lecturers to fix the problem each time it arises. Another by Ponti et al., (2020) showed that respondents were of the view that there were a lot of lectures scheduled in one day, lecture hours were also elongated than scheduled due to disrupted network. This made it difficult for them to assimilate.

CONCLUSION AND SUGGESTION

Based on the finding of this study, it was concluded that online virtual learning is perceived to be useful. This usefulness includes students being able to study from anywhere in the country without necessarily relocating. This ability to study from anywhere in the country becomes an advantage online and virtual learning provides over face-to-face learning. Our study also revealed that online and virtual learning platforms and tools are perceived to be easy to use. Furthermore, they expressed easy use of the IT tools and positive experiences as it helps to improve the ICT skills thus creating general satisfaction with the online and virtual learning. However, it is considered to be more expensive and not compatible with the practical components of midwifery courses. It is, therefore, recommended that good technological background is needed for both students and lecturers to be successful with online and virtual learning. Institutions in Ghana should invest in staff training and acquiring appropriate technologies to ease e-learning. The Garden City University College together with the Ministry of Education and other related key stakeholders should negotiate with the telecommunication companies to provide reduced internet packages for students in the various educational institutions to address the issue of high cost. Further research using qualitative or mixed-methods design with a larger population to unearthed more information from the respondents is recommended.

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CONFLICT OF INTEREST

There is no conflict of interest.

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